

## Solid State High Power Amplifier Systems

0.5-1GHz/54dB Gain/54dBm Psat/220V AC

Model: TLPA500M1000M-54-54-BC

TLPA500M1000M-54-54-BC is a solid state high power amplifier systems provides high output power and high gain across the 500 to 1000MHz 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: 500-1000MHz
- Gain: 54dB Min
- Psat Output Power: 54dBm 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	500-1000			MHz
功率增益 Power Gain	GP	54			dB
增益平坦度 Gain flatness	$\Delta$ GL		$\pm 2$	$\pm 3$	dB
线性输出功率 Output P1dB	P1dB		50		dBm
饱和输出功率 Output Psat	Psat	54			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			5	A
阻抗 Impedance	I/O-IMP	50			Ohms

### 机械特性 Mechanical Specifications:

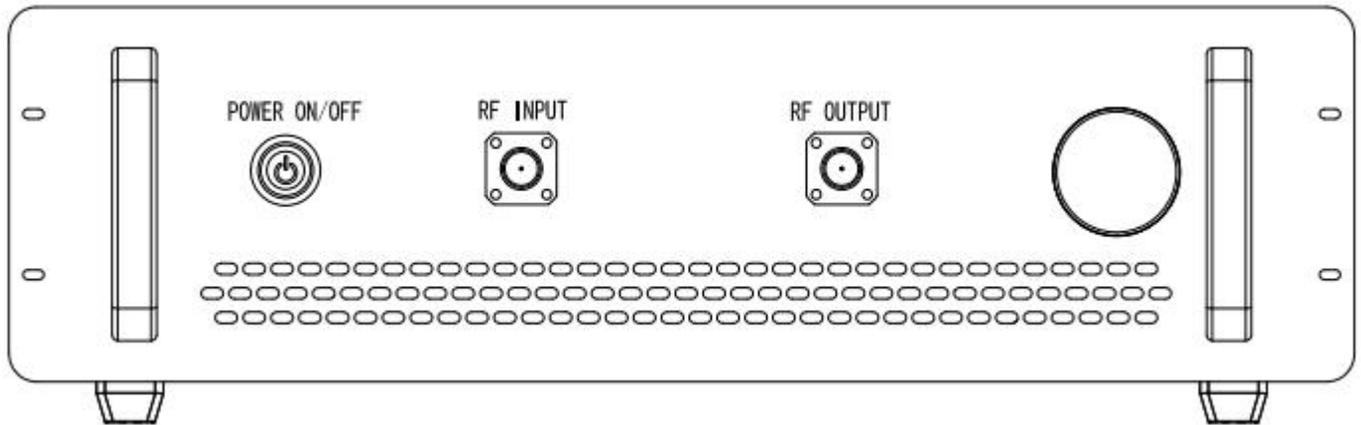
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	N Female/N Female	
尺寸 Size	3U*500 depth	mm
重量 Weight	$\leq 10$	Kg

## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
输入功率 RF Input Power	+10 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, Power setting On/Off 2, ALC automatic level control
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	RS422/Ethernet
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		+40	°C
存储温度 Non-operating Temperature*	-30		+50	°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			

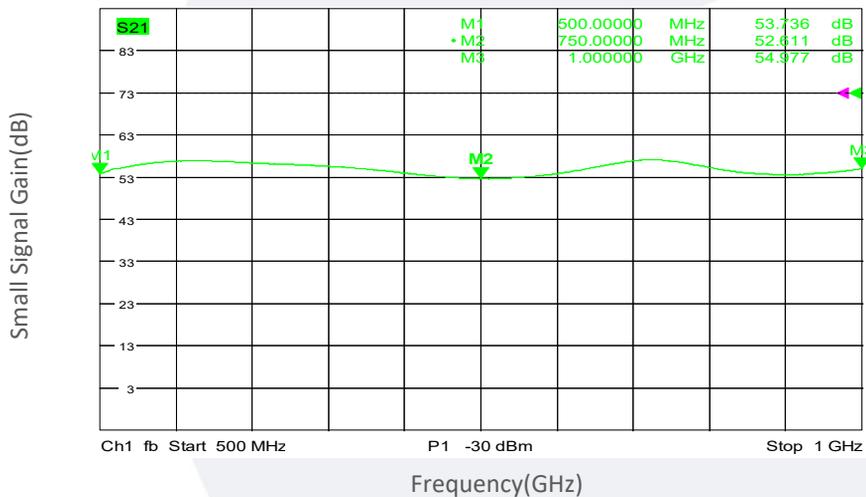
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA500M1000M-54-54-BC	Solid State High Power Amplifier Systems 0.5-1GHz, Gain:54dB, Psat:54dBm, 220V AC, Built in Fan Cooling	Rev.1.1

## 典型曲线 Typical Performance Data:

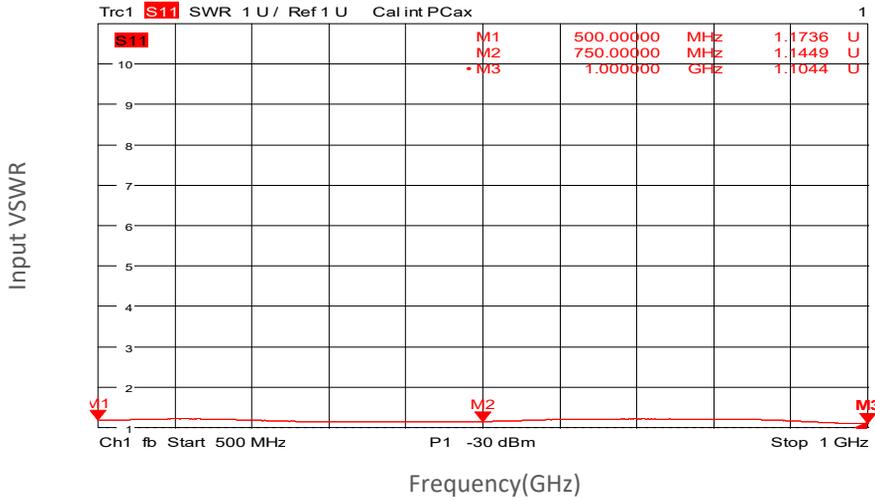
### Small Signal Gain vs Frequency



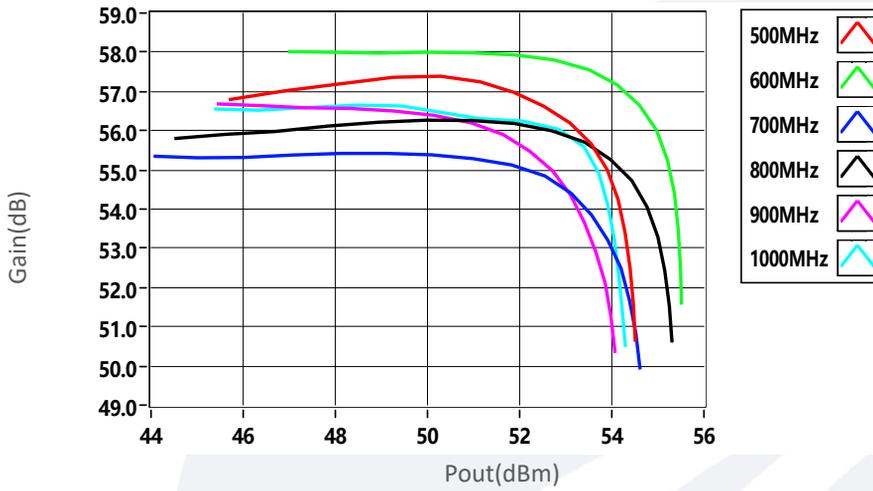
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

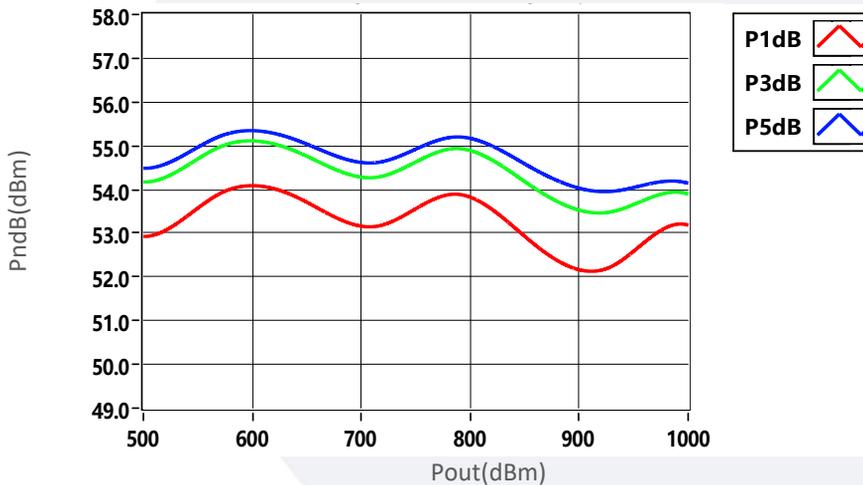
Input VSWR vs Frequency



Gain vs Output Power



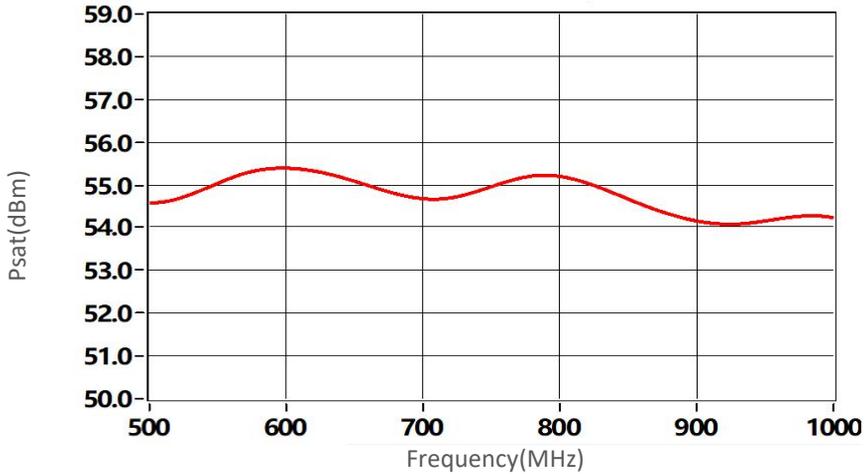
PndB vs Frequency



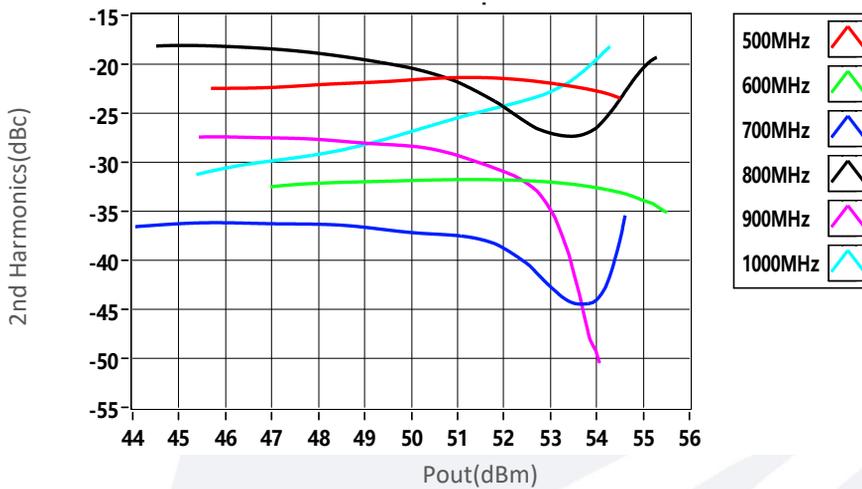
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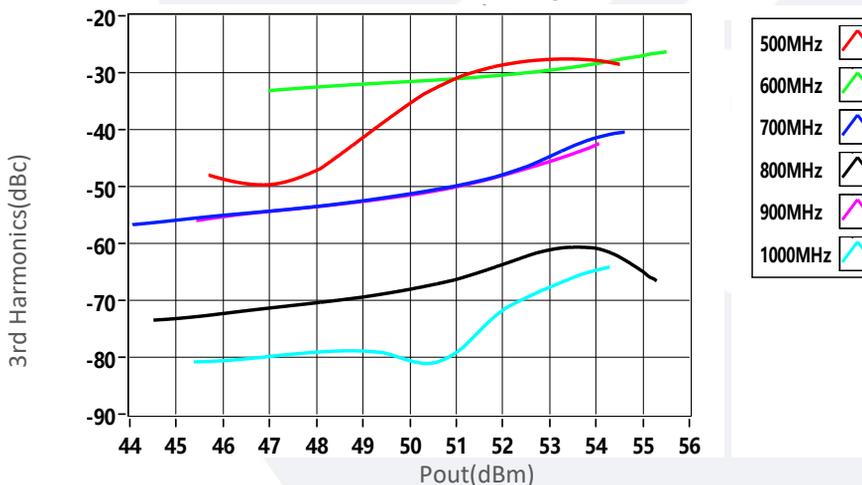
Psat vs Frequency



2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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