# 100W Wide Band Solid State EMC Benchtop Power Amplifier 6GHz~12GHz


## *Features*

- Wideband Solid State Power Amplifier
- Psat: +50 dBm
- Gain: 70 dB
- Supply Voltage: +110/220VAC
- 50 Ohm Matched.

## *Typical Applications*

- Wireless Infrastructure
- Short Haul / High Capacity Links
- RF Microwave and Vsat
- Military & Aerospace Applications
- Test Instrumentation

RoHS Compliant

*Electrical Specifications, $T_A$ = +25°C, Vcc = +110/220 VAC*

| Parameter | Min. | Typ. | Max. | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|---|
| Frequency Range | 6 – 10 | | | 10 – 12 | | | GHz |
| Gain | | 72 | | | 67 | | dB |
| Gain Flatness | | ±6 | | | ±6 | | dB |
| Gain Variation Over Temperature (-45°C ~ +85°C) | | ±3 | | | ±3 | | dB |
| Input Return Loss | | 10 | | | 10 | | dB |
| Output Return Loss | | 10 | | | 10 | | dB |
| Saturated Output Power (Psat) | | 50 | | | 49 | | dBm |
| Input Max Power(no damage) | Psat – Gain | | | Psat – Gain | | | dBm |
| Weight | ≈ 50 | | | | | | lbs |
| Impedance | 50 | | | | | | Ohms |
| Input /Output Connector | Input N-Type Female --- Output N-Type Female | | | | | | |
| Finishing | Nickel Plated Interior Housing | | | | | | |
| Material | Aluminum / Copper | | | | | | |
| Package Sealing | Screw Tight Sealing | | | | | | |

* P1dB, P3dB and Psat power test signal: 200μs pulse width with 10% duty cycle.
* For average CW power testing or increased duty cycle, a 5dB back off from Psat is required unless water/oil cooling system is applied.

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| Absolute Maximum Ratings | |
|---|---|
| Supply Voltage | 110v/220v AC |
| RF Input Power (RFIN)<br>Pin_max = Psat - Gainsat | Psat – Gain |
| Storage Temperature(C°) | -50 to +125 |

Note: Maximum RF input power is set to assure safety of amplifier. Input power may be increased at own risk to achieve full power of amplifier. Please reference gain and power curves

Note: The operating temperature for the unit is specified at the package base. It is the user's responsibility to ensure the part is in an environment capable of maintaining the temperature within the specified limits

| Ordering Information | |
|---|---|
| Part No | Description |
| RAMP06G12GD | 6GHz~12GHz Power Amplifier |

| Biasing Up Procedure | |
|---|---|
| Step 1 | Connect input and output with 50 Ohm source/load. ( in band VSWR<1.9:1 or >10dB return loss) |
| Step 2 | Turn on AC power. |
| Step 3 | Follow front panel LCD screen instruction |
| **Power OFF Procedure** | |
| Step 1 | Turn off RF output power |
| Step 2 | Turn Off DC power |
| Step 3 | Disconnect input and output |

## Amplifier Use

Ensure that the amplifier input and output ports are safely terminated into a proper 50 ohm load before turning on the power. Never operate the amplifier without a load. A proper 50 ohm load is defined as a load with impedance less than 1.9:1 or return loss larger than 10dB relative to 50 Ohm within the specified operating band width.

Power Supply Requirements

Power supply must be able to provide adequate current for the amplifier. Power supply should be able to provide 1.5 times the typical current or 1.2 times the maximum current (whichever is greater).

In most cases, RF-Lambda amplifiers will withstand severe mismatches without damage. However, operation with poor loads is discouraged. If prolonged operation with poor or unknown loads is expected, an external device such as an isolator or circulator should be used to protect the amplifier.

Ensure that the power is off when connecting or disconnecting the input or output of the amp.

Prevent overdriving the amplifier. Do not exceed the recommended input power level.

Adequate heat-sinking required for RF amplifier modules. Please inquire.

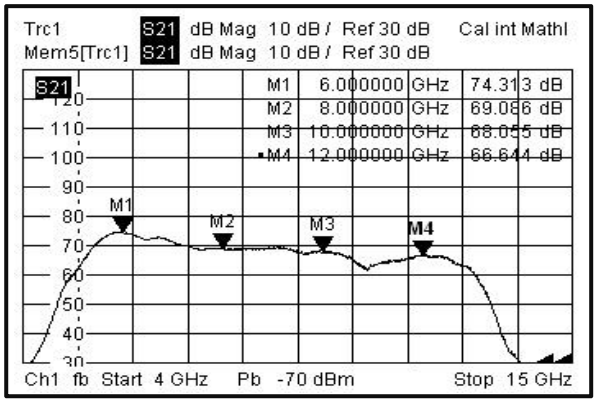
Amplifiers do not contain Thermal protection, Reverse DC polarity or Over voltage protection with the exception of a few models. Please inquire.

Proper electrostatic discharge (ESD) precautions are recommended to avoid performance degradation or loss of functionality.

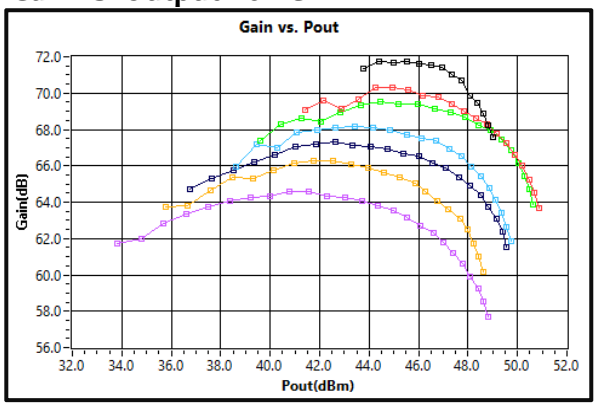
What is not covered with warranty?

Each of RF-Lambda amplifiers will go through power and temperature stress testing.
Due to fragile of the die, IC or MMIC, those are not covered by warranty. Any damage to those will NOT be free to repair.

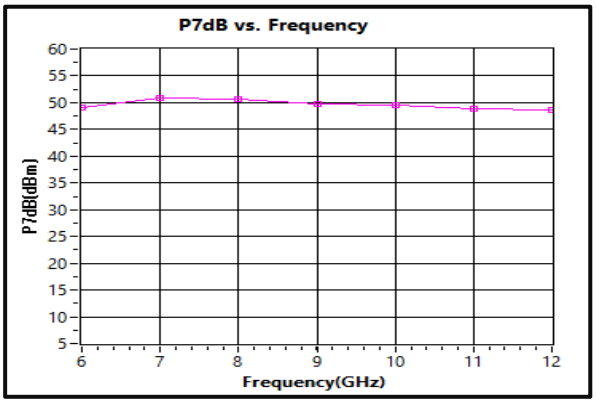
## Gain



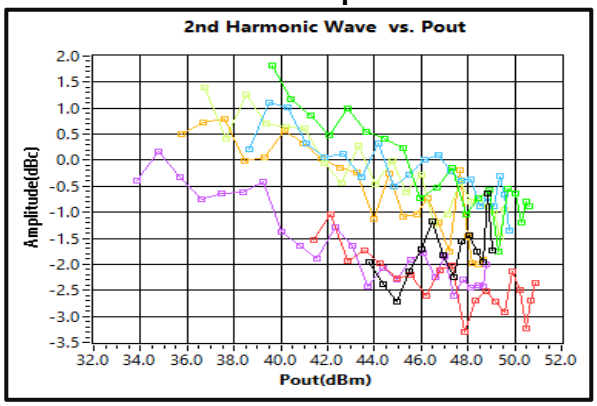

## Gain vs. Output Power



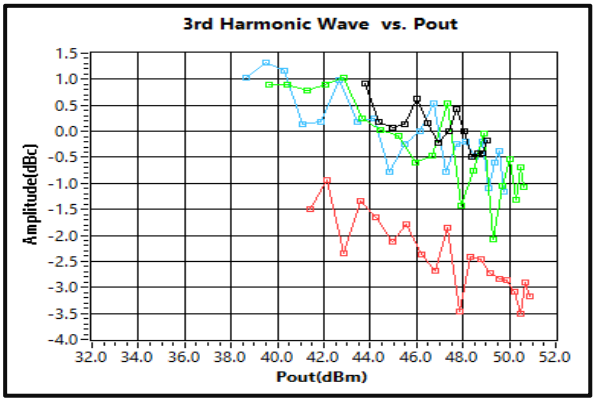

## P7dB vs. Frequency



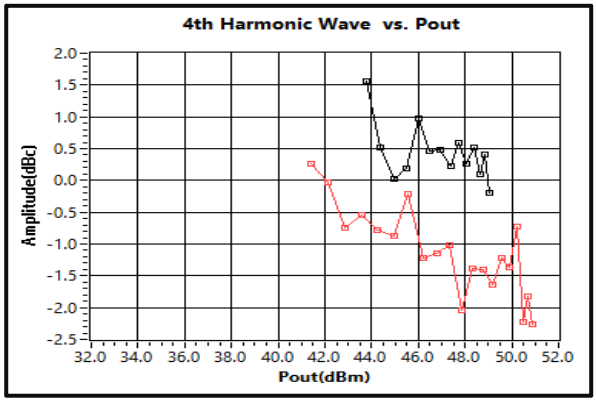

## 2nd Harmonic Wave Output Power

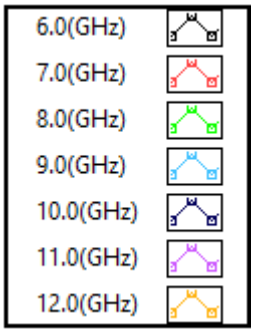



## 3rd Harmonic Wave Output Power




## 4th Harmonic Wave Output Power

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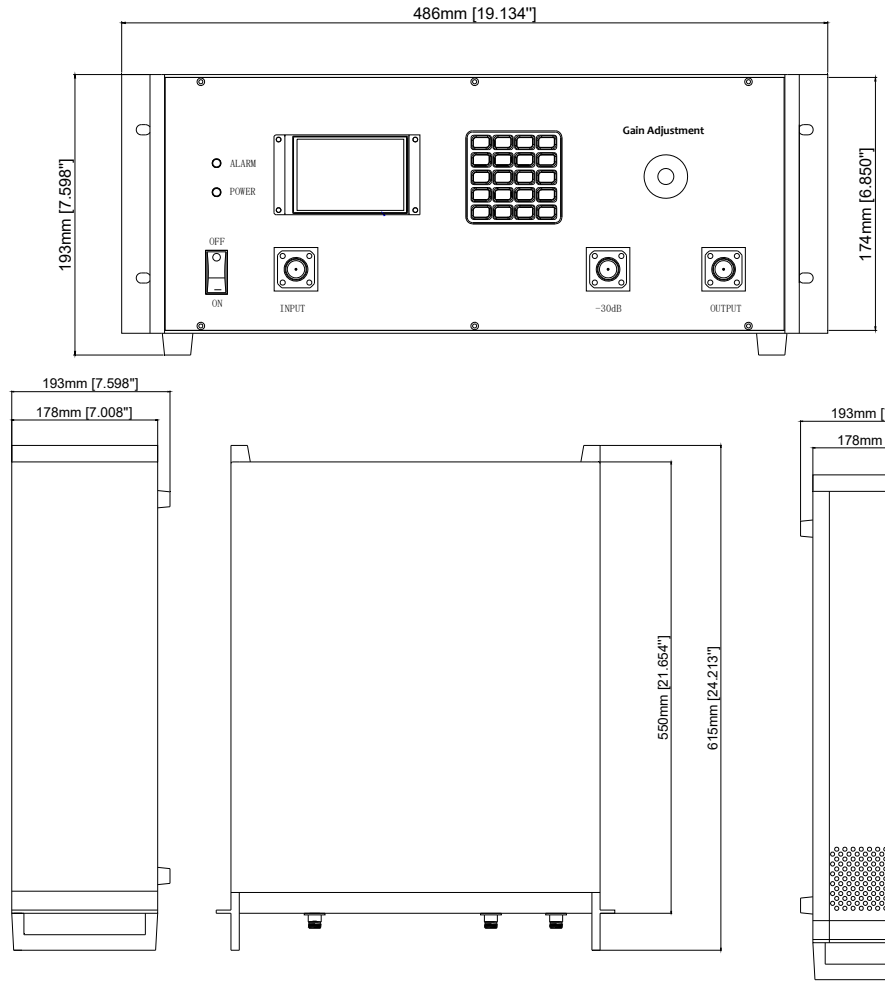
## Outline Drawing Including Air Cooling:

All Dimensions in mm





***Heat Sink and cooling fan required during operation***

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