

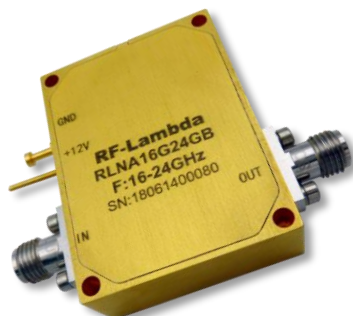


RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA16G24GB

Wide Band Low Noise Amplifier 16GHz~24GHz



Features

- Gain: 44dB Typical
- Noise Figure: 1.8dB Typical
- P1dB Output Power: +23dBm Typical
- Supply Voltage: +12V

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C, Vcc = +12V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	16		24	GHz
Gain	40	44		dB
Gain Flatness		±1.5	±2.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±2.0		dB
Noise Figure		1.8	2.3	dB
Input VSWR		2.0		: 1
Output VSWR		1.8		: 1
Output 1dB Compression Point (P1dB)	20	23.5		dBm
Saturated Output Power (Psat)		25		dBm
Output Third Order Intercept (IP3)		28.5		dBm
Supply Current (Vcc=+12V)		280	500	mA
Isolation S12		-60		dB
Weight	3.53			Ounces
Impedance	50			Ohms
Input / Output Connectors	2.92mm-Female			
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness			
	Option: Gold 80 micron; Nickel 180 micron thickness			
Material	copper			
Package Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

Wide Band Low Noise Amplifier 16GHz~24GHz



Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (Vcc= +12V)	+6dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)



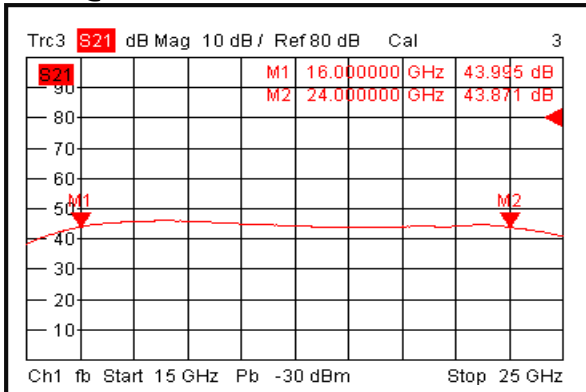
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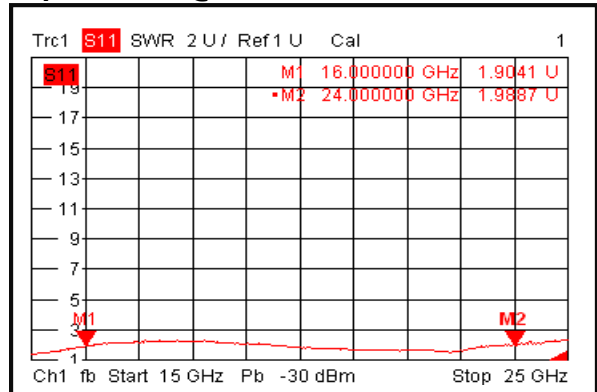
RLNA16G24GB

