



High Power Amplifier

Model:RPA-500K-30M-2500

0.5-30MHz 2500W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 0.5-30MHz
- High output power at saturation, 2500W typ.
- High gain, 67 dB typ.
- Operates from AC line power: 220V

Applications:

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

Product Overview:

The RPA-500K-30M-2500 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 2500W output power over its entire operating bandwidth of 0.5 to 30 MHz. The control functions RPA-500K-30M-2500 possesses include the on/off of the power supply. 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.



Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	0.5		30	MHz
Small Signal Gain	SSGP	64	67		dB
Gain flatness	ΔGL		±1	±2	dB
Gain adjust Range	ΔGR		31.5		dB
Gain adjust Step	ΔGS		0.5		dB
Output P1dB	P1dB	58	59		dBm
Output Psat	Psat	63	64		dBm
Spurious@Pout=63dBm	Spur			-60	dBc
Harmonics@Pout=63dBm	HAM		-15	-8	dBc
Input VSWR	VSWRin			2	:1
AC Voltage	Vac		220		V AC
AC Supply Current	Iac		27	30	A
Power Consumption	Pdiss		5000	6000	W
Impedance	I/O-IMP		50		Ohms

*Performance may degrade below 300 MHz. Please refer to below typical test plots

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20°C to +40°C	
Non-operating Temperature*	-30°C to +50°C	
Relative humidity	95	%
RF Input/Output Connector	N Female/7/16 DIN Female	
Communication Connector	DB15	
Front Panel LCD Screen Display	7 inch LCD Screen Display	
Cooling	Built in Fan 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	19 Inch 12U*830	mm
Weight	≤200	Kg

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

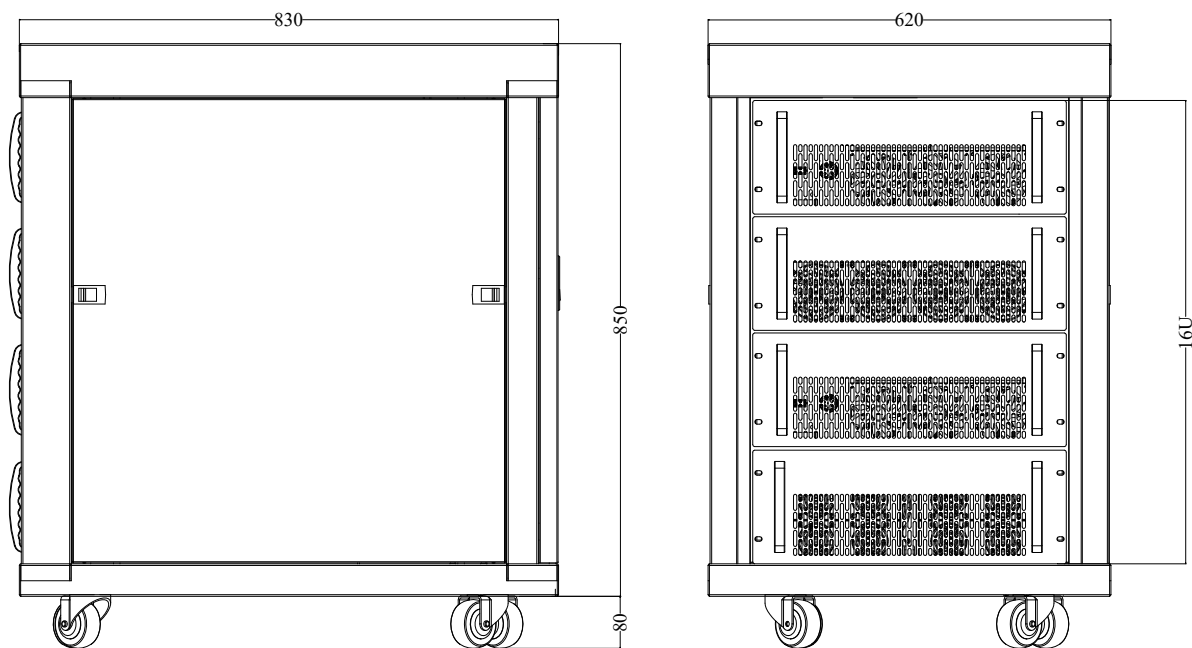


Absolute Maximum Ratings:

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

Outline Drawing: Unit:mm

RPA-500K-30M-2500-M



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

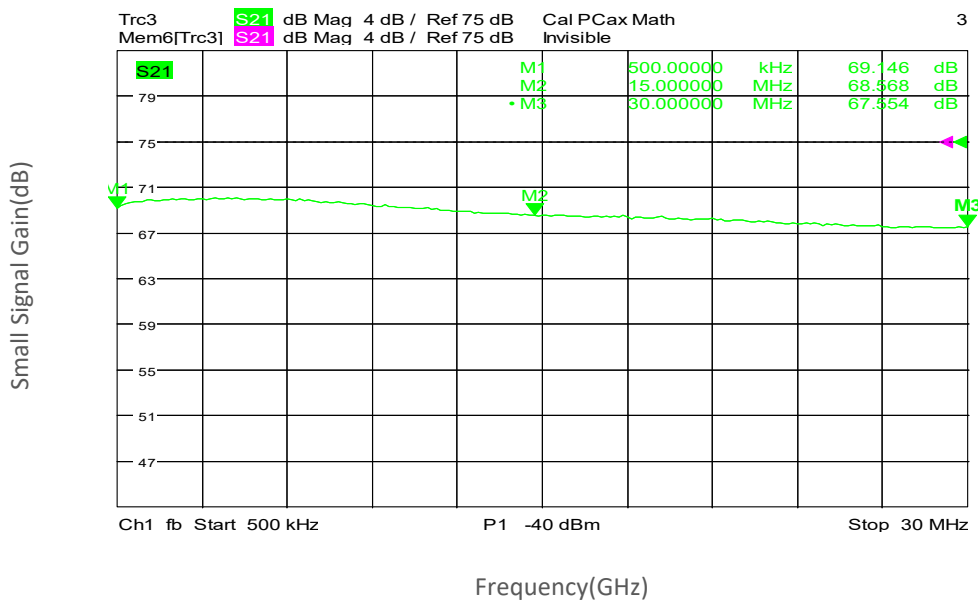


Ordering Information:

Base Number	Description	Optional
RPA-500K-30M-2500	High Power Amplifier, 0.5-30MHz,2500W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-500K-30M-2500-M	High Power Amplifier, 0.5-30MHz,2500W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-500K-30M-2500-IPxx	High Power Amplifier, 0.5-30MHz,2500W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad

Typical Performance Data:

Small Signal Gain vs Frequency

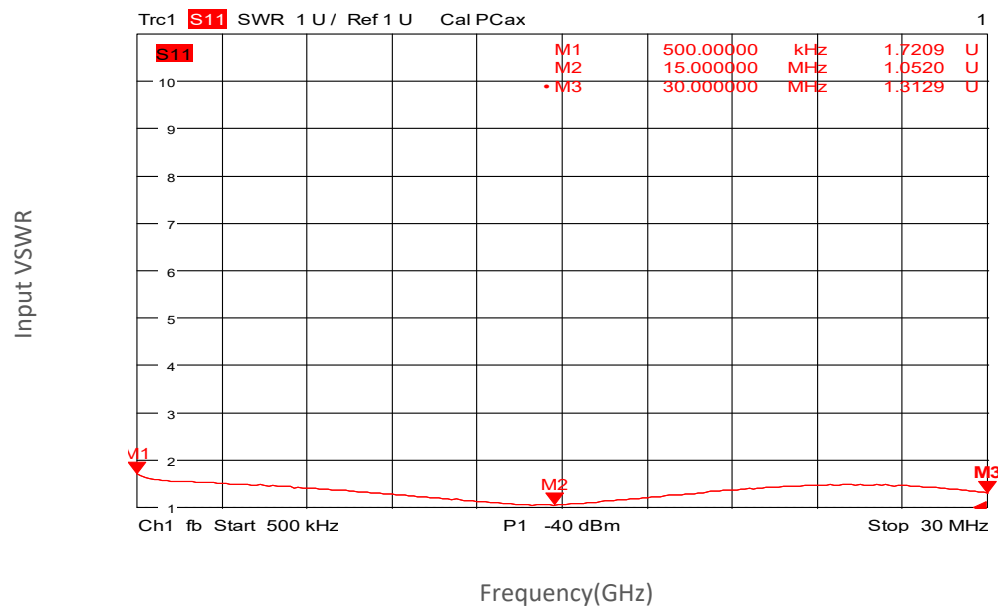


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

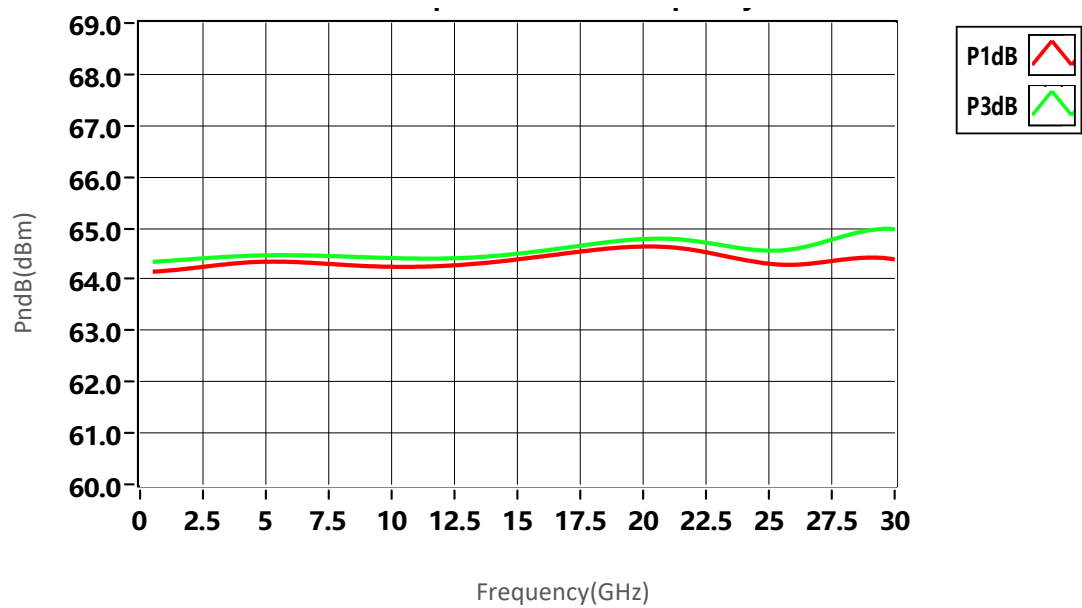


Typical Performance Data:

Input VSWR vs Frequency



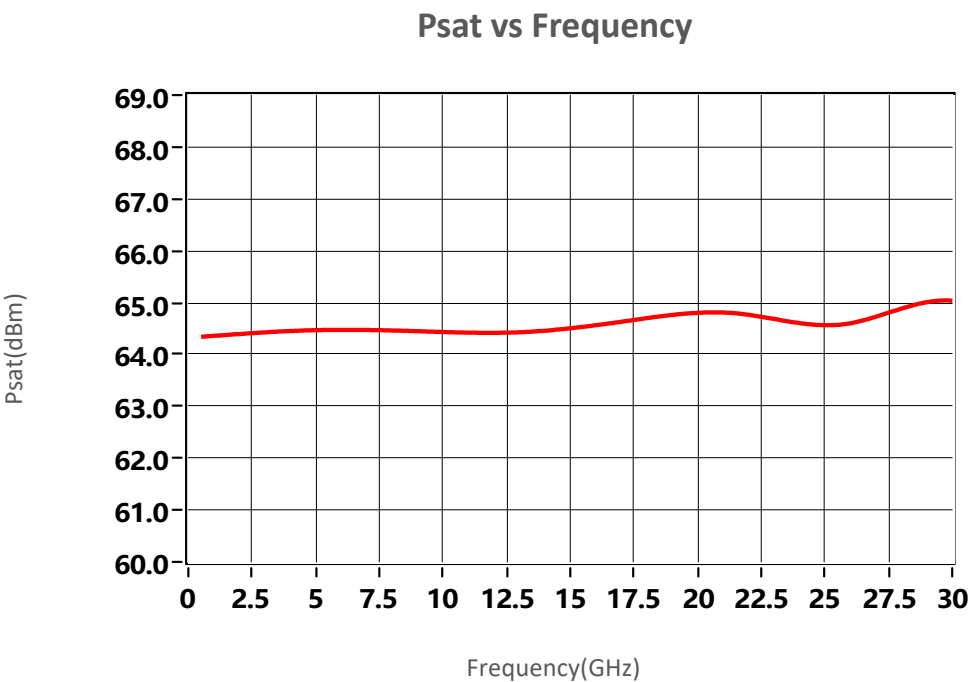
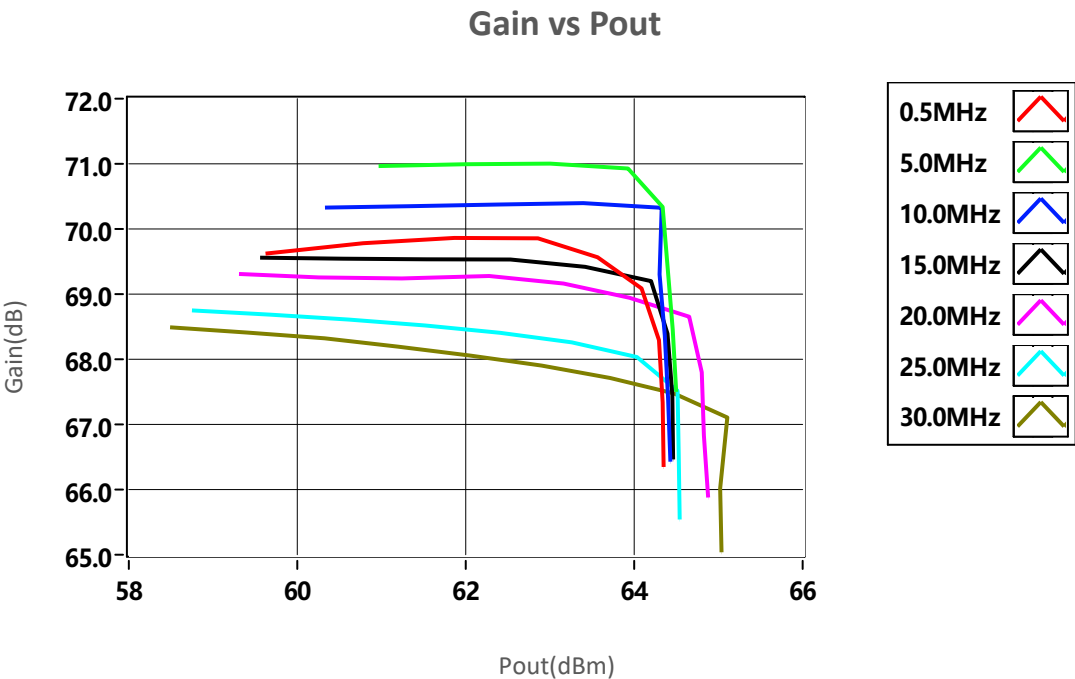
PndB vs Frequency



