



Wide Band Low Noise Amplifier 26GHz~40GHz



Features

- Low Noise Figure: 4dB typical
- High P_{1dB} >20dBm
- No External Matching Required
- Applicable for commercial base stations
- Cellular network repeaters
- Aerospace and military applications
- LMDS multi-carrier operation
- High peak to average handling capability
- All specifications can be modified upon request

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

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	20~32			32~40			GHz
Gain	46	54		43	50		dB
Gain Variation Over Temperature		3			3		dB
Noise Figure		4.0			5.0		dB
Input Return Loss (S11)		13			14		dB
Output Return Loss (S22)		18			10		dB
Output Power For 2dB Compression (P2dB)		23			22		dBm
Output Third Order Intercept (IP3)		30			29		dBm
Supply Current (Vdd=+12V)		280			280		mA
Power Supply		12			12		V
Isolation S12		64			60		dB
Max Input Power	P2dB - Gain			P2dB - Gain			dBm
Weight	100						g
Impedance	50						Ohms
Input / Output Connectors	2.92mm - Female						
Finishing	Gold Plating						
Material	Aluminum / Copper						



RF-LAMBDA

The power beyond expectations

RLNA26G40GC

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 Ground Pin
Step 2	Connect input and output with 50 Ohm source/load. (in band VSWR<1.9:1 or >10dB return loss)
Step 4	Connect +12V biasing
Power OFF Procedure	
Step 2	Turn off +12V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

Environmental 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 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

Ordering Information	
Part No.	Description
RLNA26G40GC	26GHz~40GHz 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 fragility 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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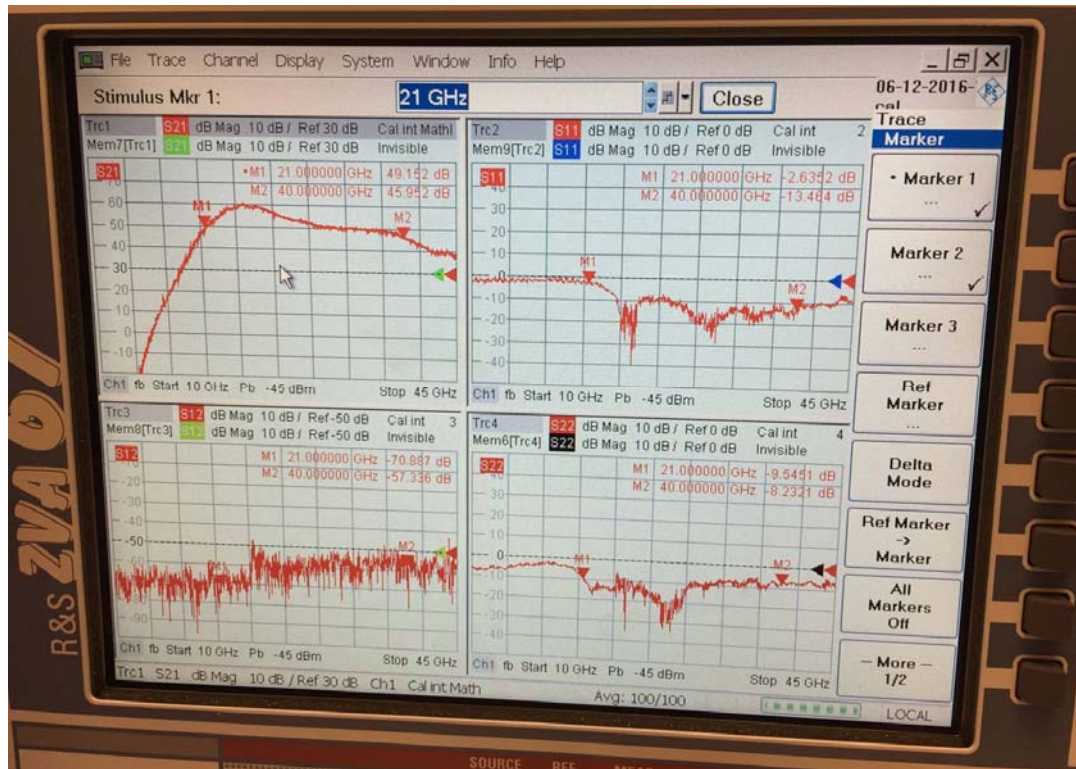


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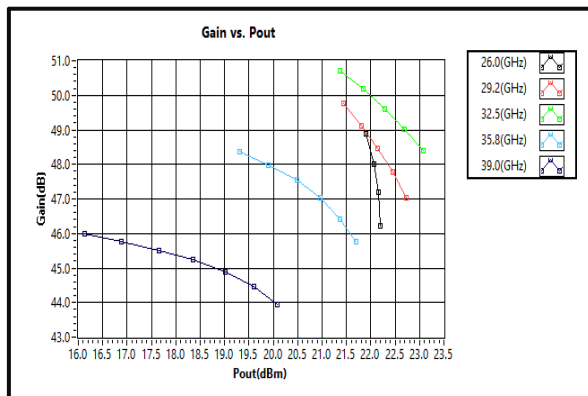
The power beyond expectations

RLNA26G40GC

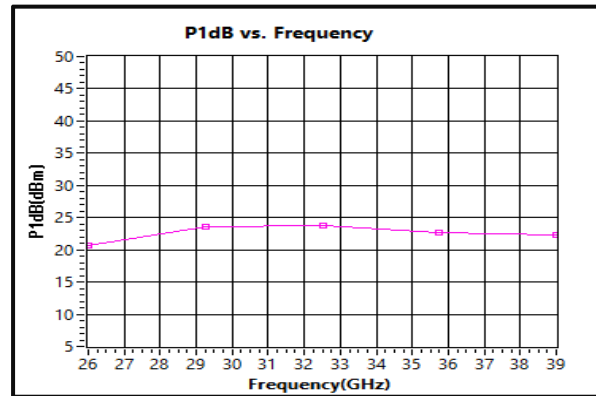
Gain vs. Frequency



Gain vs. Output Power



P1dB vs. Frequency



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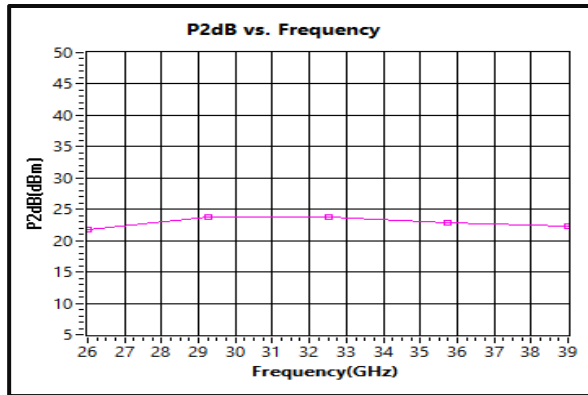


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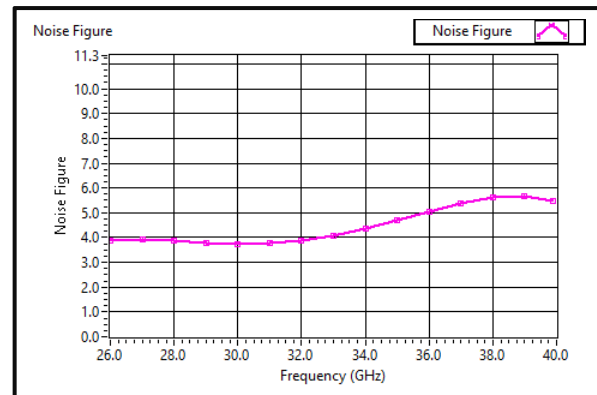
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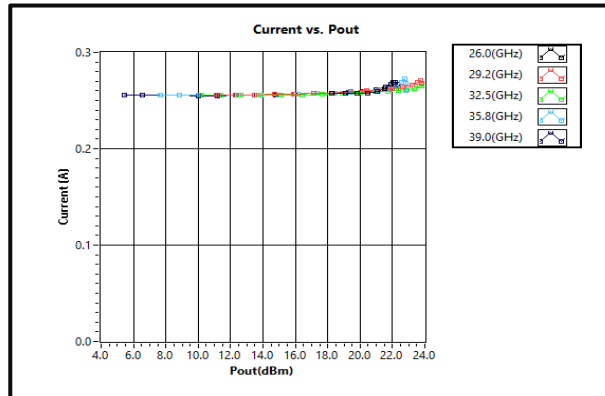
P2dB vs. Frequency



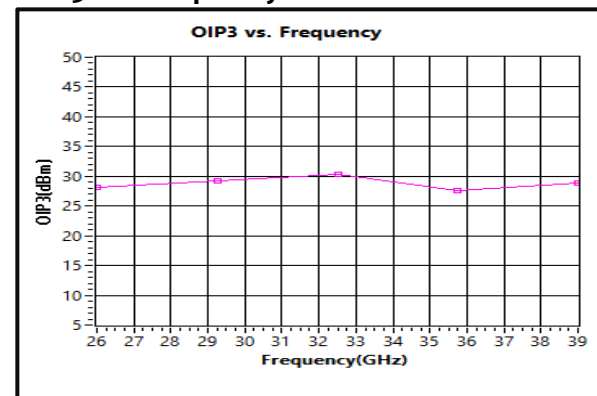
Noise Figure vs. Frequency



Current vs. Pout



OIP3 vs. Frequency



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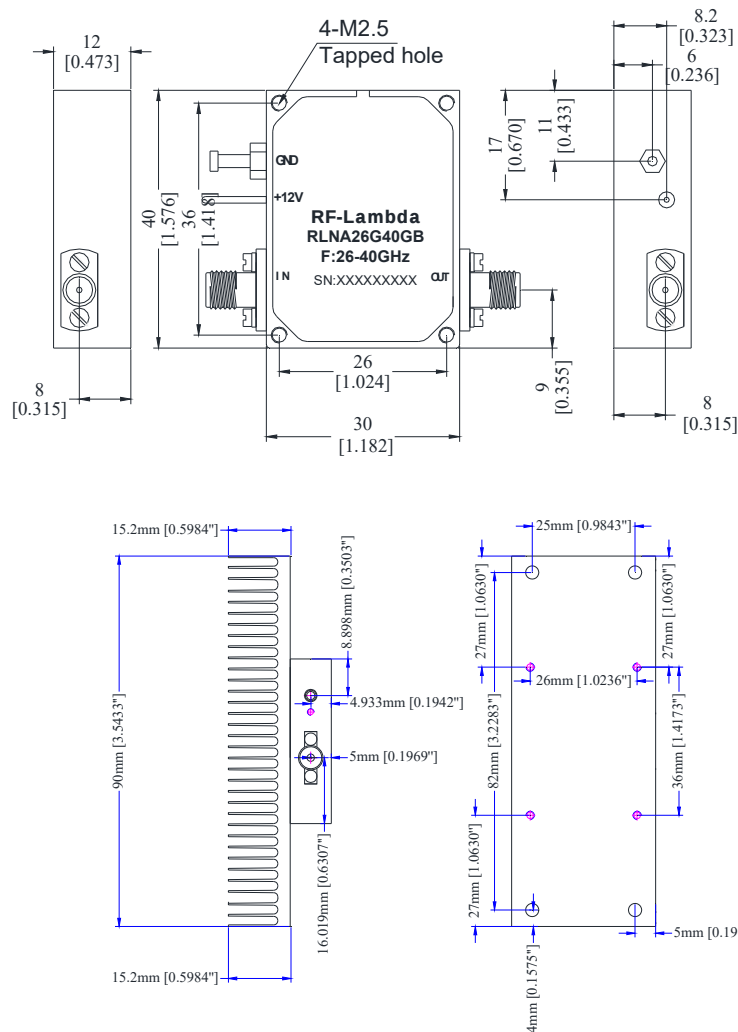
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The power beyond expectations

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Outline Drawing:

All Dimensions in mm [inches]



*** Heat Sink required during operation ***



Important Notice

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