Typical Performance Plots

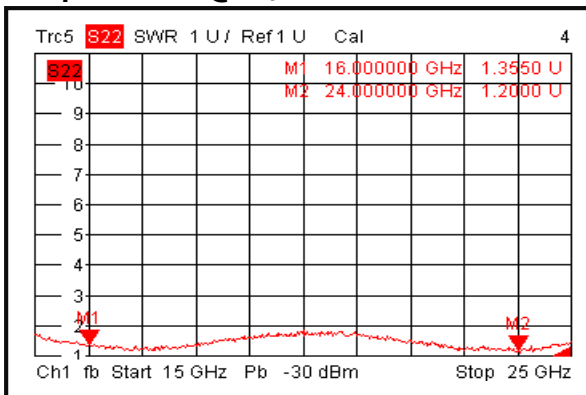
Gain @+25°C



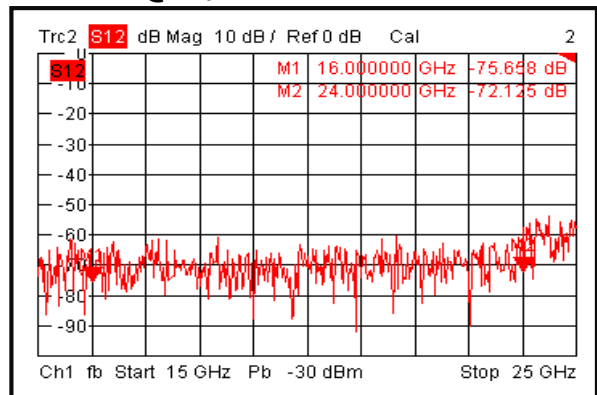
Input VSWR @+25°C



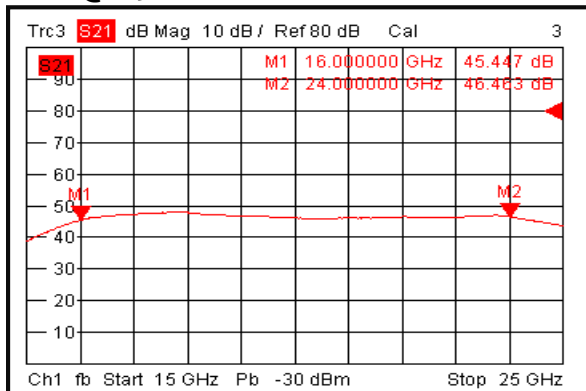
Output VSWR @+25°C



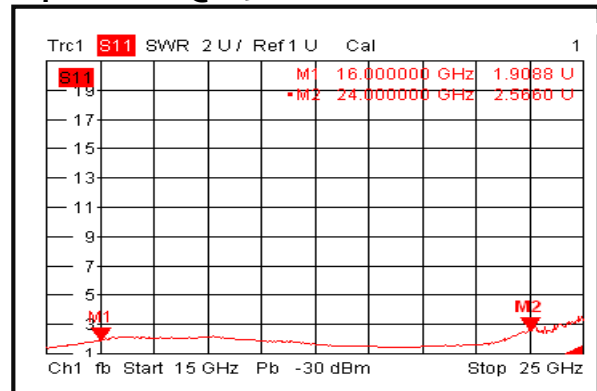
Isolation @+25°C



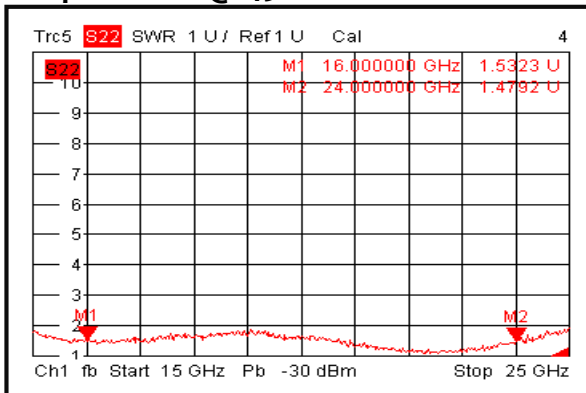
Gain @-45°C



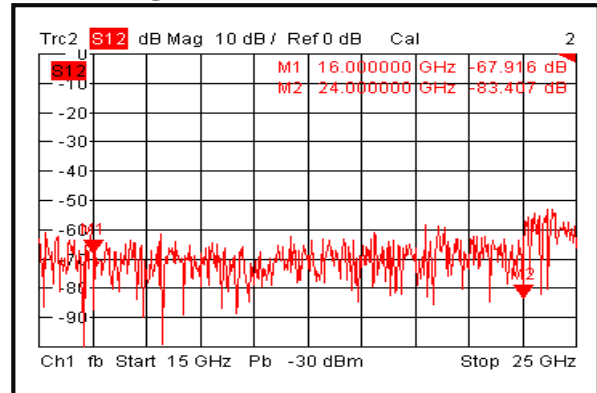
Input VSWR @-45°C



Output VSWR @-45°C



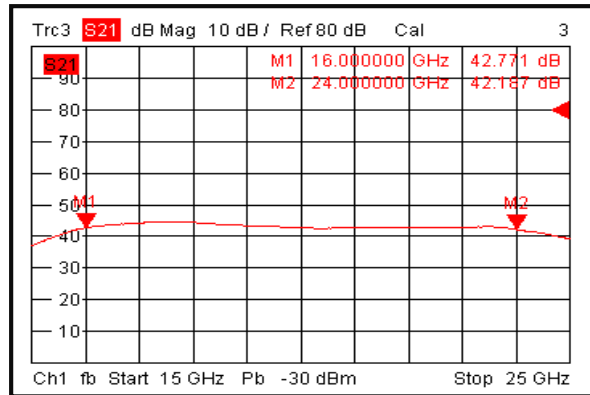
Isolation @-45°C



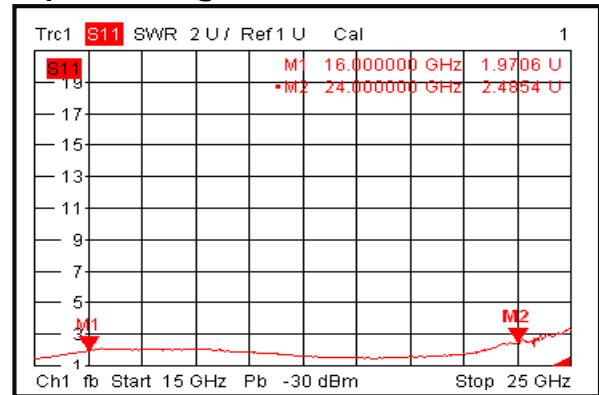
Wide Band Low Noise Amplifier 16GHz~24GHz



