



# High Power Amplifier

## Model:RPA-300K-500K-80

300-500KHz 80W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 300-500KHz
- High output power at saturation, 49dBm Min
- High gain, 50dB 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-300K-500K-80 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 80W output power over its entire operating bandwidth of 300 to 500KHz. The control functions that RPA-300K-500K-80 possesses include the on/off 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. It can also be remotely controlled via RS422 or Ethernet.



## Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	300-500			KHz
Power Gain	GP	50	52		dB
Gain flatness	$\Delta$ GL		$\pm 0.5$	$\pm 1$	dB
Output Psat	Psat	49	50		dBm
Output P1dB	P1dB	47	48		dBm
Spurious	Spur			-60	dBc
Harmonics	HAM		-15		dBc
Input VSWR	VSWRin		1.5	2.0	:1
AC Voltage	Vac	110	220		V AC
AC Supply Current	Iac	3A@220V AC			A AC
Impedance	I/O-IMP		50		Ohms

## Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature	-20 to +40	°C
Non-operating Temperature	-30 to +60	°C
Relative humidity	95	%
RF Input/Output Connector	N Female/N Female	
Network port Communication	DB15(TTL)	
Digital Monitor & Control	RS422; Ethernet	
Cooling	Built in Cooling system,forced air cooling	
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	
Dimensions W x H x D	3U*500 depth	mm
Weight	10	Kg

## Absolute Maximum Ratings:

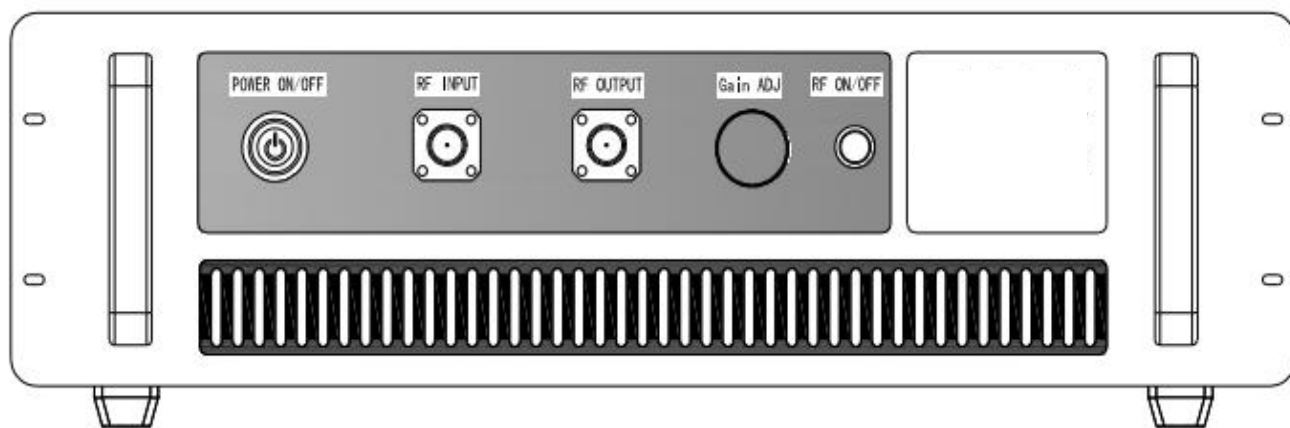
Parameter	Value
RF Input Power	10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