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:

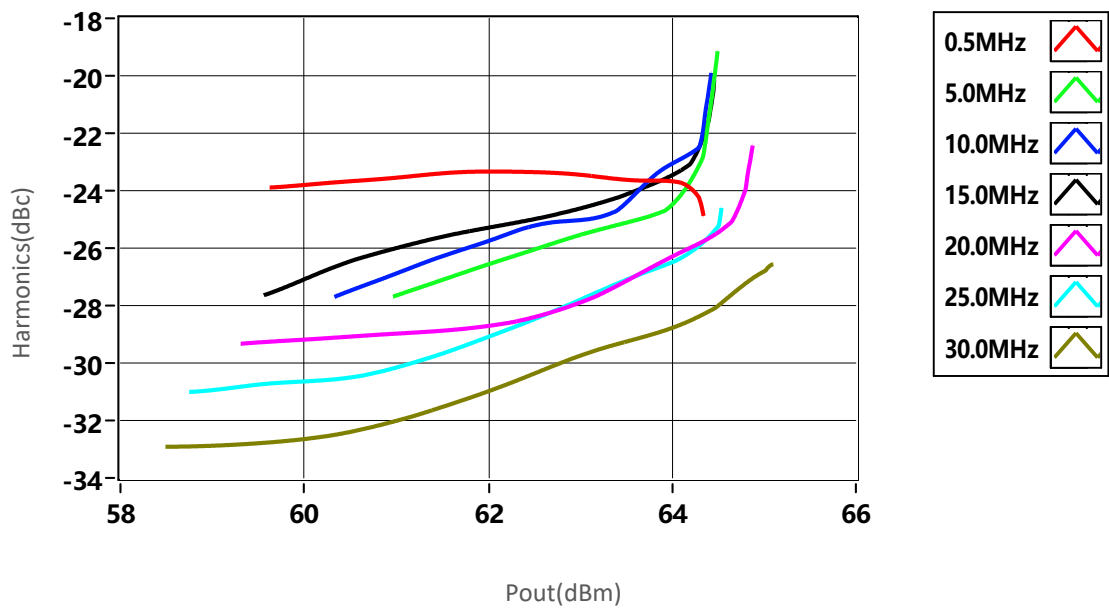


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

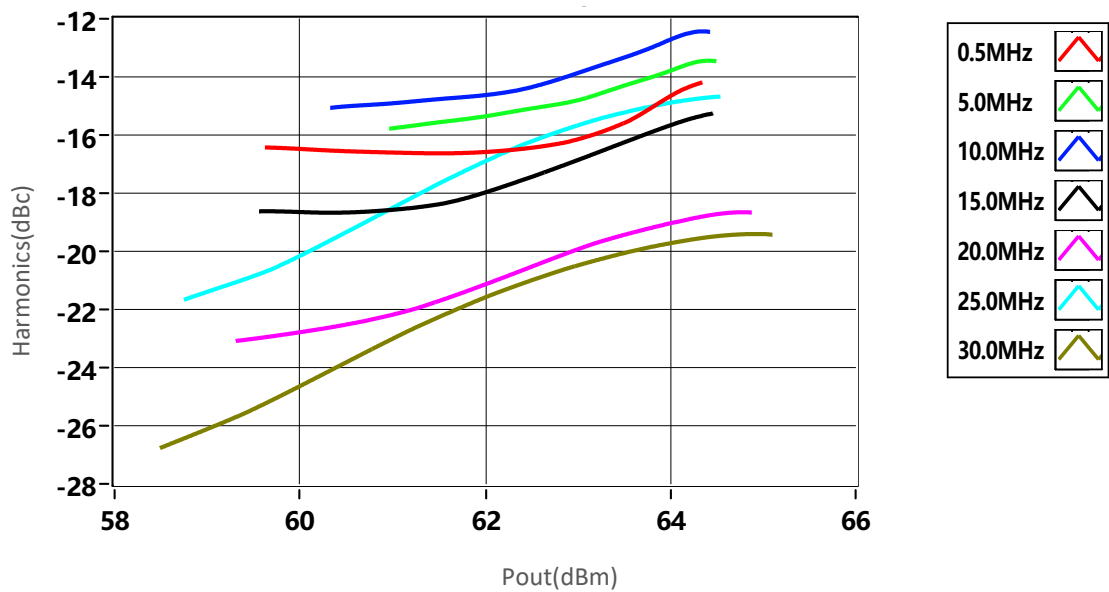


Typical Performance Data:

2nd Harmonics vs Frequency



3rd Harmonics vs Frequency

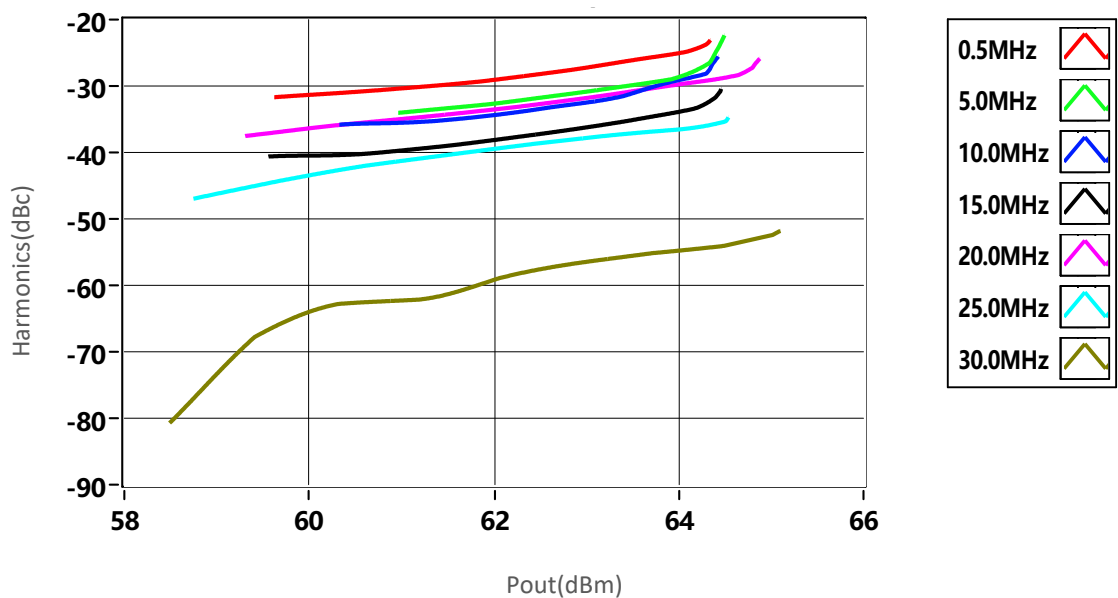


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Typical Performance Data:

4th Harmonics vs Frequency



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