



40W Wide Band Solid State EMC-Benchtop Power Amplifier 6-18GHz



- Short Haul / High Capacity Links
- High Power Amplifier
- Military & Space
- Psat: + 46dBm
- Gain: 58 dB
- Supply Voltage: +110V / 220V AC
- 50 Ohm Matched Input/Output



Electrical Specifications , TA = +25 ° C AC: 110 / 220V AC

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	6		12	12		18	GHz
Gain	58	62	68	52	56	60	dB
Gain Flatness		±5			±4		dB
Gain Variation Over Temperature(-45 ~ +85)		±3			±3		dB
Noise Figure		6			6		dB
Input Return Loss		15			13		dB
Output Return Loss		25			22		dB
Output Power for 1 dB Compression (P1dB)	42	43	44	40	41	42	dBm
Saturated Output Power (Psat)	45	46	46.5	43	45	46	dBm
IM3 at (40dBm output)		-41			-39		dBc
Supply Current (5A 110V AC)	2.7	3	3.5	3.7	3.6	3.9	A
Isolation S12	80	86		79	85		dB
Input Max Power(no damage)			+5			+5	dBm
Weight	5000						g
Impedance	50						Ohms
Input /Output Connector	N-Female						
Finishing	White Paint						
Material	Aluminum/copper						

* P1dB, P3dB and Psat power testing signal: 200µs pulse width with 10% duty cycle.

* For average CW power testing, a 5dB back off from Psat is required unless water/oil cooling system is applied.

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The power beyond expectations

RAMP06G18GC

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
RAMP06G18GC	3A001.b.4.b.4	6GHz~18GHz 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.

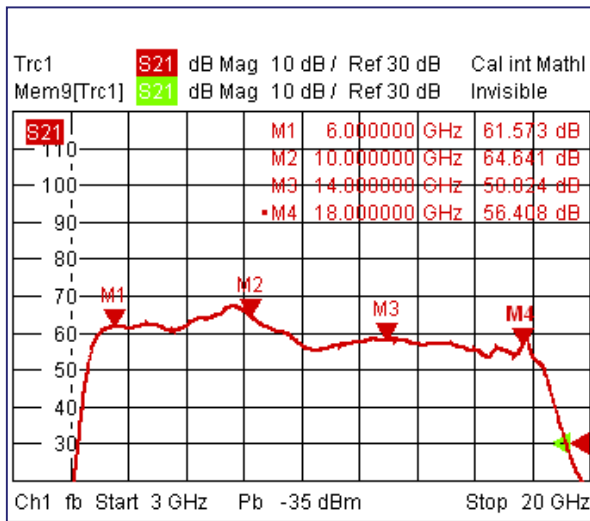
What is not covered with warranty?

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.

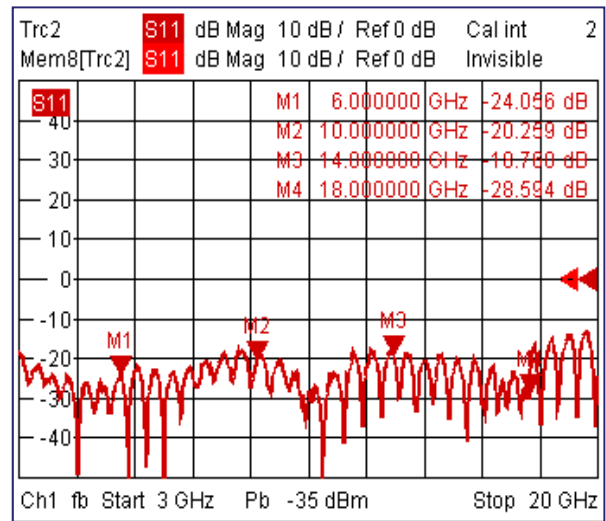
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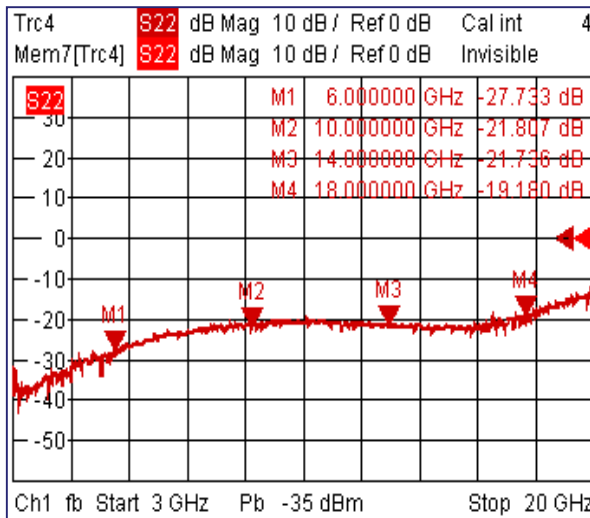
Gain