## Outline Drawing:

Unit:mm

RPA-300K-500K-80



## 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

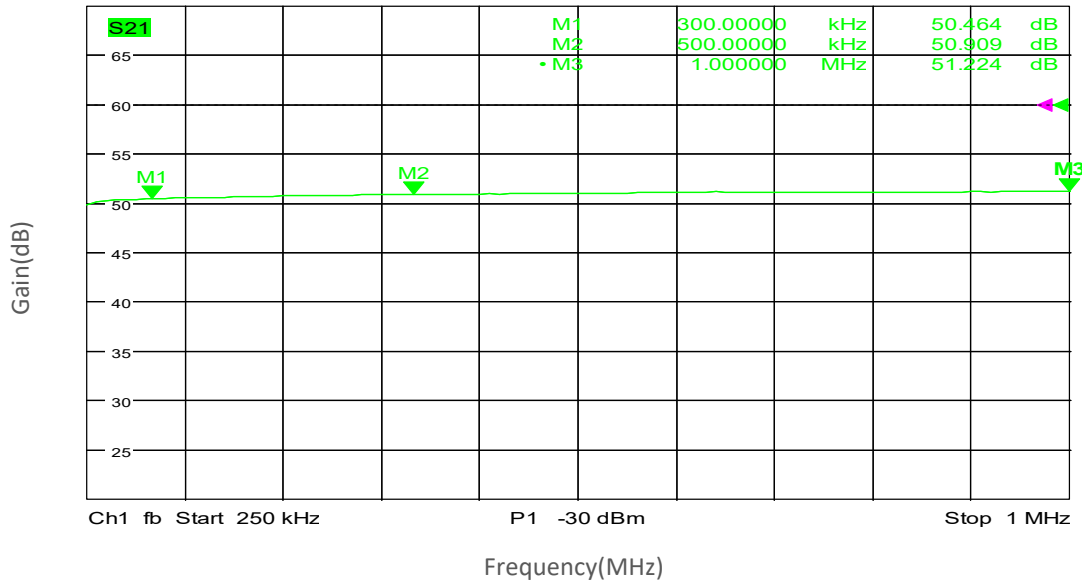
## Ordering Information:

Base Number	Description	Optional
RPA-300K-500K-80	High Power Amplifier, 300-500KHz, 80W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-300K-500K-80-M	High Power Amplifier, 300-500KHz, 80W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-300K-500K-80-IPxx	High Power Amplifier, 300-500KHz, 80W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad

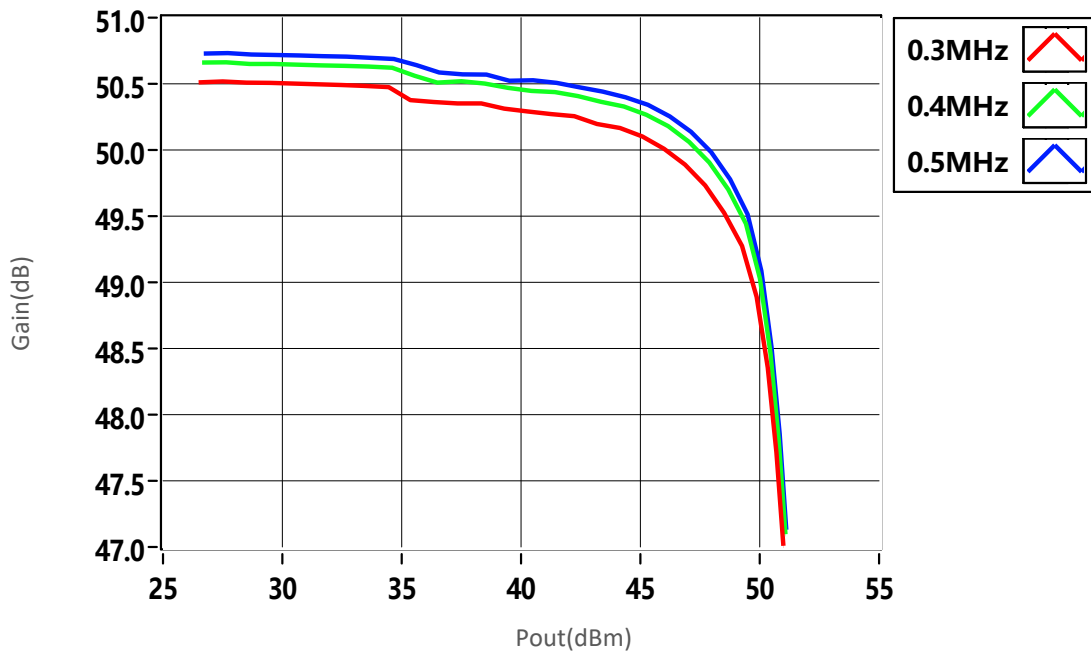


## Typical Performance Data:

### Gain vs Frequency



### Gain vs Output Power

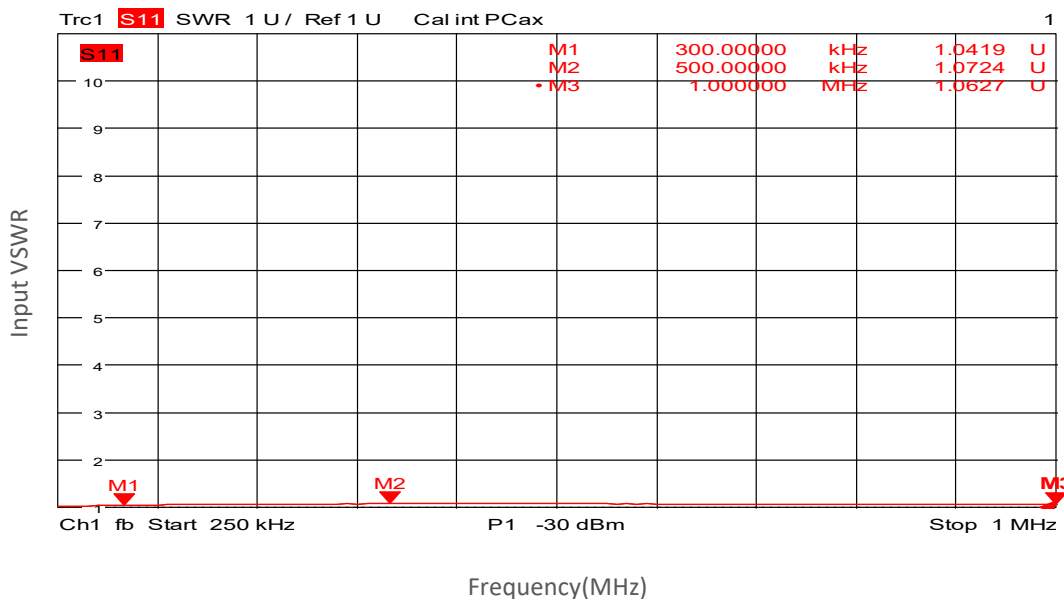


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

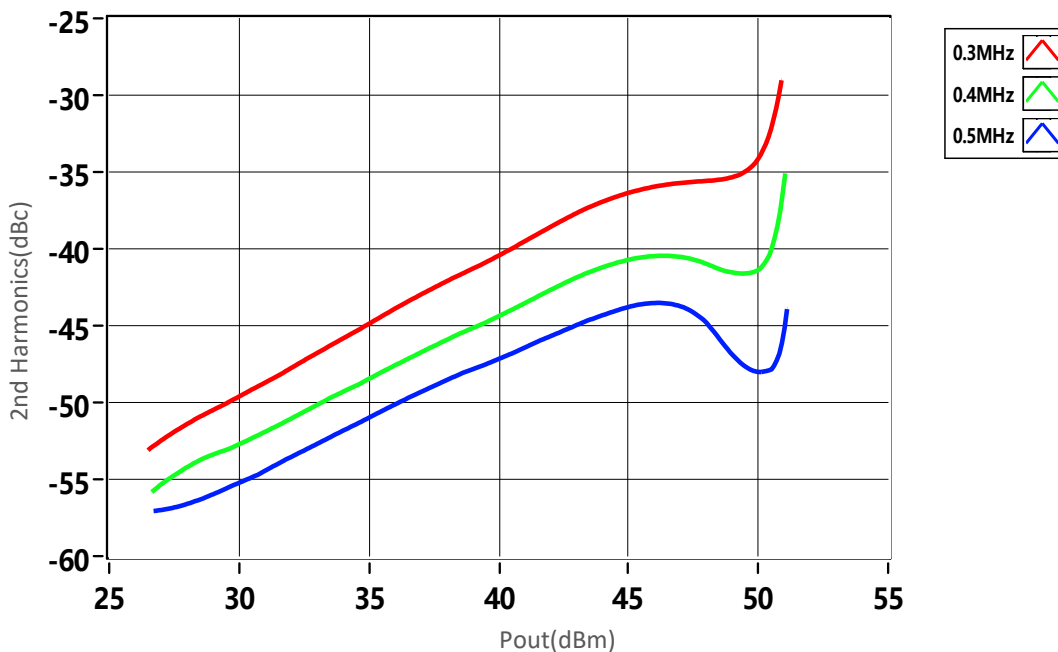


