



# High Power Amplifier

## Model:RPA-13G75-14G5-316

13.75-14.5GHz 316W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 13.75-14.5GHz
- High output power at saturation, 55dBm Min.
- High gain, 55dB Min.
- Operates from AC line power: 220V

### Applications:

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

### Product Overview:

The RPA-13G75-14G5-316 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 316W output power over its entire operating bandwidth of 13.75 to 14.5GHz. 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. It can also be remotely controlled via RS422.



## Electrical Specifications at 25°C:

Parameter	Symbol	Min	Typ	Max	Units
Frequency range	BW	13.75-14.5			GHz
Power Gain	GP	55			dB
Gain flatness	ΔGL	±0.2@any 40MHz ±2@any 500MHz			dB
Gain adjust range	Gadj	20			dB
Gain stability@-20~+40°C	Gstb		±3		dB
Output Psat	Psat	55			dBm
Spurious@Pout=55dBm	Spur			-60	dBc
Output IM3@5MHz space	IM3	-25 max at total power 51dBm			dBc
Group delay	Gd	0.03 ns/MHz 0.003 ns/MHz <sup>2</sup> 1.0 ns peak to peak			
Ample phase transformation	AM/PM	3.5°/dB max. at pout=51dBm			
Output coupling	Coup		-50		dB
Input VSWR	VSWRin			1.5	:1
Output VSWR	VSWRout			1.5	:1
AC Voltage	Vac		220		V AC
Power Consumption	Pdiss			2000	W
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/WR62	
Forward/Reverse Coupling	SMA Female/ SMA Female	
Communication Connector	DB9/RJ45	
Front Panel LCD Screen Display	7 inch LCD Screen Display	
Digital Monitor & Control	Serial:RS422	Optional: GPIB
Cooling	Built in Cooling system,forcedair cooling	
Altitude	10,000	feet



## Mechanical Specifications:

Parameter	Value	Notes
Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth	
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	19 Inch*5U*550	mm
Weight	≤35	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

## 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-13G75-14G5-316	High Power Amplifier, 13.75-14.5GHz, 316W CW, Built in air or liquid cooling, without LCD and IP grad.	Basic version
RPA-13G75-14G5-316-M	High Power Amplifier, 13.75-14.5GHz, 316W CW, Built in air or liquid cooling, with LCD.	Add LCD display touchscreen
RPA-13G75-14G5-316-IPxx	High Power Amplifier, 13.75-14.5GHz, 316W CW, Built in air or liquid cooling, with LCD and IP grad.	Add Ingress protection grad



**Outline Drawing:**

Unit:mm

RPA-13G75-14G5-316

