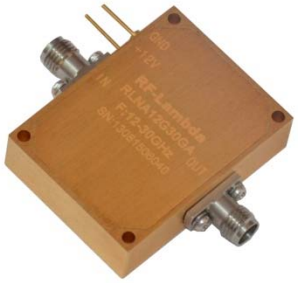
Ultra Wide Band Low Noise Amplifier 20GHz~43.5GHz



- Output power +20dBm Type.
- Low Noise Figure: 5.0dB typical.
- High P1dB >20dBm full band.
- No External Matching Required
- Applicable for base station ,repeaters of cellular network
- Aerospace and military application
- LMDS multi-carrier operation
- High peak to average handle capability
- All specifications can be modified upon request

Electrical Specifications, TA = +25° C, With Vdd = +12V

Parameter	Min	Type	Max	Min	Type	Max	Units
Frequency Range	20~32			32~43.5			GHz
Gain	44	47	50	40	44	46	dB
Gain Variation Over Temperature		0.5	0.8		0.5	0.8	dB
Noise Figure	2.4	3	3.3	4.0	5.0	6.0	dB
Input VSWR	1.8	2.4	3.7	1.2	1.4	2.6	
Output VSWR	1.1	1.5	4.5	1.6	1.9	2.1	
Output Power For 2dB Compression (P2dB)	21	22	23	22	23	24	dBm
Output Third Order Intercept (IP3)	28	30	31	28	29	30	dBm
Supply Current (Idd) (Vdd=+12V)	250	280	350	250	280	350	mA
Power Supply	11.5	11.5	12	11.5	11.5	12	V
Isolation S12	68	77	85	72	82	85	dB
Input Max		P2dB - Gain			P2dB - Gain		dBm
Weight	100						g
Impedance	50						Ohms
Input /Output Connector	2.92mm-Female						
Finishing	Gold plating						
Material	Aluminum/copper						

Note: Input/output return loss measurements include 30dB attenuators to protect equipment

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Absolute Maximum Ratings	
Supply Voltage	+12 VDC
RF Input Power (RFIN)	P2dB - 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 Ground Pin
Step 4	Connect +12V biasing
Power OFF Procedure	
Step 2	Turn off +12V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

Environment specifications	
Operational Temperature (C°)	-45 ~ +85(Case Temperature must be less than 85C all time)
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msc half sin wave,3 axis both directions

Ordering Information	
Part No	Description
RLNA26G40GB	20GHz~43.5GHz Low Noise 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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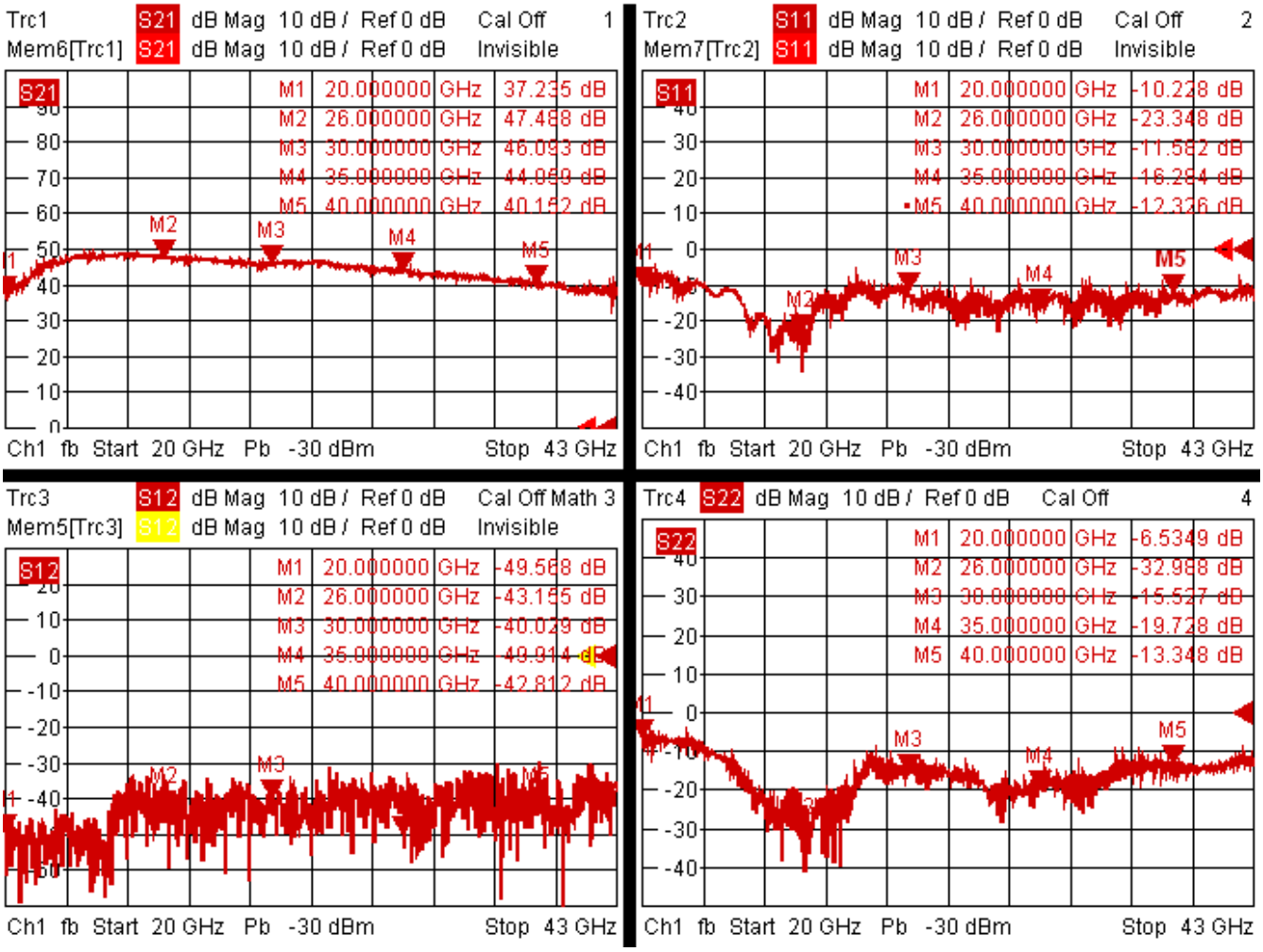
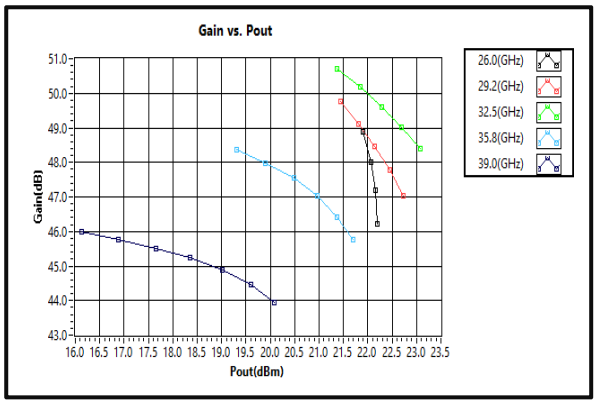
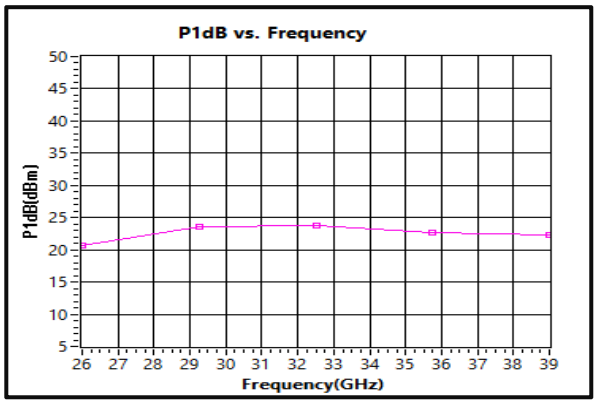


