10W Power Amplifier 32GHz~38GHz

- High output power
- Aerospace and military application
- High Peak to average handle capability
- High Linearity and low noise figure
- All specifications can be modified upon request

RoHS Compliant

Parameter	Min	Typ	Max	Units
Frequency Range		32 ~ 38		GHz
Gain	35	40	48	dB
Gain Flatness		±5		dB
Gain Variation Over Temperature (-45 ~ +55C)		±3		dB
Input Return Loss		10		dB
Output Return Loss		15		dB
Output Power For 1dB Compression (P-1dB)		37		dBm
Output Power For 3dB Compression (P-3dB)		38		dBm
Saturated Output Power (Psat)		39.6		dBm
Power Supply Voltage		110/220		VAC
Isolation S12		40		dB
Input Max Power (no damage)		Psat - Gain		dBm
Weight		50		lbs
Impedance		50		Ohms
Input /Output Connector		2.92 mm - Female		
Finishing		Black Painted Finish		
Material		Aluminum/copper		

* P1dB, P3dB and Psat power testing signal: 200μs pulse width with 10% duty cycle.
* For average CW power testing on 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	110/220 VAC
RF Input Power (RFIN) 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.

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	Connect AC plug
Step 3	Flip switch to "ON" position
Power OFF Procedure	
Step 1	Flip switch to "OFF" position
Step 2	Remove AC plug
Step 3	Remove RF connection

Environmental Specifications	
Operational Temperature (°C)	-45 ~ +55 (Case Temperature must be less than 55°C at all times)
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msec half sine wave, 3 axis both directions

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
RAMP32G38GB	32GHz~38GHz Power Amplifier

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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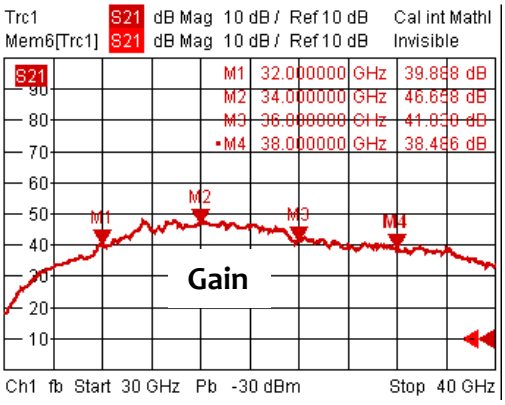
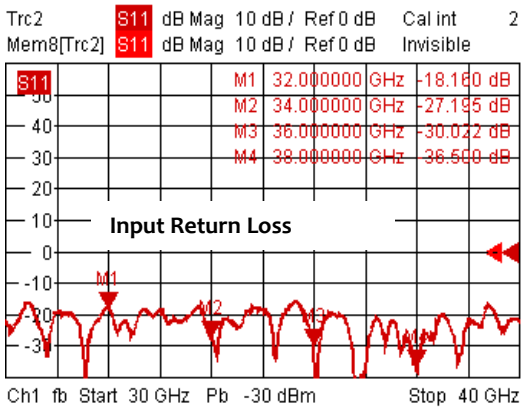
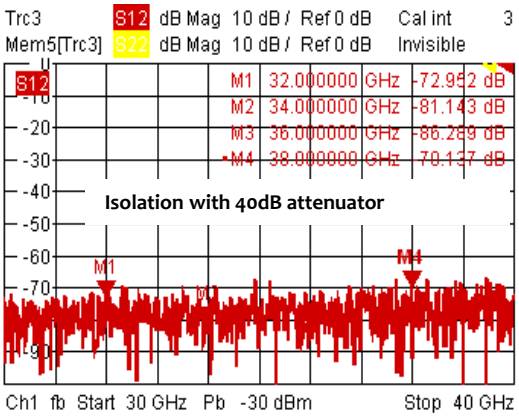
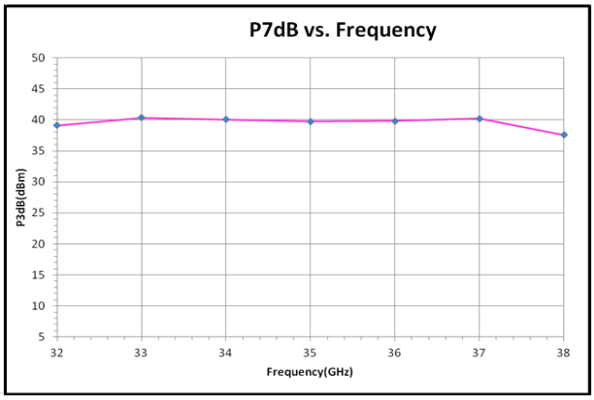
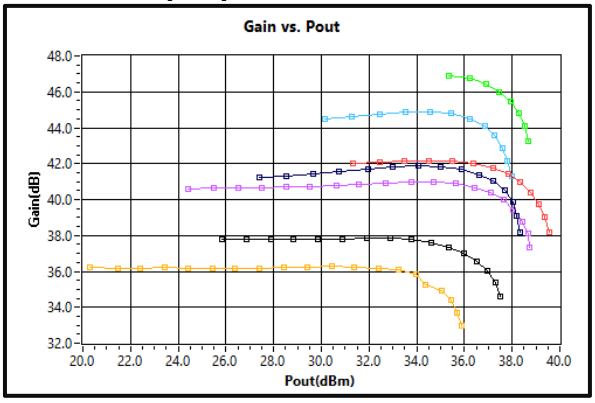




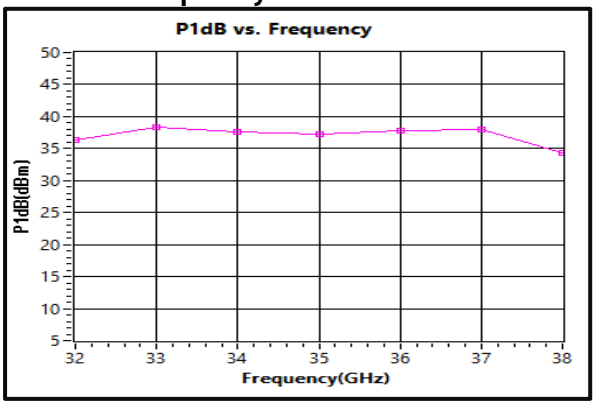




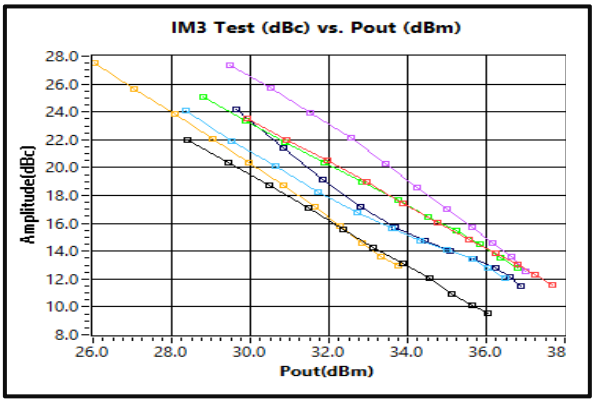
Gain vs. output power



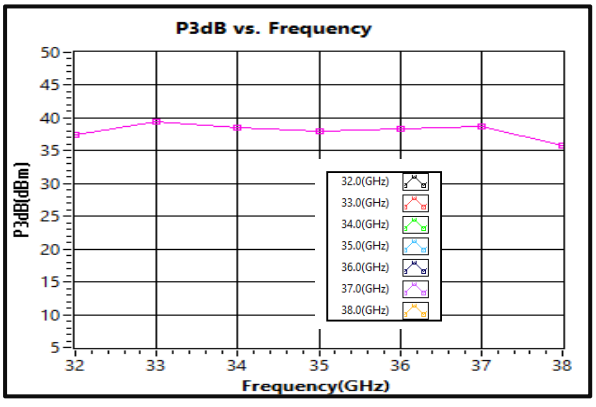
P1dB vs. Frequency



IM3 vs. Pout



P3dB vs. Frequency



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