

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

Electrical Characteristics:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	500-1000			MHz
Power Gain	GP	54			dB
Gain flatness	Δ GL		± 2	± 3	dB
Output P1dB	P1dB		50		dBm
Output Psat	Psat	54			dBm
Spurious	Spur			-60	dBc
Harmonics	HAM			-10	dBc
Input VSWR	VSWR _{in}		1.5	2	:1
AC Voltage	V _{ac}	110	220		V AC
AC Supply Current	I _{ac}			5	A
Impedance	I/O-IMP	50			Ohms

Mechanical Specifications:

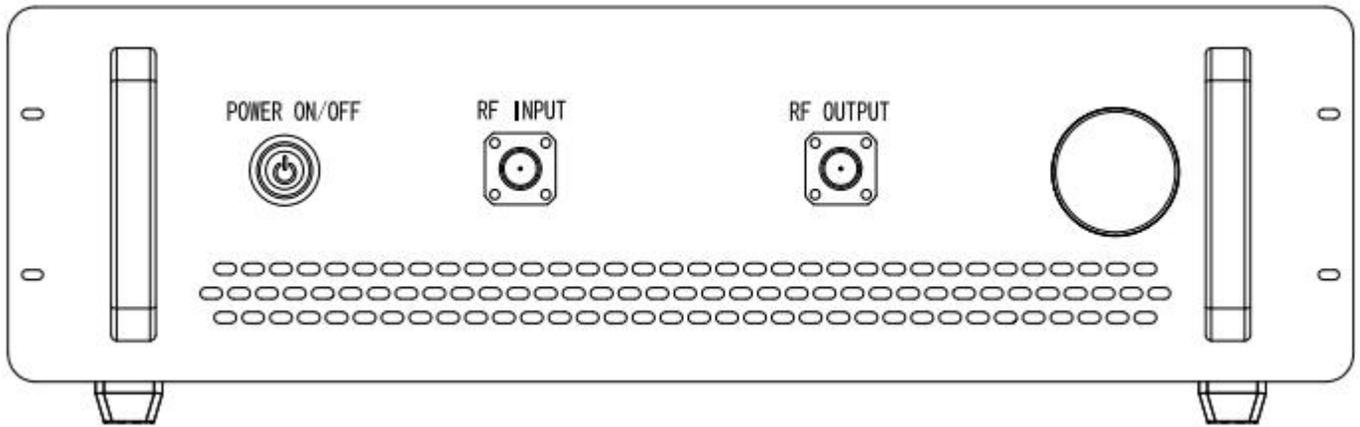
Parameter	Value	Units
Input /Output Connector	N Female/N Female	
Size	3U*500 depth	mm
Weight	≤ 10	Kg

Absolute Maximum Ratings:

Parameter	Value
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm



Key Features:

Parameter	Advantages
Control functions	1, Power setting On/Off 2, ALC automatic level control
Protection functions	1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR
Remote control	RS422/Ethernet
Cooling system	Built in Cooling system, forced air cooling

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+40	°C
Non-operating Temperature*	-30		+50	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

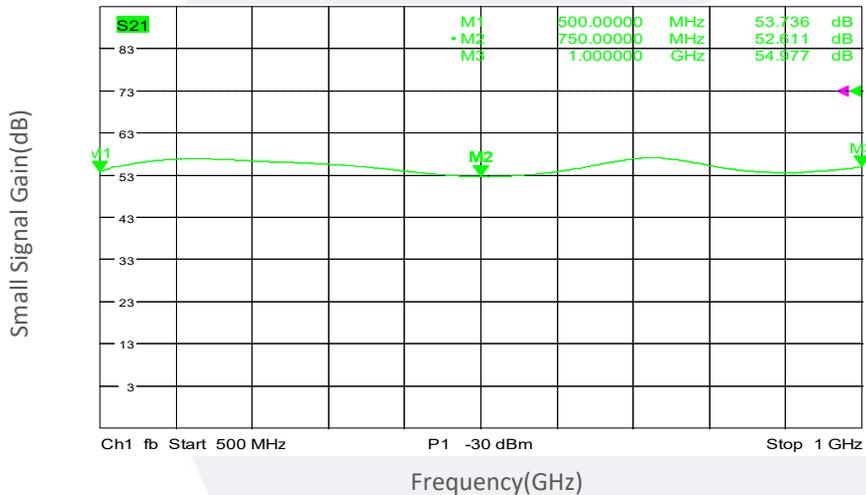
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	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

Typical Performance Data:

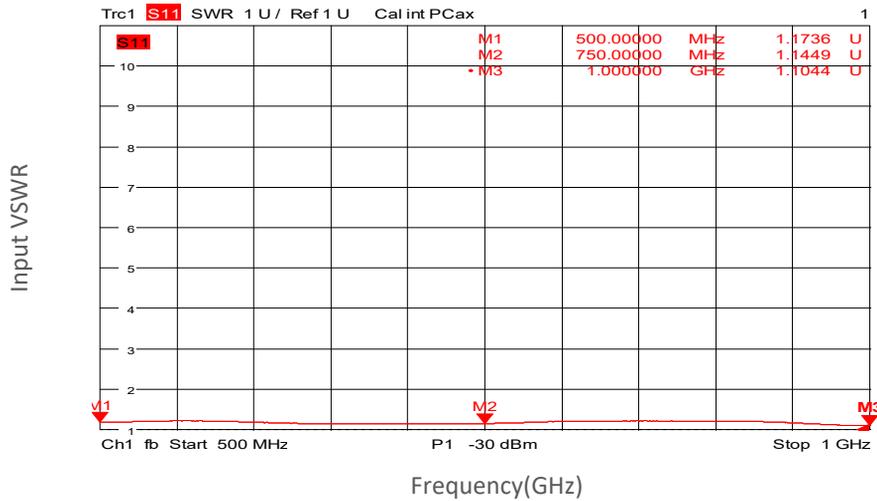
Small Signal Gain vs Frequency



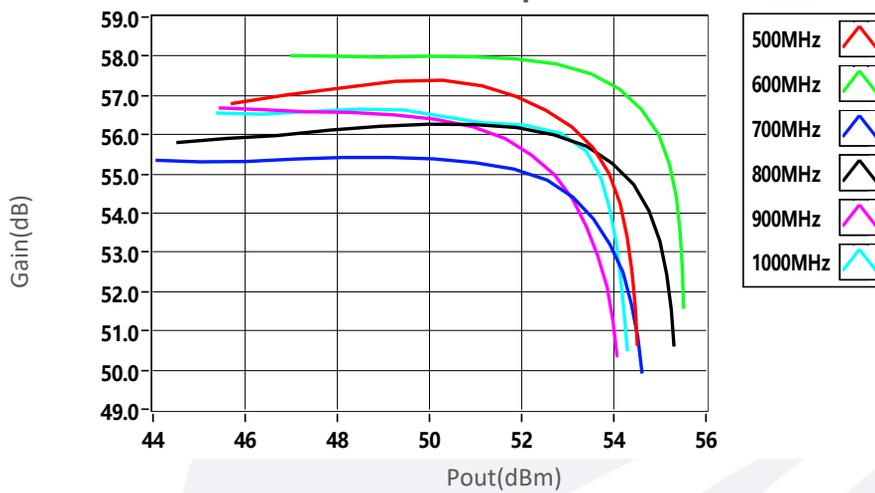
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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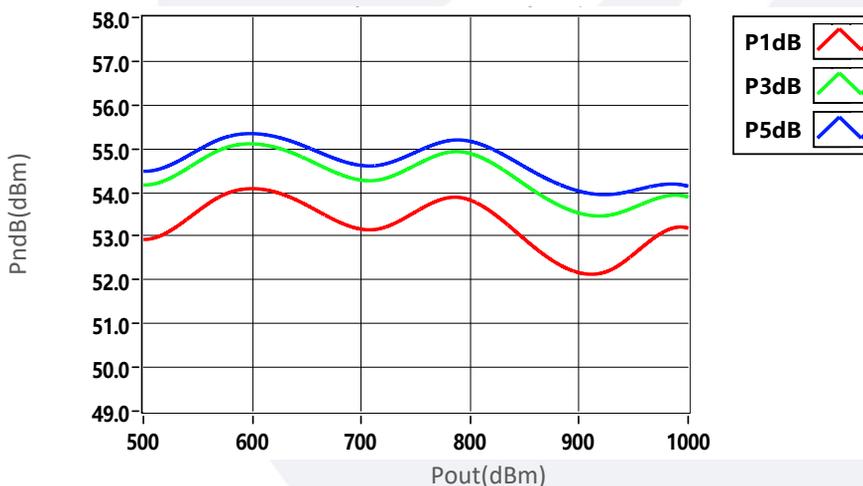
Input VSWR vs Frequency



Gain vs Output Power



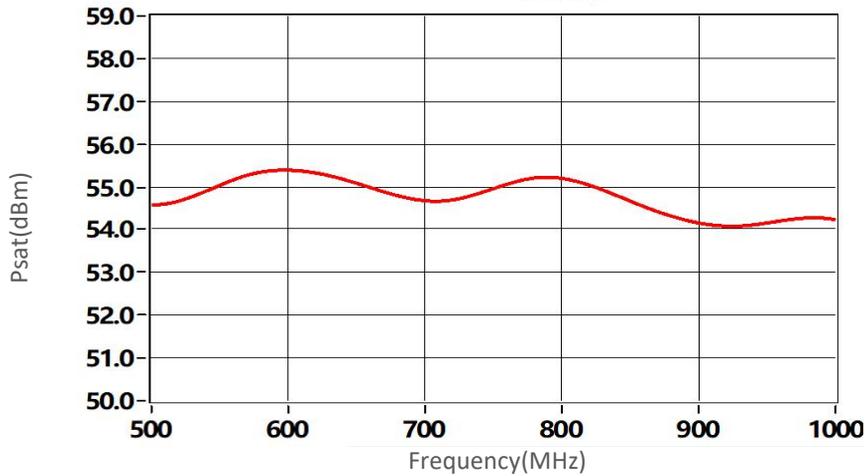
PndB vs Frequency



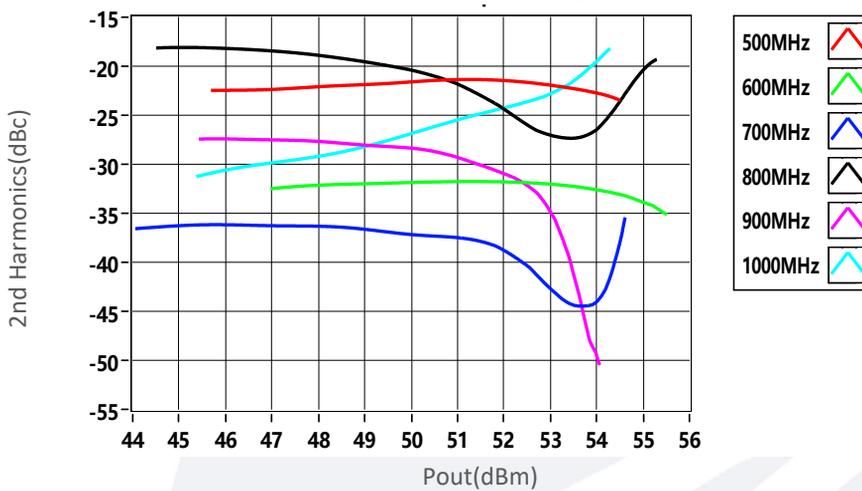
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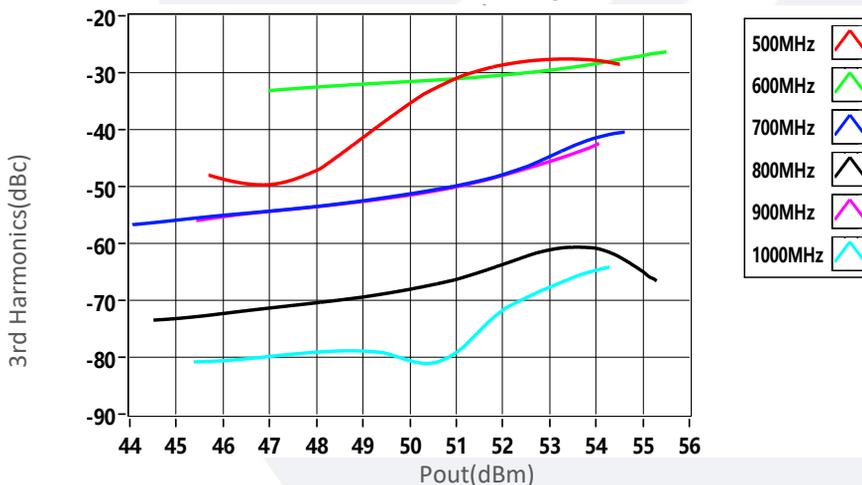
Psat vs Frequency



2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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