



Low Noise Amplifier

Model: LNA4G12G-4014

4-12GHz 40dB, Gain 1.4dB, NF

Ultrabroad frequency range, high small signal gain, low noise figure and good gain flatness

Features:

- Frequency range: 4-12GHz
- Small Signal Gain: 40dB min.
- Output P1dB: 15dBm min.
- Noise Figure: 1.4dB max.
- Operating voltage/current: +15 VDC/50mA.
- Simple 220V system available SAC option.
- 50 Ohm Matched Input / Output.

Applications:

- Laboratory Applications
- R&D Labs
- Radar Systems
- ISM
- Test Instrumentation

Product Overview:

The LNA4G12G-4014 is a coaxial low noise operating in the 4 to 12 GHz frequency range. The amplifier offers a maximum noise figure of 1.4 dB, 15 dBm minimum of output P1dB and a minimum small signal gain of 40 dB with the excellent gain flatness of ± 2.0 dB maximum. The DC power requirement for the amplifier is +15 VDC/50 mA. The input and output port configuration offers coax adapter structure with SMA female.



Electrical Specifications at 25°C:

Parameter	Min	Typ	Max	Units
Frequency range	4		12	GHz
Small Signal Gain	40			dB
Small Signal Gain Flatness			±2.0	dB
Noise Figure			1.4	dB
Output P1dB	15	16		dBm
Input VSWR		1.8	2.2	:1
Output VSWR		1.8	2.2	:1
DC Voltage		+15		V DC
DC Supply Current		50		mA
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature	-40°C to +70°C	
Non-operating Temperature	-55°C to +85°C	
Relative humidity	95	%
RF Input/Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Altitude	10,000	feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis	
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	44.8 x 29.2 x 11	mm

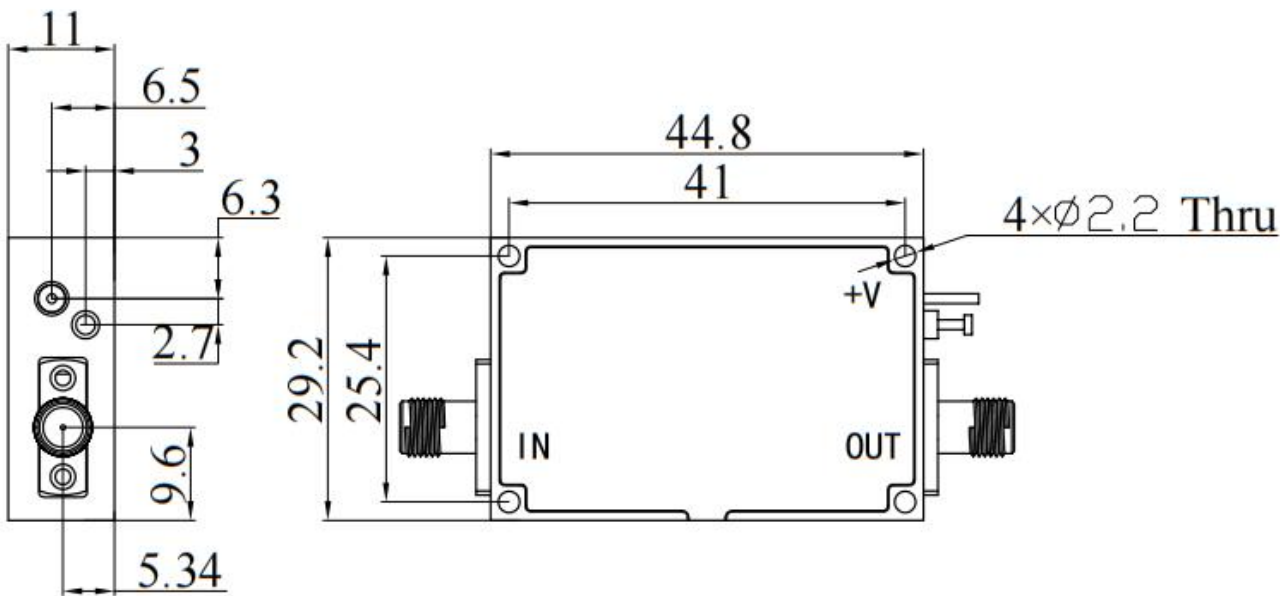
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	±5%
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm; Tolerance:±0.1mm



