



High Power Amplifier

Model:RPA-5G8-6G8-2000

5.8-6.8GHz 2000W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 5.8-6.8GHz
- High output power at saturation, 63dBm Min.
- Linear gain, 75dB Typ.
- Operates from AC line power: 380V

Applications:

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

Product Overview:

The RPA-5G8-6G8-2000 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 2000W output power over its entire operating bandwidth of 5.8 to 6.8GHz. The control functions RPA-5G8-6G8-2000 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 ($\geq +50^{\circ}\text{C}$ shutdown), input overdrive ($\geq 10\text{dBm}$ shutdown), over voltage ($\geq 29\text{V}$ shutdown), under voltage ($\leq 20\text{V}$ shutdown), load VSWR protection (The unit disables RF when reverse power exceeds the safe level of 3:1 VSWR or reduces power by 6dB). It can also be remotely controlled via RS422 or 485.



Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	5.8-6.8			GHz
Linear Gain	LGP		75		dB
Linear Gain flatness	Δ GL		± 2		dB
Power Gain	Gp	63			dB
Gain adjust Range	Δ GR		30		dB
Gain adjust Step	Δ GS		0.5		dB
Output Psat	Psat	63	64		dBm
Output Psat flatness	Δ Psat			± 1.5	dB
Spurious@Pout=63dBm	Spur			-60	dBc
Harmonics@Pout=63dBm	HAM			-20	dBc
Gain stability@24h	Gstb			± 0.25	dB
Output IM3*	IM3			-25	dBc
Input VSWR	VSWRin			1.25	:1
Output VSWR	VSWRout			1.5	:1
Load VSWR	LVSWR			3	:1
AC Voltage	Vac		380	420	V AC
Power Consumption@Pout=63dBm	Pdiss		7	7.5	kW
Power Consumption@Psat	Pdiss		8	8.5	kW
Impedance	I/O-IMP	50			Ohms

*test condition: two tone/spacing 5MHz/total output power 55dBm.

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/WR137	
Forward/Reverse Coupling	SMA Female/ SMA Female	
Communication Connector	DB-15	
Liquid Interface	Inlet/outlet:ZFS-08	Coolant temp range:0~30°C Pressure: 1.2 bar Liquid flow: 8L/min



Mechanical Specifications:

Parameter	Value	Notes
Front Panel LCD Screen Display	7 inch LCD Screen Display	
Digital Monitor & Control	Serial:RS422/485	Optional: GPIB
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	4U*580 depth	mm
Weight	≤50	Kg

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

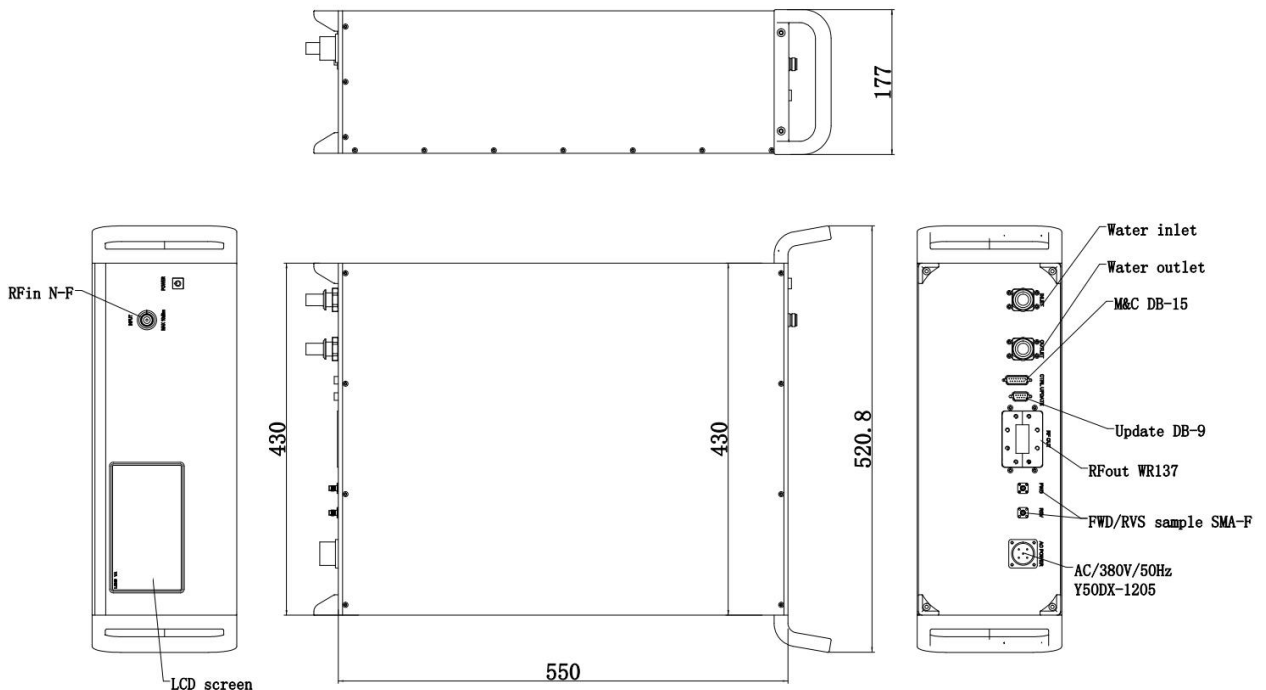
Absolute Maximum Ratings:

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

Outline Drawing:

Unit:mm

RPA-5G8-6G8-2000





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-5G8-6G8-2000	High Power Amplifier, 5.8-6.8GHz, 2000W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-5G8-6G8-2000-M	High Power Amplifier, 5.8-6.8GHz, 2000W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-5G8-6G8-2000-IPxx	High Power Amplifier, 5.8-6.8GHz, 2000W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad