



High Power Amplifier

Model:RPA-2G-4G-500

2-4GHz 500W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 2-4GHz
- High output power at saturation, 500 Watts Min
- High gain, 57dB 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-2G-4G-500 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 500W output power over its entire operating bandwidth of 2 to 4GHz. The control functions RPA-2G-4G-500 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 input over drive (at +10 dBm or higher, PA will be shut down), thermal – graceful degradation (ambient 50°C), over voltage, over TEM, over current and over VSWR (at 4:1 or higher, PA will be shut down) protection.



Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	2-4			GHz
Power Gain	GP	57	58		dB
Gain Flatness	Δ GL		± 3.0	± 4.0	dB
Output P1dB	P1dB		200		Watts
Output Psat	Psat	500	550		Watts
Spurious@500 Watts	Spur			-50	dBc
Harmonics@500 Watts	HAM		-15	-10	dBc
Input VSWR	VSWRin		1.5	2.0	:1
AC Voltage	Vac	110	220		V AC
AC Input Power	Pdiss			4000	Watts
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/7/16 Female	
Cooling system	Built in Cooling system,forced air cooling	
Altitude	10,000	feet
Shock / Vibration(MIL-STD-810F)	Normal Truck Transport	
Dimensions W x H x D	482.6*133.2*668.5(Excluding handles)	mm
Weight	≤ 40	kg

Absolute Maximum Ratings:

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



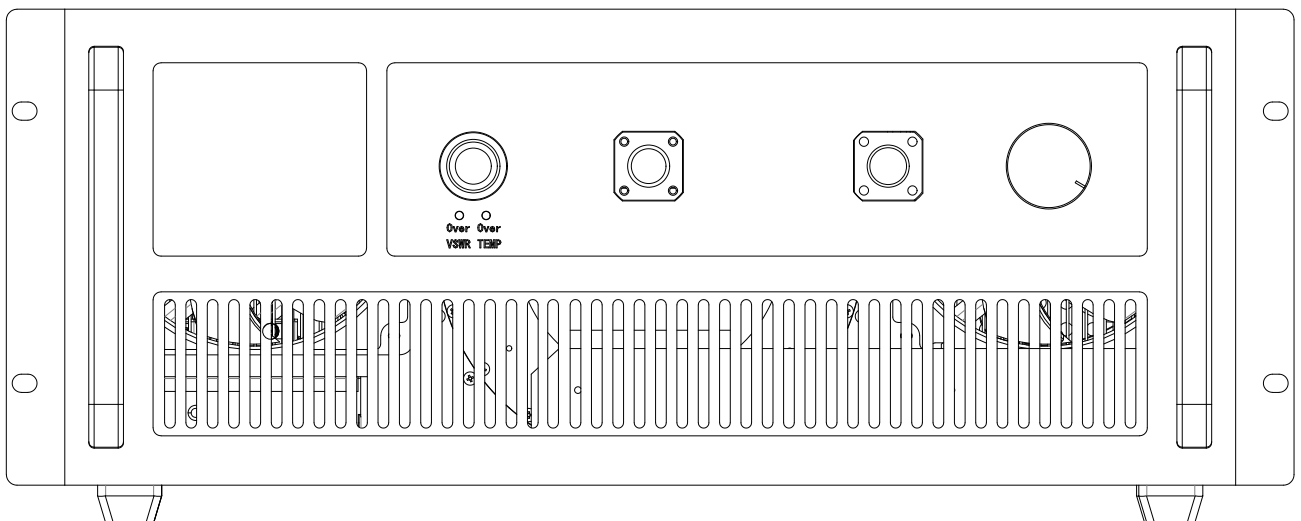
Monitor and control interface,D-sub, 15-Pin, Female

Pin	Description	Specification
1	FWD	Forward detected power (analog voltage: 0 – 5 Volt)
2	REV	Reverse detected power (analog voltage: 0 – 5 Volt)
3	Summary Fault	Summary Fault: Active TTL Logic Low ($\leq 0.7V$) = Fault (Internally Pulled-High)
4	Shutdown	Amplifier Disable: TTL Logic Low ($\leq 0.7V$) (Internally Pulled-High)
5	Over Temp	TTL Logic High (2V-5V) = Fault (Internally Pulled-Low)
6	Over RF IN	TTL Logic High (2V-5V) = Fault (Internally Pulled-Low)
7	Over VSWR	TTL Logic High (2V-5V) = Fault (Internally Pulled-Low)
8	GND	Ground
9-15	NC	No Connection

Outline Drawing:

Unit:mm

RPA-2G-4G-500

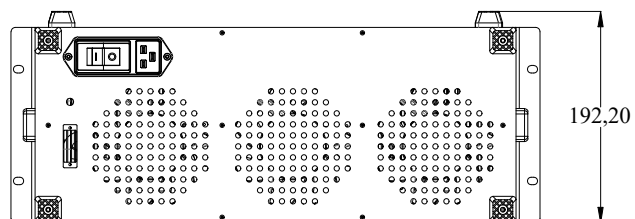
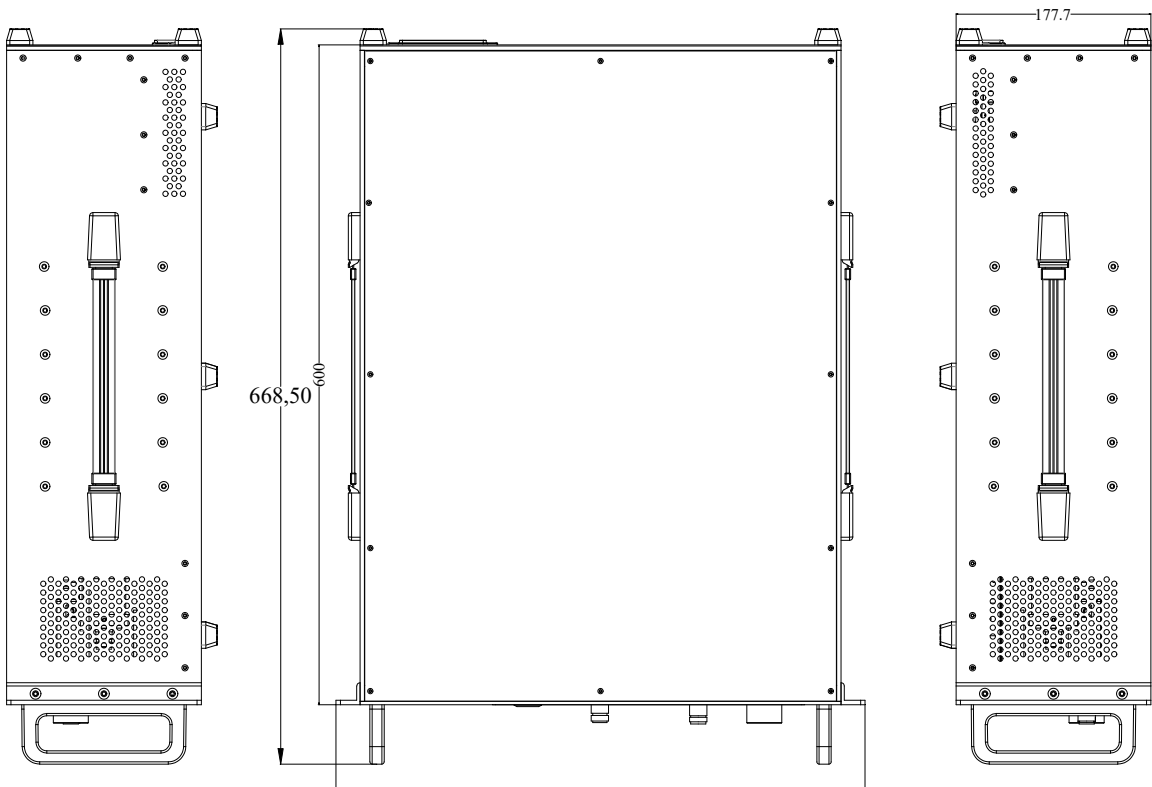
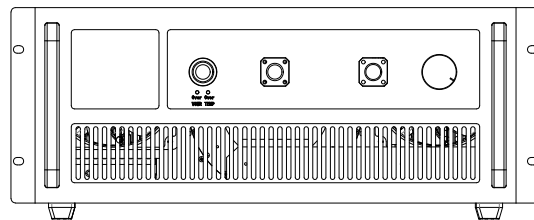




Outline Drawing:

Unit:mm

RPA-2G-4G-500





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

Outline Drawing:

Base Number	Description	Optional
RPA-2G-4G-500	High Power Amplifier, 2-4GHz, 500W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-2G-4G-500-M	High Power Amplifier, 2-4GHz, 500W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-2G-4G-500-IPxx	High Power Amplifier, 2-4GHz, 500W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad