



# High Power Amplifier

## Model:RPA-27G5-30G-40

27.5-30GHz 40W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 27.5-30GHz
- High output power at saturation, 46dBm Min.
- High gain, 46dB 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-27G5-30G-40 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 40W output power over its entire operating bandwidth of 27.5 to 30GHz. The control functions that RPA-27G5-30G-40 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 protection. It can also be remotely controlled via RS422 or LAN.



## Electrical Specifications at 25°C:

| Parameter           | Symbol      | Min                             | Typ | Max | Units  |
|---------------------|-------------|---------------------------------|-----|-----|--------|
| Frequency range     | BW          | 27.5-30                         |     |     | GHz    |
| Small Signal Gain   | SSGP        | 46                              |     |     | dB     |
| Gain flatness       | $\Delta$ GL | $\pm 1.5$ @Bandwidth=200MHz     |     |     | dB     |
| Gain Stability      | Gstb        | $\pm 3$ @Full temperature range |     |     | dB     |
| Output Psat         | Psat        | 46                              | 47  |     | dBm    |
| Output IM3          | IM3         |                                 | -30 | -25 | dBc    |
| Spurious@Pout=46dBm | Spur        |                                 |     | -60 | dBc    |
| Noise PSD           | ND          | -90                             |     |     | dBm/Hz |
| Input VSWR          | VSWRin      |                                 |     | 1.5 | :1     |
| Output VSWR         | VSWRout     |                                 | 1.5 | 1.8 | :1     |
| AC Voltage          | Vac         |                                 | 220 |     | V AC   |
| Power Consumption   | Pdiss       |                                 |     | 500 | W      |
| Impedance           | I/O-IMP     | 50                              |     |     | Ohms   |

## Mechanical Specifications:

| Parameter                       | Value  | Notes          |
|---------------------------------|--|----------------|
| Operating Temperature*          | -40 to +55   | °C             |
| Non-operating Temperature*      | -55 to +85   | °C             |
| Relative humidity               | 95   | %              |
| RF Input/Output Connector       | 2.92mm Female WR28   |                |
| Forward Coupling                | 2.92mm Female  |                |
| Digital Monitor & Control       | Serial:RS422;LAN   | Optional: GPIB |
| Cooling                         | Built in Cooling system,forced air cooling                                     |                |
| Altitude                        | 50,000   | 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                             |                |
| Monitor functions               | Operating voltage, current, temperature,transmitting power and reflectionpower |                |
| Dimensions W x H x D            | 270*254*127  | mm             |
| Weight                          | $\leq 15$  | Kg             |

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



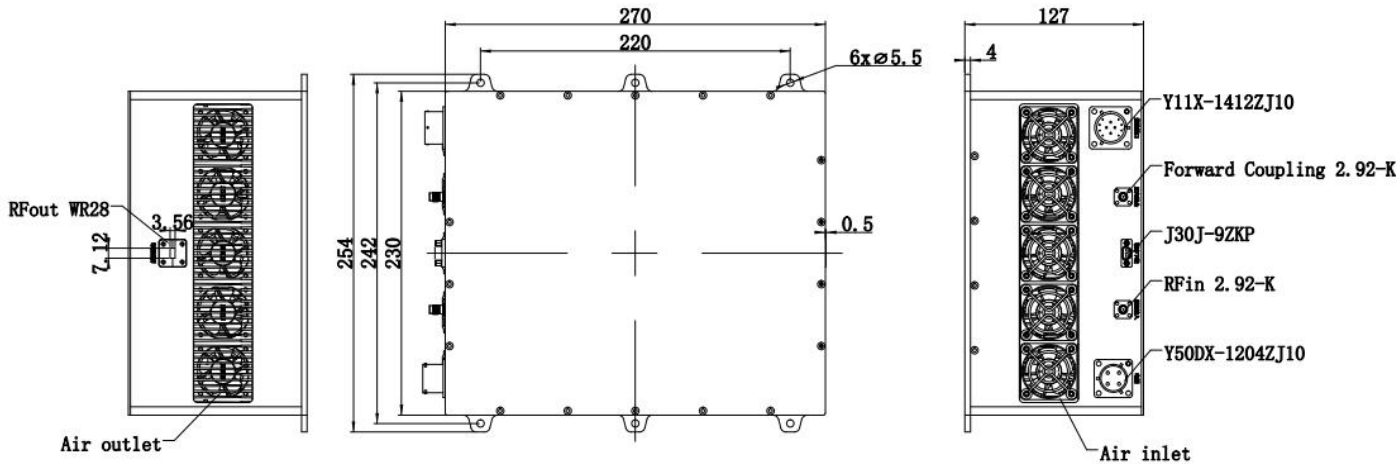
## Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| RF Input Power        | TBD                  |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm

RPA-27G5-30G-40



## 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 |



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## Outline Drawing:

| Base Number          | Description  | Optional                    |
|----------------------|--|-----------------------------|
| RPA-27G5-30G-40      | High Power Amplifier, 27.5-30GHz, 40W CW, Built in air or liquid cooling, without LCD and IP grad. | Basic version               |
| RPA-27G5-30G-40-M    | High Power Amplifier, 27.5-30GHz, 40W CW, Built in air or liquid cooling, with LCD.                | Add LCD display touchscreen |
| RPA-27G5-30G-40-IPxx | High Power Amplifier, 27.5-30GHz, 40W CW, Built in air or liquid cooling, with LCD and IP grad.    | Add Ingress protection grad |