## Typical Performance Data:

### Input VSWR vs Frequency



### 2nd Harmonics VS Output Power

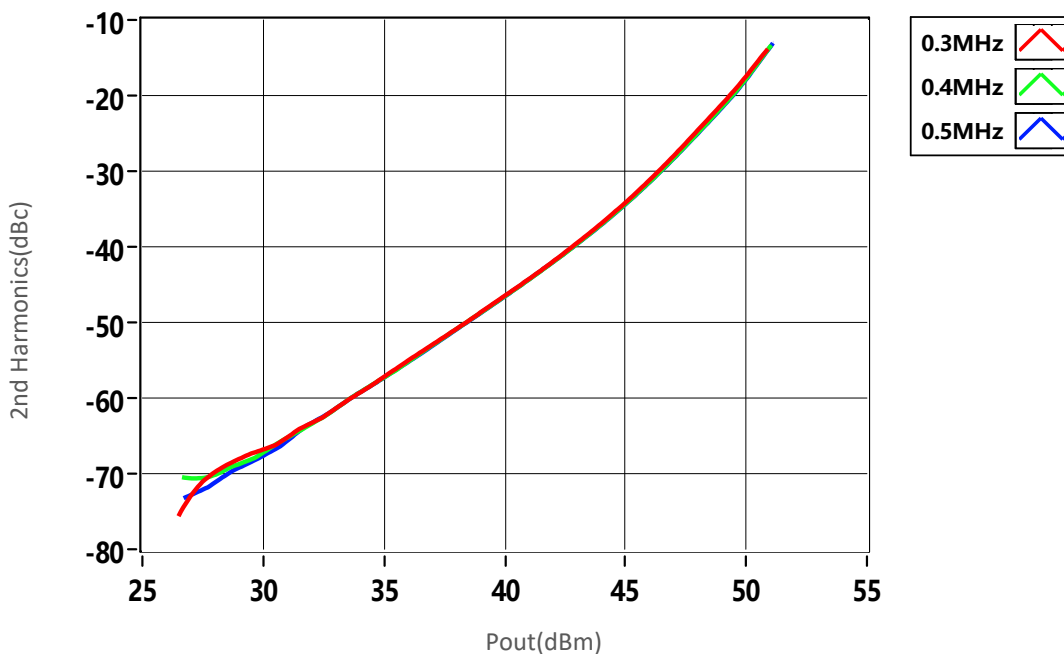


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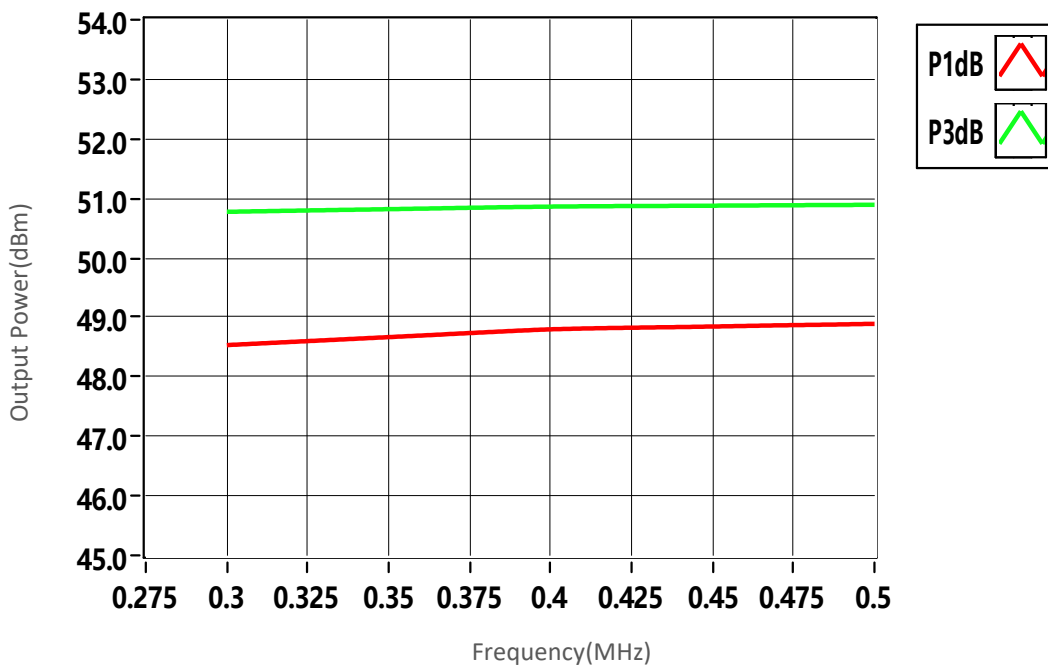


## Typical Performance Data:

### 3rd Harmonics 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.