



# High Power Amplifier

## Model:RPA-500M-1000M-250

500-1000MHz 250W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 500-1000MHz
- High output power at saturation, 54dBm Min
- High gain, 54dB Min
- Operates from AC line power: 110-220V

### Applications:

- Laboratory test instrument
- RF Power stress test
- EMI and antenna testing
- Reliability testing

### Product Overview:

The RPA-500M-1000M-250 is a high power, rack mount amplifier with a self-contained AC power supply which can be used for a wide variety of laboratory testing applications. This rugged amplifier is capable of amplifying signals up to 250W output power over its entire operating bandwidth of 500 to 1000MHz. The control functions RPA-500M-1000M-250 possesses include the on/off of the power supply and output power can be controlled by the automatic ALC system. Built-in safety features include fans alarms and automatic shut down mechanism to prevent damage in the event of excessive internal temperatures. The amplifier's output stage is further protected in the event of a fault condition, allowing high power operation for up to 5 minutes into an open or short load (refer to the maximum input power specifications). And it has built-in protection functions included over TEM, over voltage, over current and over VSWR protection.



## Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	500-1000			MHz
Gain	GP	54			dB
Gain flatness	ΔGL		±2	±3	dB
Output P1dB	P1dB		50		dBm
Output Psat	Psat	54			dBm
Spurious	Spur			-60	dBc
Harmonics	HAM			-10	dBc
Input VSWR	VSWRin		1.5	2.0	:1
AC Voltage	Vac	110	220		V AC
AC Supply Current	Iac		5		A AC
Impedance	I/O-IMP	50			Ohms

## Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature	-20 to +40	°C
Non-operating Temperature	-30 to +50	°C
Relative humidity	95	%
RF Input/Output Connector	N Female/N Female	
Communication functions	RS422/Ethernet	
Cooling	Built in Cooling system,forced air cooling	
Altitude	30,000	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	
Dimensions W x H x D	3U*500 depth	mm
Weight	10	Kg

## Absolute Maximum Ratings:

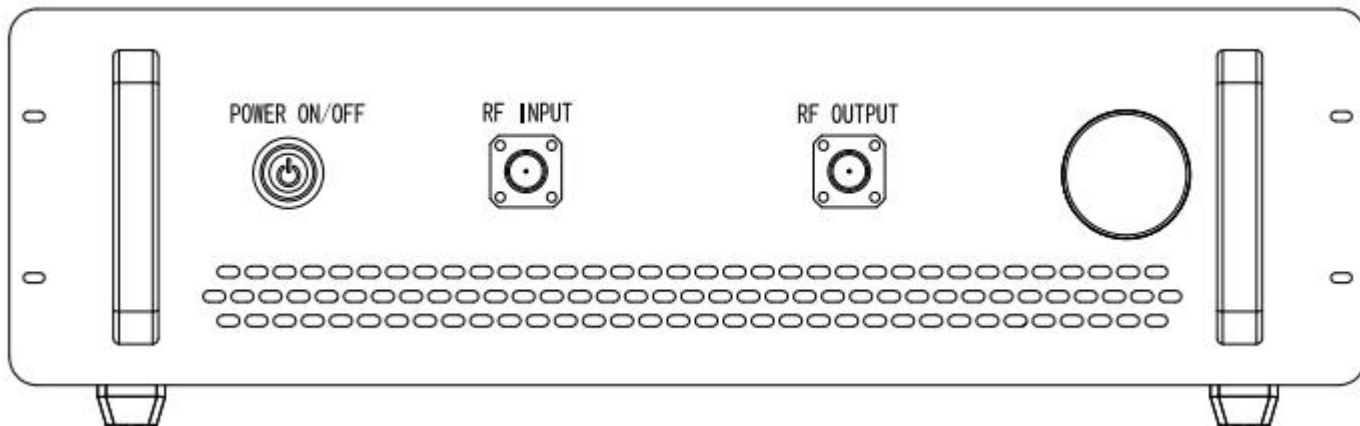
Parameter	Value
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