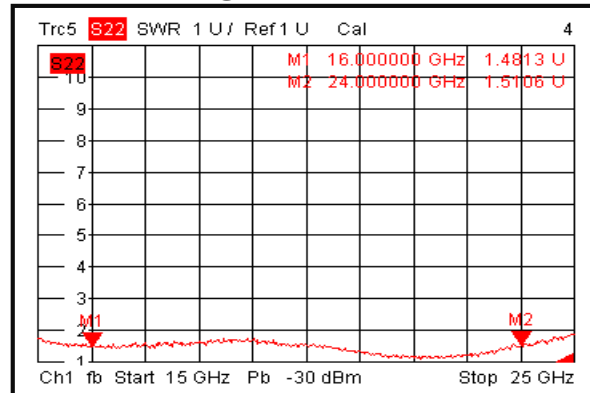
Gain @+85°C



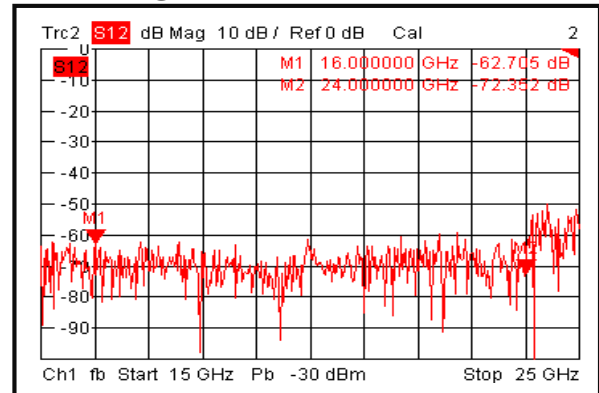
Input VSWR @+85°C



Output VSWR @+85°C

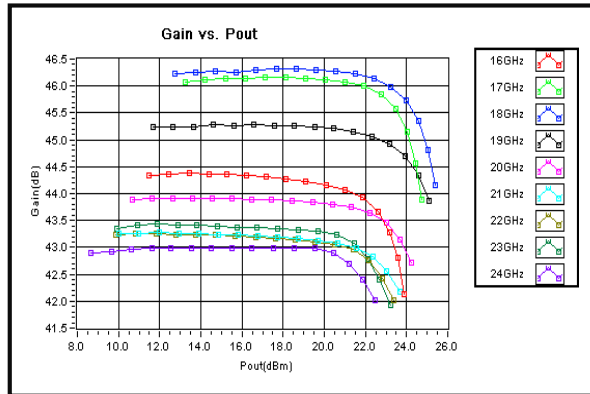


Isolation @+85°C

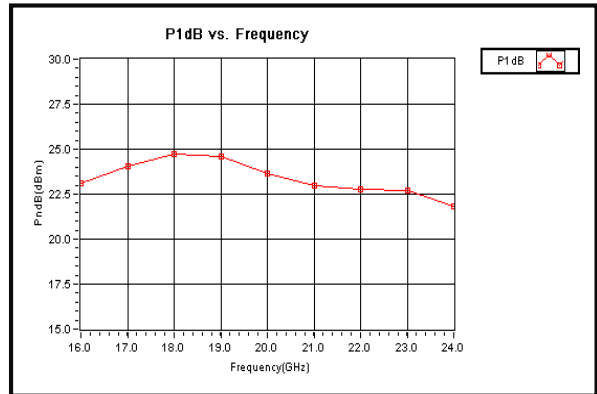




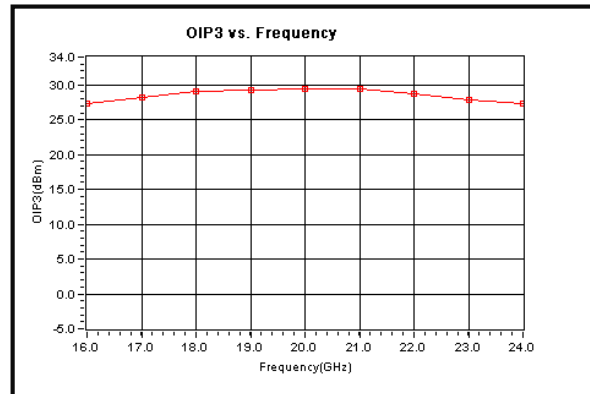
Gain vs. Output Power



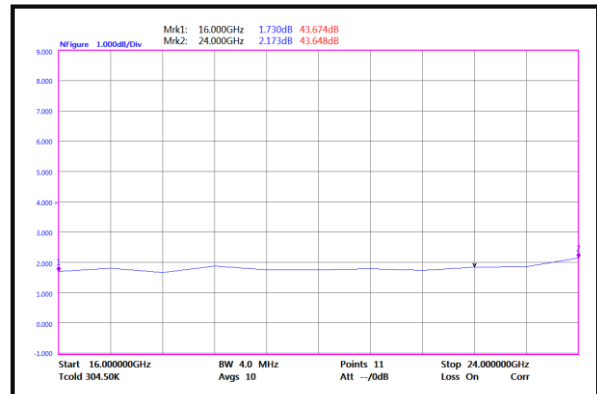
P1dB vs. Frequency



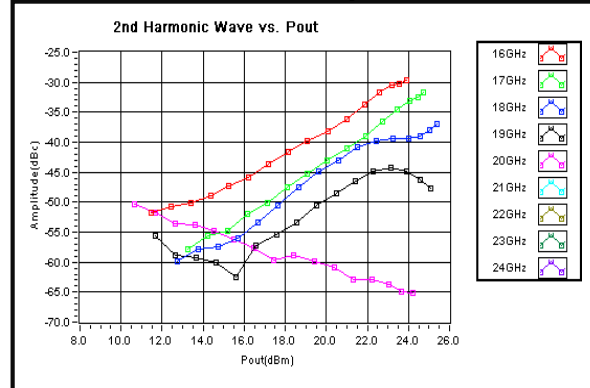
Output Third Order Intercept (IP3)



Noise Figure(16-24GHz)



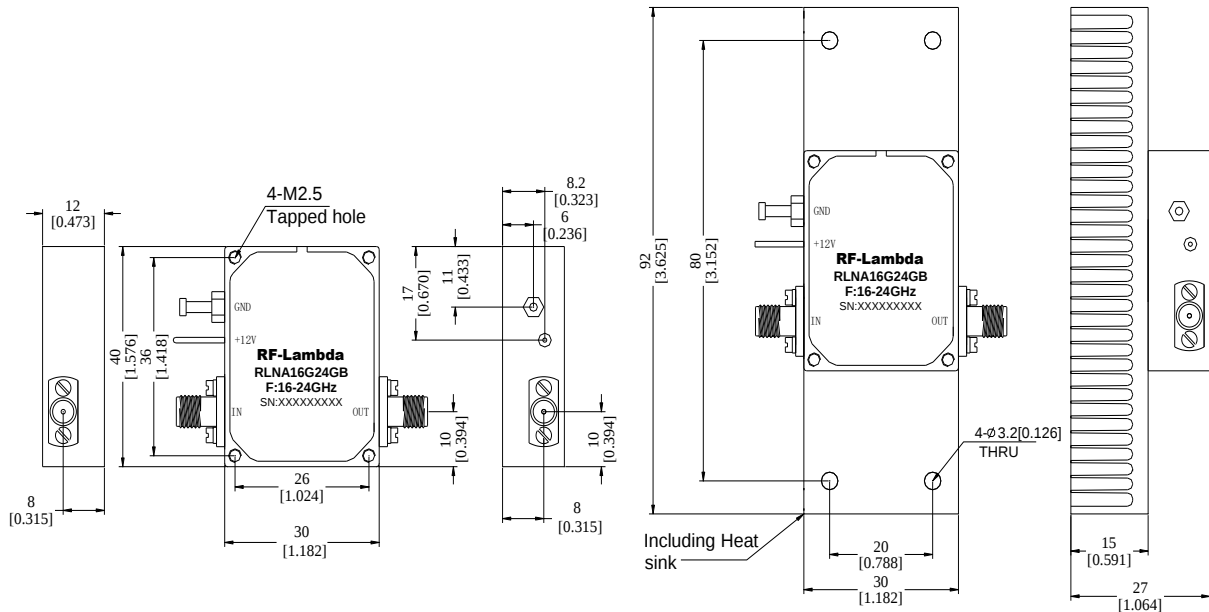
2nd Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA16G24GB	EAR99	16-24GHz Low Noise Amplifier

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