



## 100W Wide Band Solid State EMC-Benchtop Power Amplifier 8-11GHz

- High output power +50dBm
- Aerospace and military application
- X-band radar
- High Peak to average handle capability
- All specifications can be modified upon request



Parameter	Min	Typ	Max	Units
Frequency Range	8 - 11			GHz
Gain		48		dB
Gain Variation Over Temperature		6	8	dB
Input Return Loss	-7	-15	-20	dB
Output Return Loss	-6	-15	-18	dB
Saturated Power (Psat)		50		dBm
Output Third Order Intercept (IP3)	46	47	49	dBm
Supply Current (110V/ 220V AC)				mA
Isolation S12		-55		dB
Input Max	Psat – Gain			dBm
Weight	≈ 6000			g
Impedance	50			Ohms
Power Connector	D-Sub Combo 3POS			
Input /Output Connector	N-Female			
Finishing	Nickel Plated Finish			
Material	Aluminum/copper			

\* P1dB, P3dB and Psat power testing 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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# RF-LAMBDA

The power beyond expectations

RAMP08G11GC

Absolute Maximum Ratings	
Supply Voltage	110V / 220V AC
RF Input Power (RFIN) Pin_max = Psat - Gainsat	+5dBm
Storage Temperature(C°)	-50 to +125

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	ECCN	Description
RAMP08G11GC	3A001.b.4.b.4	8-11GHZ 100W POWER AMPLIFIER

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

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 4	Enable RF output
Power OFF Procedure	
Step 2	Turn off RF output power
Step 3	Turn Off DC power
Step 4	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.

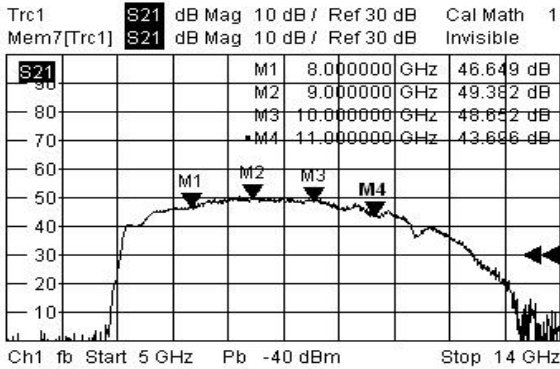
### What is not covered with warranty?

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.

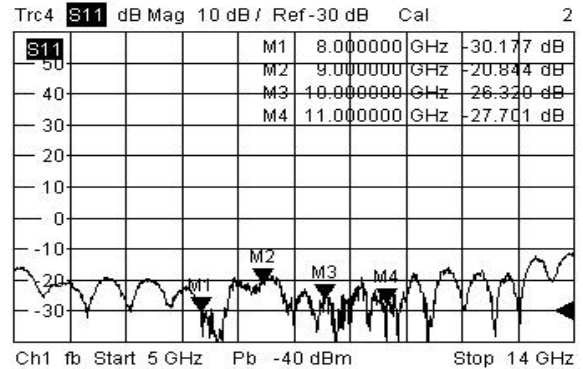
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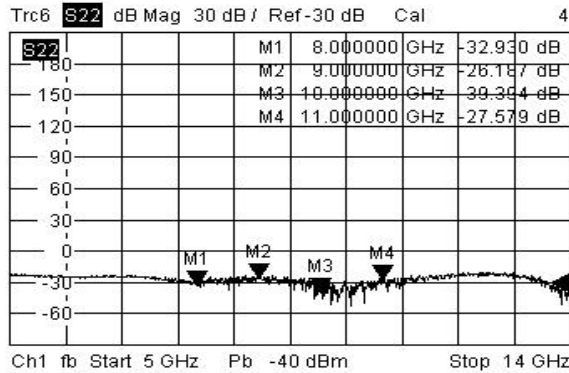
### Gain



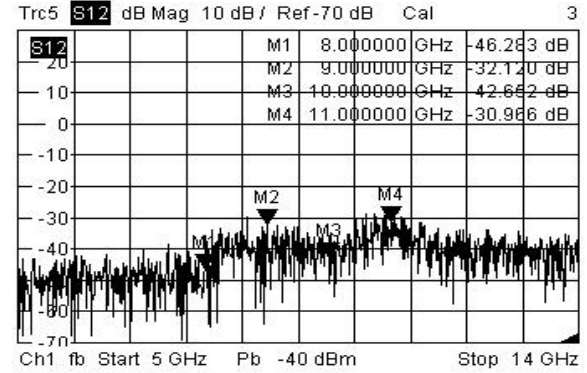
### Input Return Loss



### Output Return Loss



### Isolation

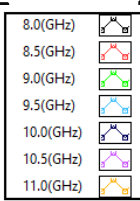
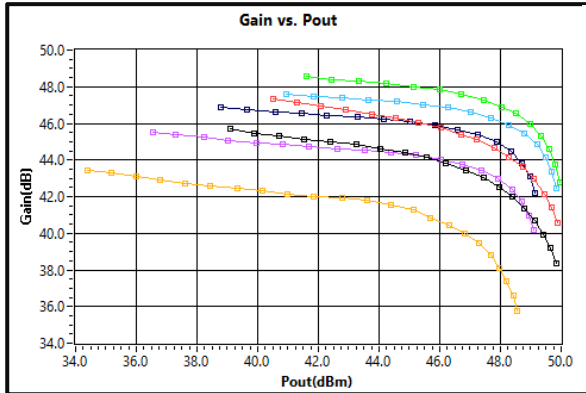


Note: Input/output return loss measurements include attenuators to protect equipment

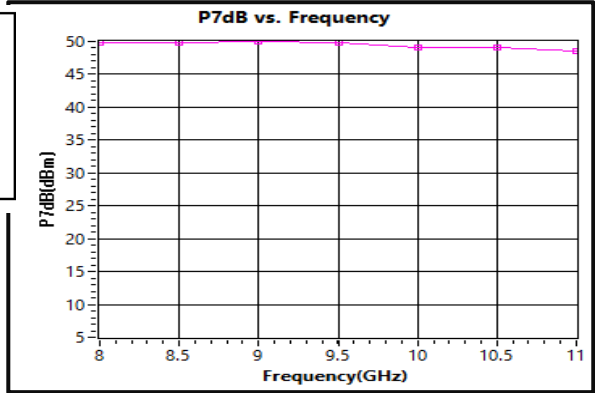
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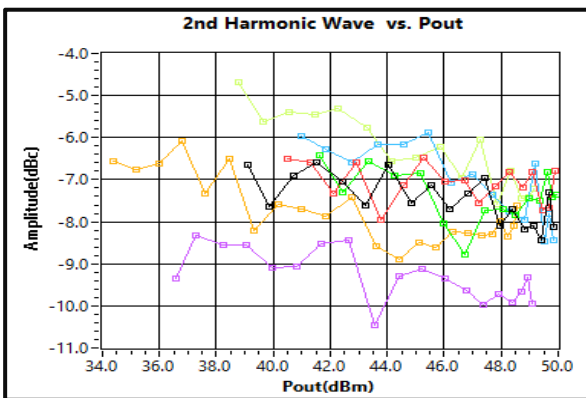
### Gain vs. output power



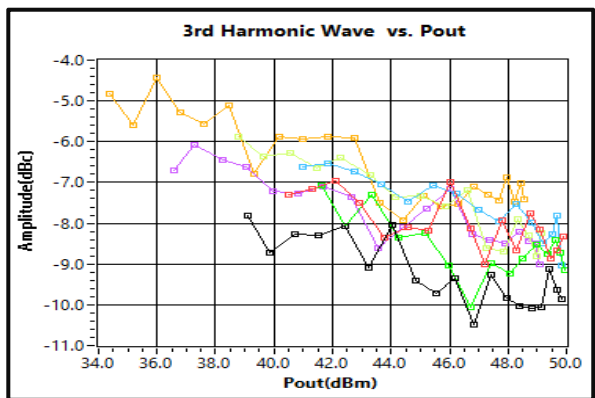
### P7dB vs. Frequency



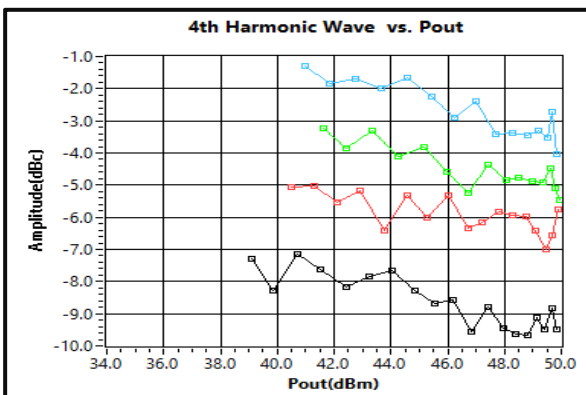
### 2nd Harmonic Wave vs Output Power



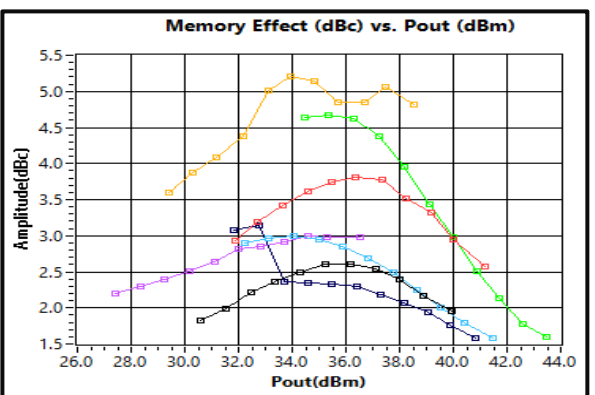
### 3rd Harmonic Wave Output Power



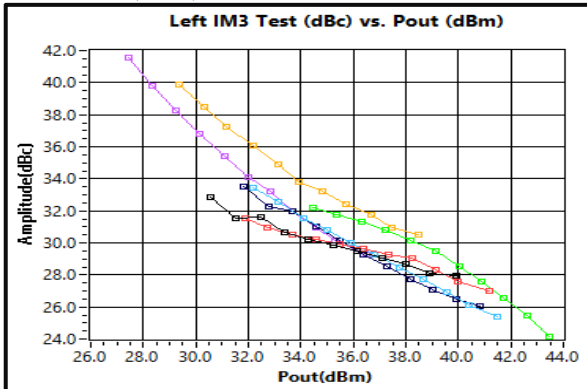
### 4th Harmonic Wave vs Output Power



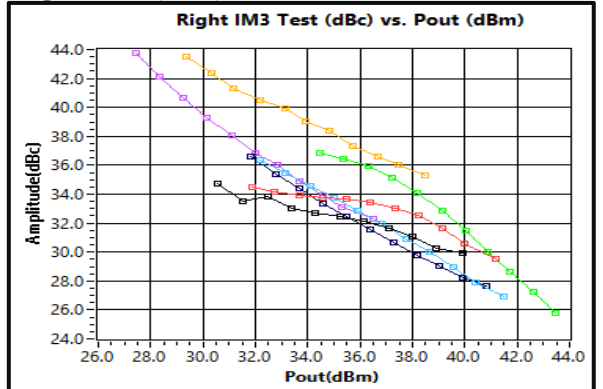
### Memory Effect vs Pout



### Left IM3 (dBc) vs Pout



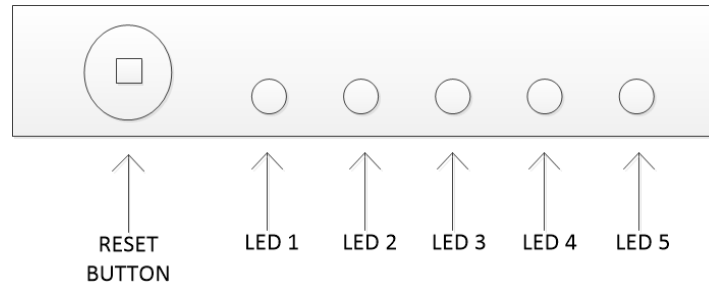
### Right IM3 (dBc) vs Pout



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## Alarm Status Panel:



	Name	Function	Initial State	Description	Applied
	RESET	Control		Manual reset button to reset PA	Yes
LED 1	POWER	Indicator	RED Color	LED will light to RED color when supply power is applied	Yes
LED 2	RF IN	Indicator	GREEN Color	PA will shut down and latch this LED to a RED color when input signal is over limit *	Yes
LED 3	VSWR	Indicator	GREEN Color	PA will shut down and latch this LED to a RED color when output reflection is over limit *	No, this product has isolator at output
LED 4	ID	Indicator	GREEN Color	PA will shut down and latch this LED to a RED color when an imbalance in the drain current of the combining branches occurs or if a drain current limit is reached *	Yes
LED 5	TEMP	Indicator	GREEN Color	PA will shut down and latch this LED to a RED color when driven over temperature *	Yes

**\*LED needs to be manually reset to initial state by pressing RESET button**

### Important Notice

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