



# High Power Amplifier

## Model:RPA-1G-5G-1000-P

1-5GHz 1000W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 1-5GHz
- High output power at saturation, 60dBm Min
- High gain, 60dB 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-1G-5G-1000-P 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 1000W output power over its entire operating bandwidth of 1 to 5GHz. The control functions RPA-1G-5G-1000-P possesses include the on/off of the power supply and output power can be controlled by the automatic ALC system, on/off of the RF setting. 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(threshold 4.0) protection. It can also be remotely controlled via RS422 or Ethernet.



## Electrical Specifications at 25°C:

| Parameter                       | Symbol  | Min | Typ | Max  | Units |
|---------------------------------|---------|-----|-----|------|-------|
| Frequency range                 | BW      | 1-5 |     |      | GHz   |
| Power Gain@Pout=60dBm           | GP      | 60  |     |      | dB    |
| Output Psat                     | Psat    | 60  |     |      | dBm   |
| Spurious@Pout=60dBm             | Spur    |     |     | -50  | dBc   |
| Harmonics@Pout=60dBm            | HAM     |     | -15 | -10  | dBc   |
| Modulation Signal Level         | TTL     | 0   |     | 5    | V     |
| Modulation Frequency            | MF      | 0.5 |     | 10   | KHz   |
| Pulse Width                     | T       | 0.5 |     | 300  | us    |
| Duty Cycle                      | $\tau$  |     |     | 10   | %     |
| Rise/Fall Time                  | Tr      |     | 50  | 100  | ns    |
| Pulse Drop@T=100us              | Pdrop   |     | 0.5 | 1    | dB    |
| Input VSWR                      | VSWR    |     | 1.5 | 2.0  | :1    |
| AC Voltage                      | Vac     |     | 220 |      | V ac  |
| Quiescent Power Consumption     | QPdiss  |     |     | 2000 | W     |
| Power Consumption@2% Duty cycle | Pdiss   |     |     | 2500 | 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/7/16 DIN Female                            |       |
| Forward/Reverse Coupling        | SMA Female/SMA Female                               |       |
| Pulse Input Connector           | BNC Female  |       |
| Communication Connector         | DB9/RJ-45   |       |
| Front Panel LCD Screen Display  | 7 inch LCD Screen Display                           |       |
| Digital Monitor & Control       | RS422;Ethernet                                      |       |
| 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 |       |



## Mechanical Specifications:

| Parameter            | Value  | Notes |
|----------------------|--|-------|
| Shock(non operating) | 20G for 11msc half sin wave,3 axis both directions |       |
| Dimensions W x H x D | 20U  | mm    |
| Weight               | ≤250   | Kg    |

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

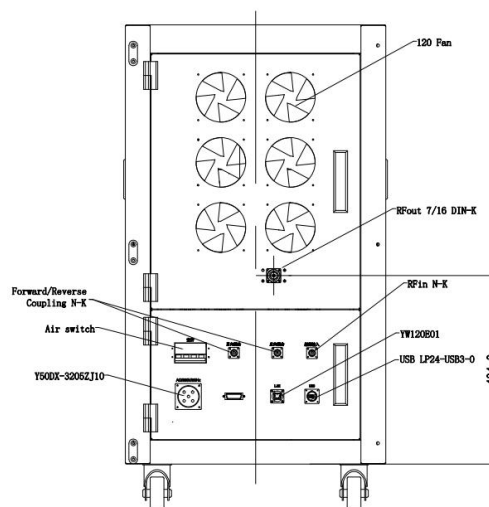
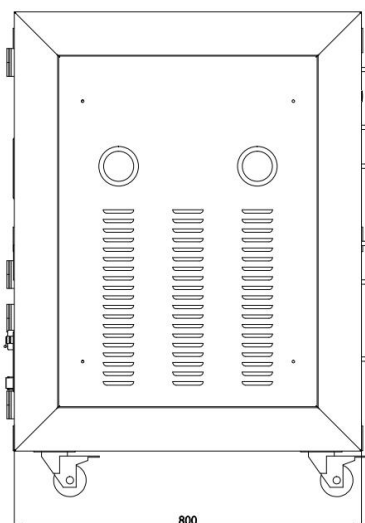
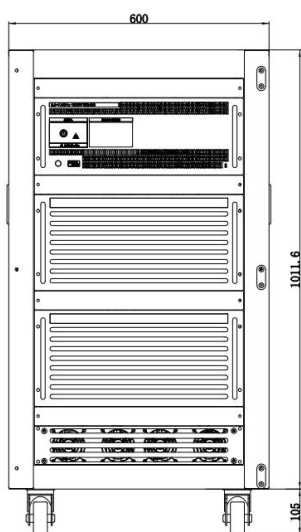
## Absolute Maximum Ratings:

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

## Outline Drawing:

Unit:mm

RPA-1G-5G-1000-P





## 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-1G-5G-1000-P      | High Power Amplifier, 1-5GHz, 1000W CW, Built in air or liquid cooling, without LCD and IP grad. | Basic version               |
| RPA-1G-5G-1000-P-M    | High Power Amplifier, 1-5GHz, 1000W CW, Built in air or liquid cooling, with LCD.                | Add LCD display touchscreen |
| RPA-1G-5G-1000-P-IPxx | High Power Amplifier, 1-5GHz, 1000W CW, Built in air or liquid cooling, with LCD and IP grad.    | Add Ingress protection grad |