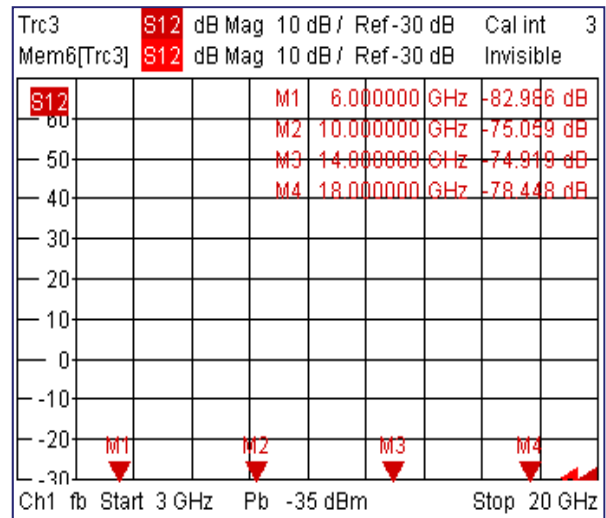
Input Return Loss



Output Return Loss



Isolation

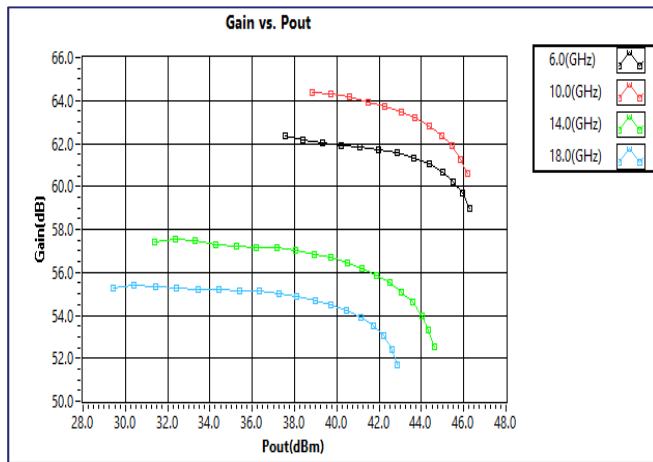


Note: Input/output return loss measurements include attenuators to protect equipment

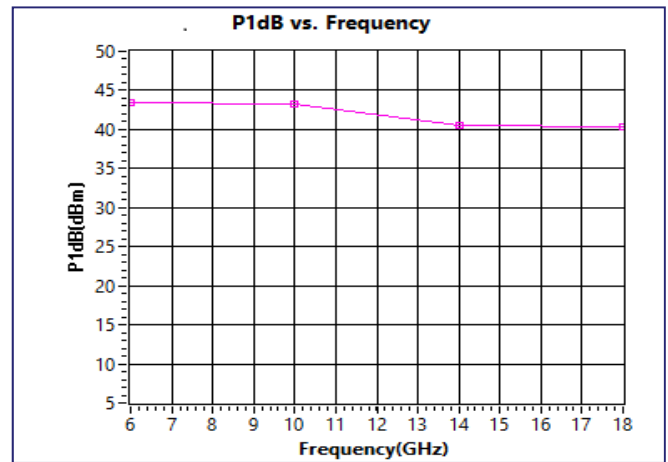
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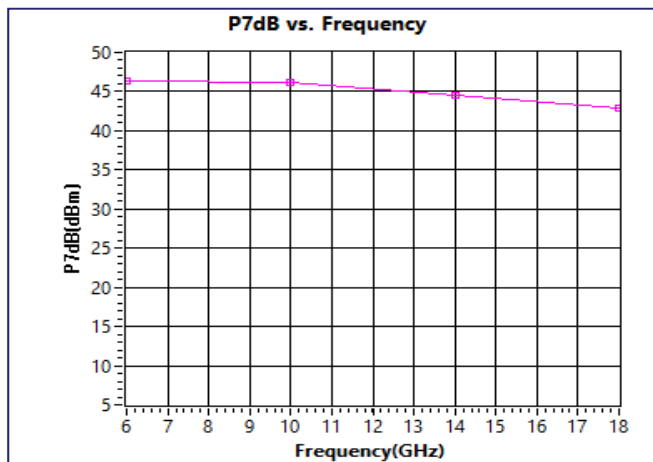
Gain vs. output power 6-18GHz



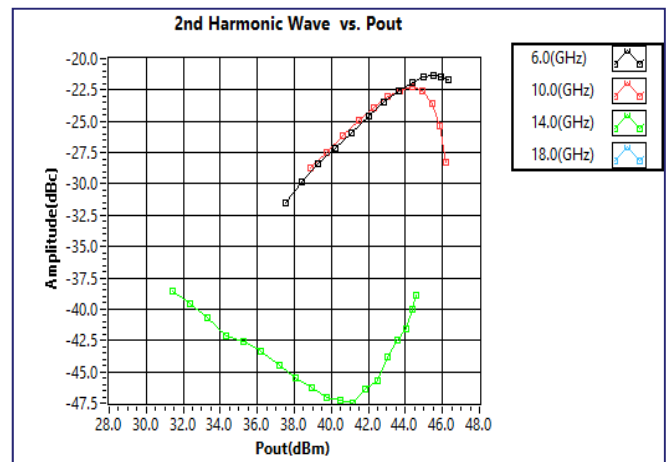
P1dB vs. Frequency 6-18GHz



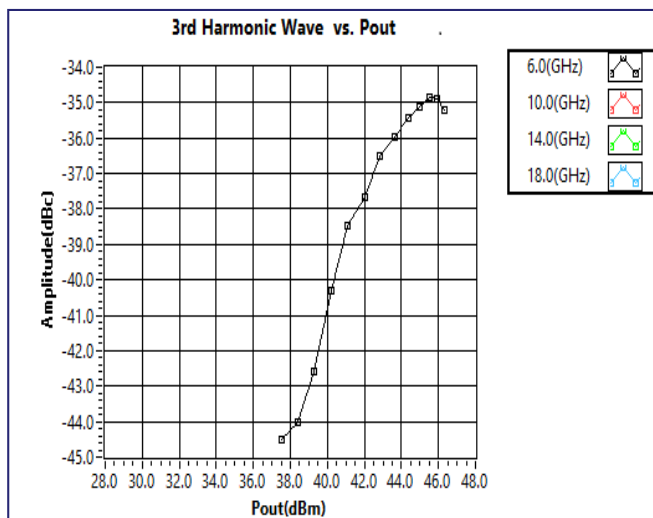
P7dB vs. Frequency 6-18GHz



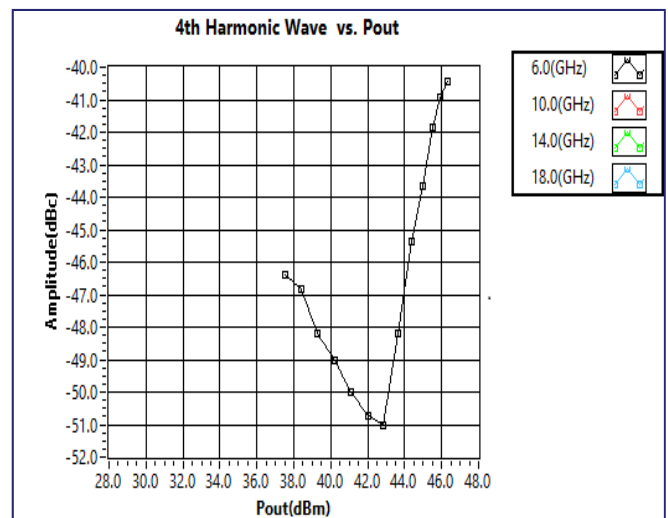
2nd Harmonic Wave Output Power 6-18GHz



3rd Harmonic Wave output Power 6-18GHz



4th Harmonic Wave output Power 6-10GHz



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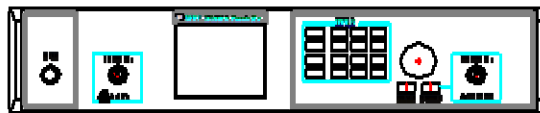
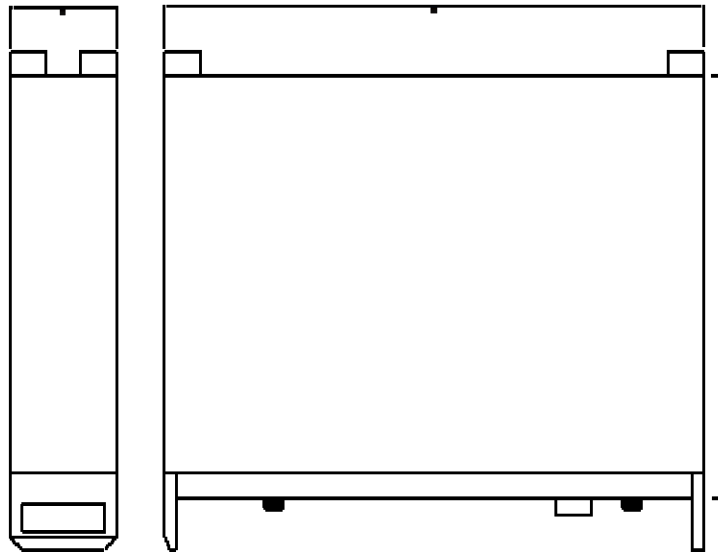
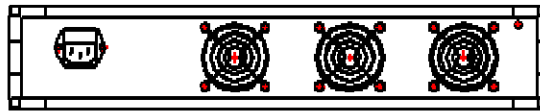


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RAMP06G18GC

PIN #	NAME	Function	TYPE	STANDARD	ENABLE	DESCRIPTION	Applied
1	RESET	Control	INPUT/OUTPUT	TTL	LOW	Set as logic low to reset PA (Front Panel also has a manual reset button to perform the same function)	Yes
2	Input Over	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high upon input overdrive	Yes
3	Over Temperature	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high when driven over temperature	Yes
4	Over Current	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high when Current Limit is reached	Yes
5	IDD Imbalance	Indication	OUTPUT	TTL	HIGH	PA will first shut down then latch this PIN to logic high upon imbalance in drain current of combining branches	Yes



Important Notice

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