## Outline Drawing:

Unit:mm

RPA-500M-1000M-250



## Optional items:

Number	Parameter
1	LCD display touchscreen
2	Ingress protection grad
3	Customized operating temperature range
4	Built in Cooling system(air or liquid)
5	Types of RF,coupling and monitor&control interfaces

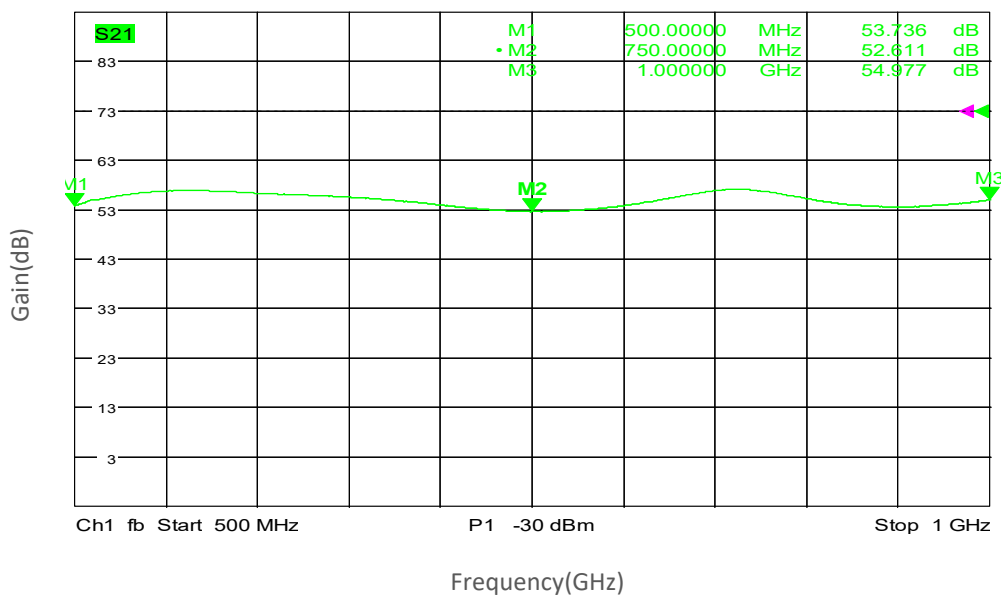
## Ordering Information:

Base Number	Description	Optional
RPA-500M-1000M-250	High Power Amplifier, 500-1000MHz, 250W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-500M-1000M-250-M	High Power Amplifier, 500-1000MHz, 250W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-500M-1000M-250-IPxx	High Power Amplifier, 500-1000MHz, 250W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad

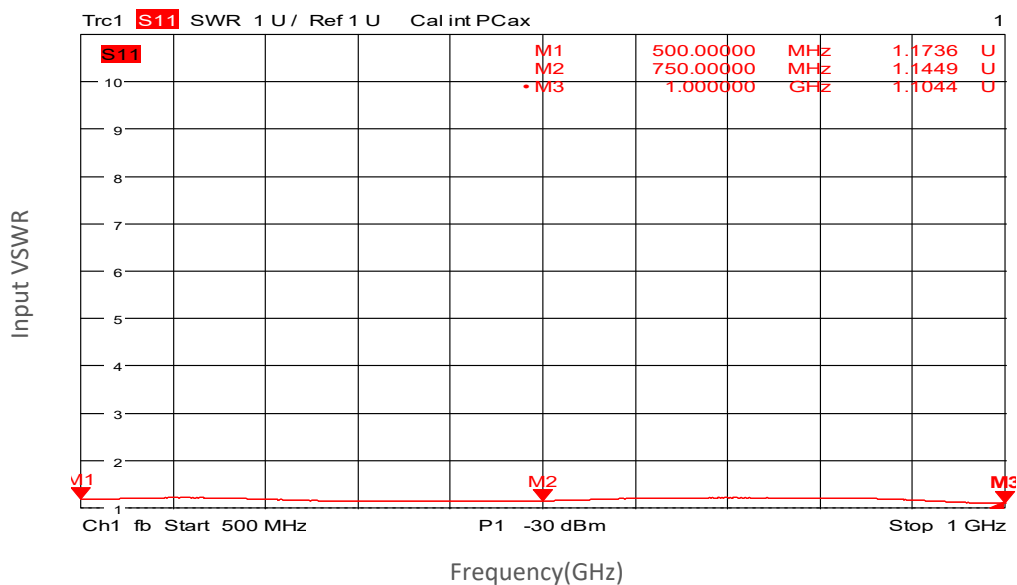


## Typical Performance Data:

### Gain vs Frequency



### Input VSWR vs Frequency

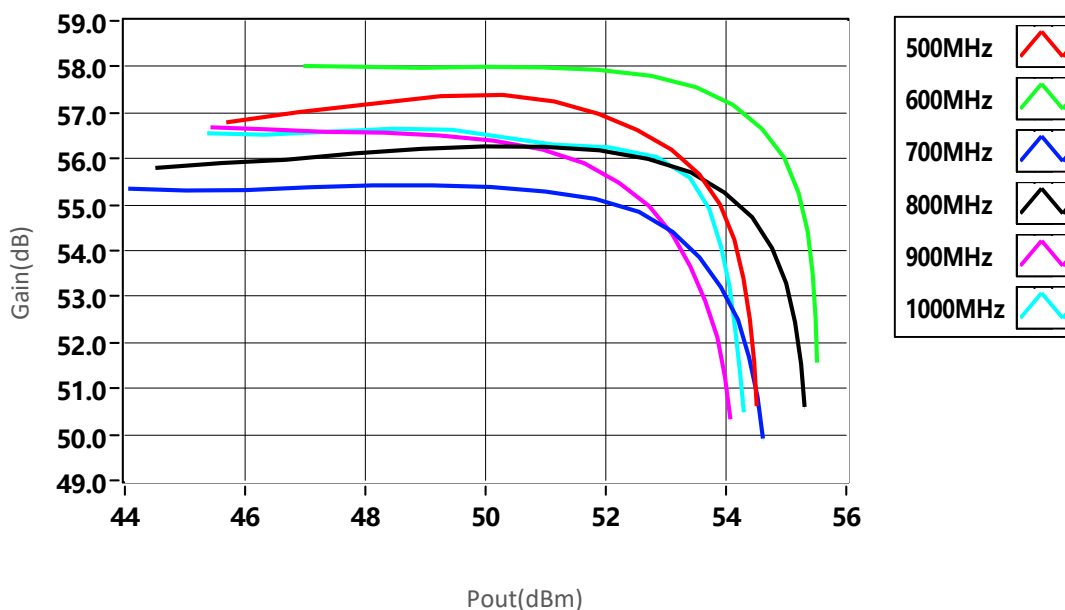


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

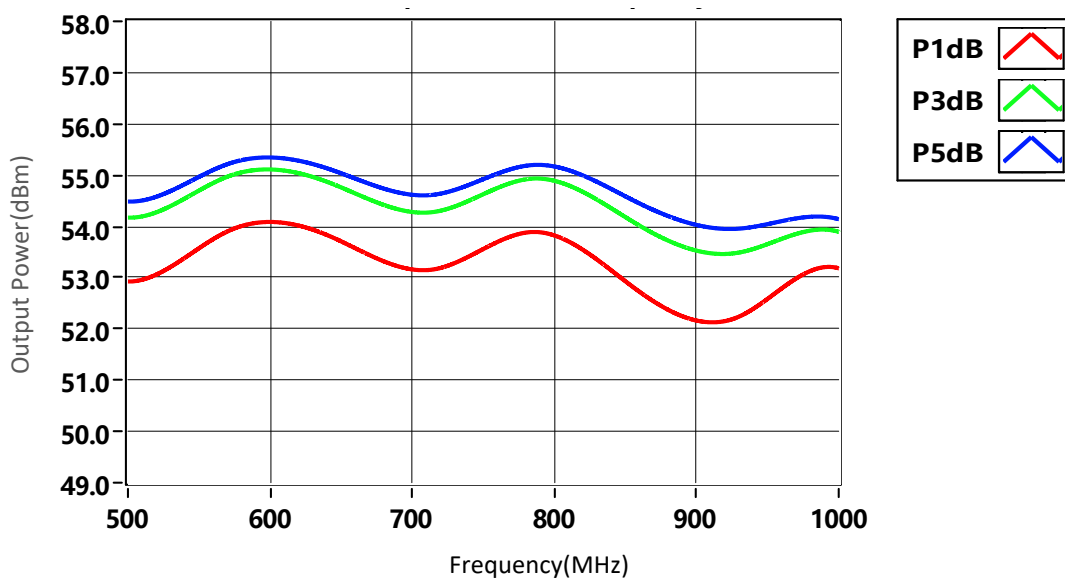