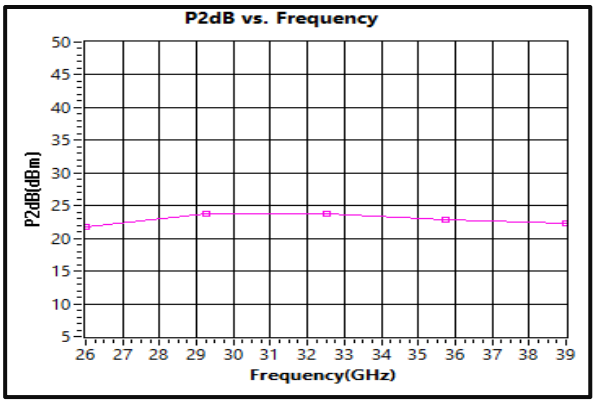
Gain vs. output power



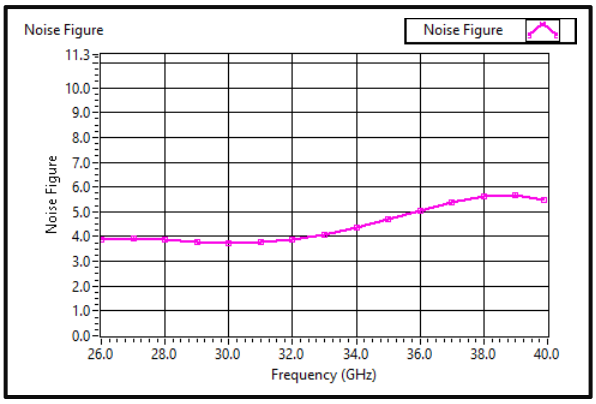
P1dB vs. Frequency



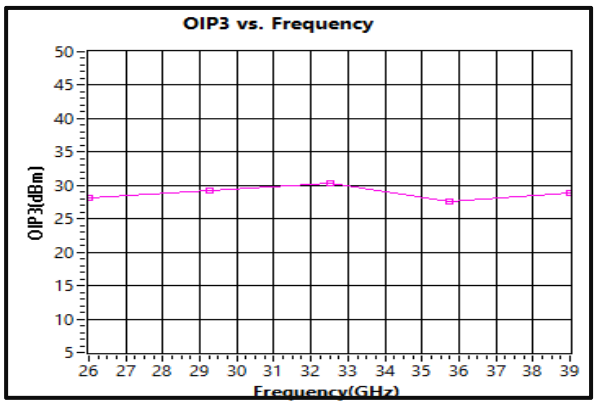
P2dB vs. Frequency



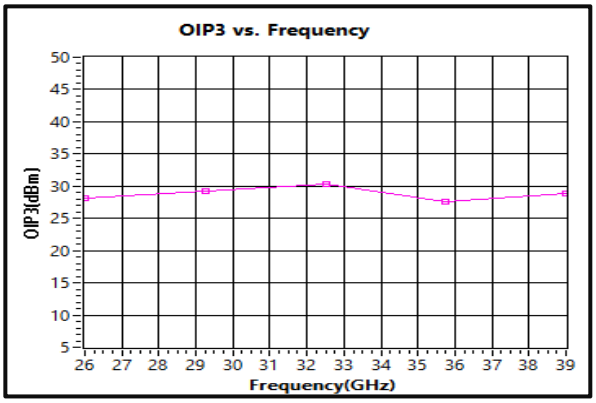
Noise Figure vs. Frequency



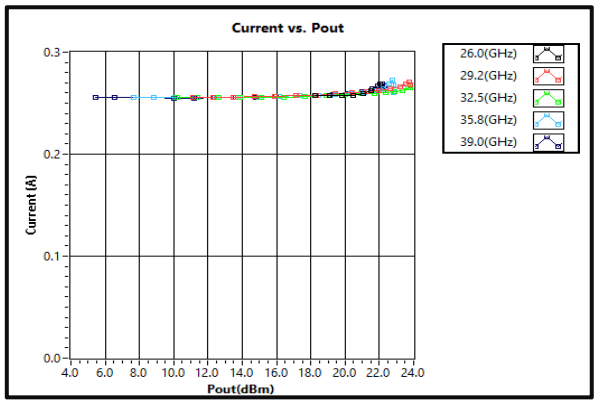
Current vs. Pout

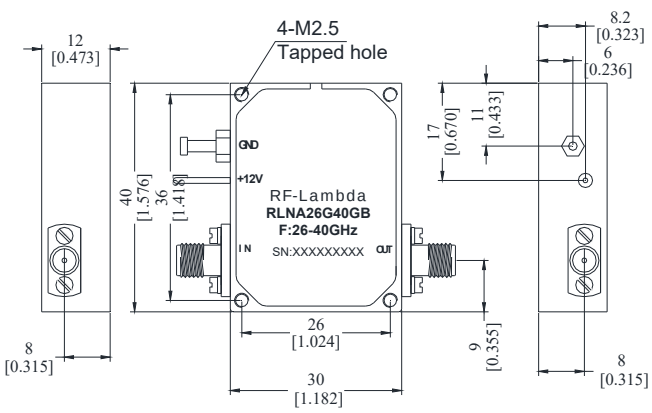


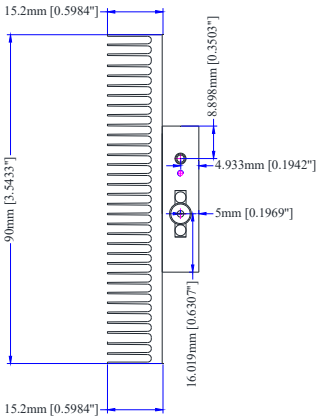
OIP3 vs. Frequency

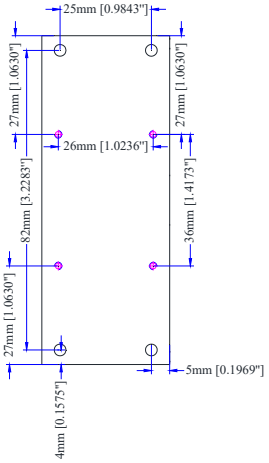


Current vs. Pout









Heat Sink required during operation.

Important Notice

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