## Typical Performance Data:

### Gain vs Output Power



### Output Power vs Frequency

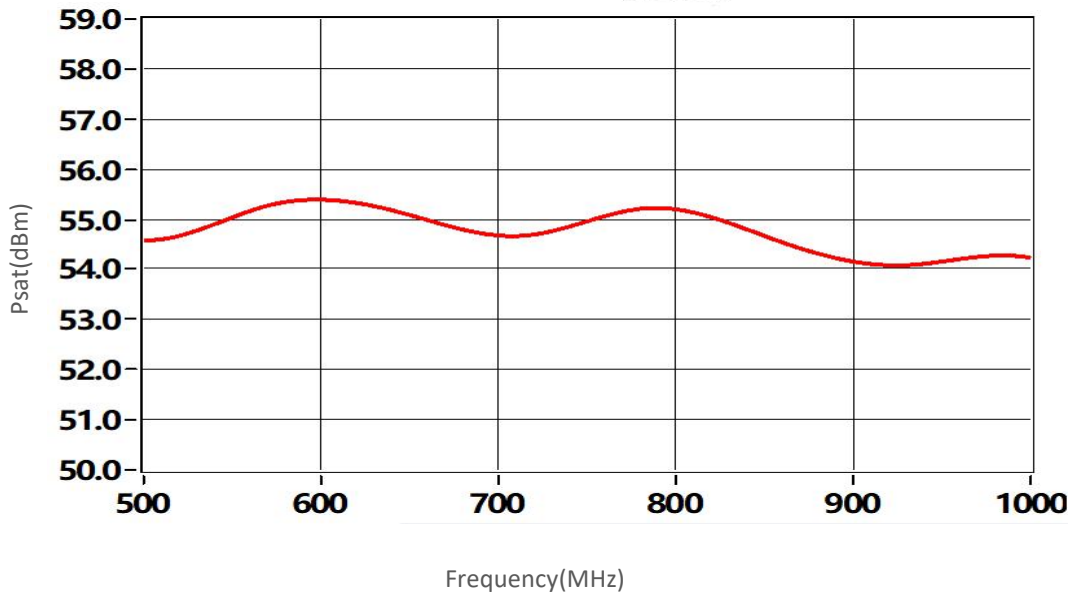


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

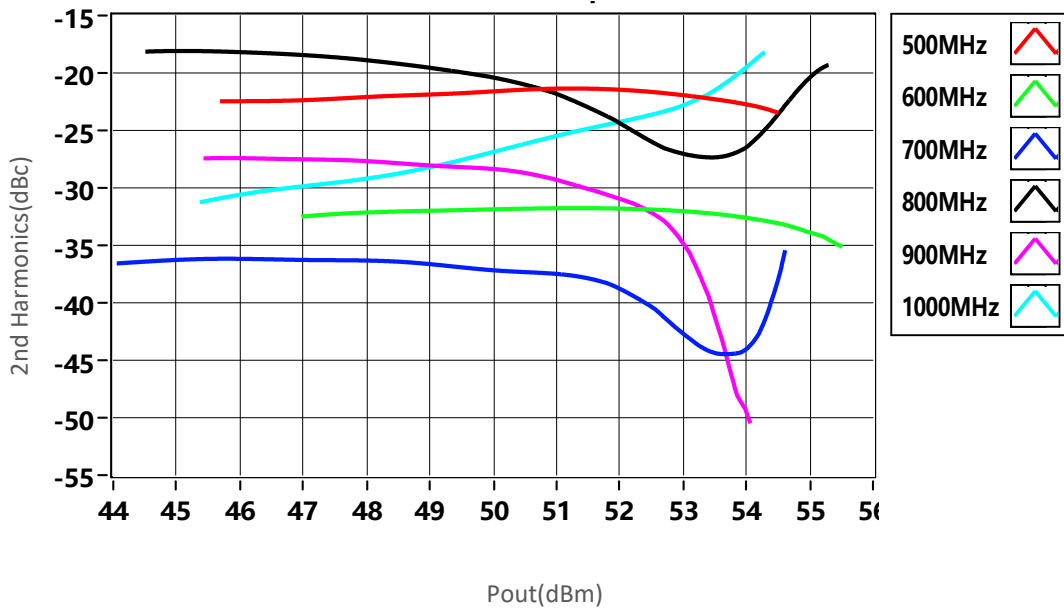


## Typical Performance Data:

### Psat vs Frequency



### 2nd Harmonics VS Output Power

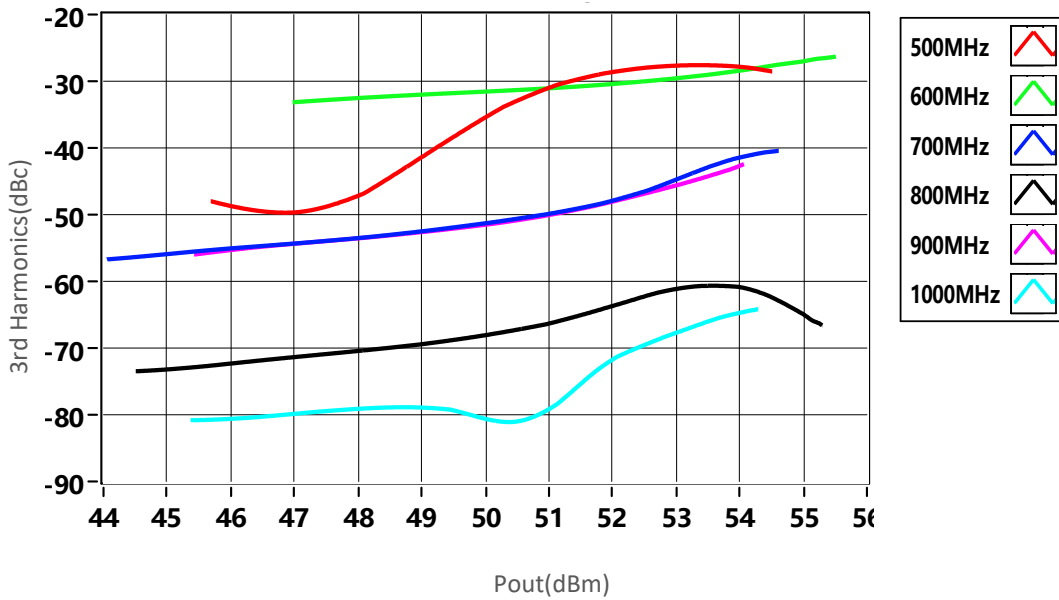


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.



## Typical Performance Data:

### 3rd Harmonics 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.