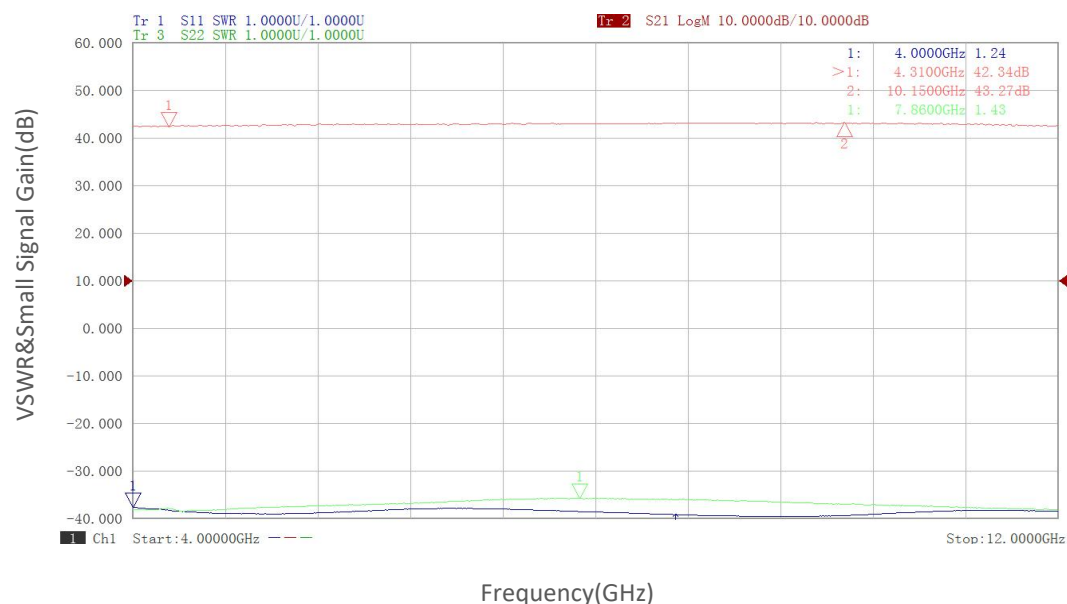
Ordering Information:

Base Number	Description	Optional
LNA4G12G-4014	Low Noise Amplifier, 4-12GHz, Gain:40dB,Noise Figure:1.4dB,P1dB:15dBm,+15V DC	Without Heatsink
LNA4G12G-4014-HS	Low Noise Amplifier, 4-12GHz, Gain:40dB,Noise Figure:1.4dB,P1dB:15dBm,+15V DC	With Heatsink

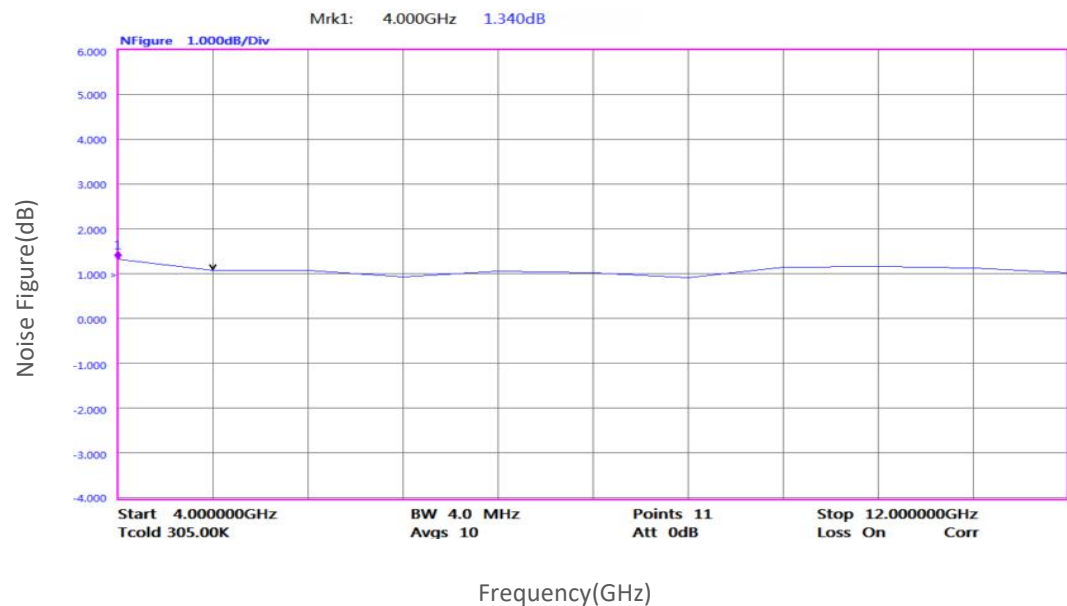


Typical Performance Data:

VSWR&Small Signal Gain vs Frequency



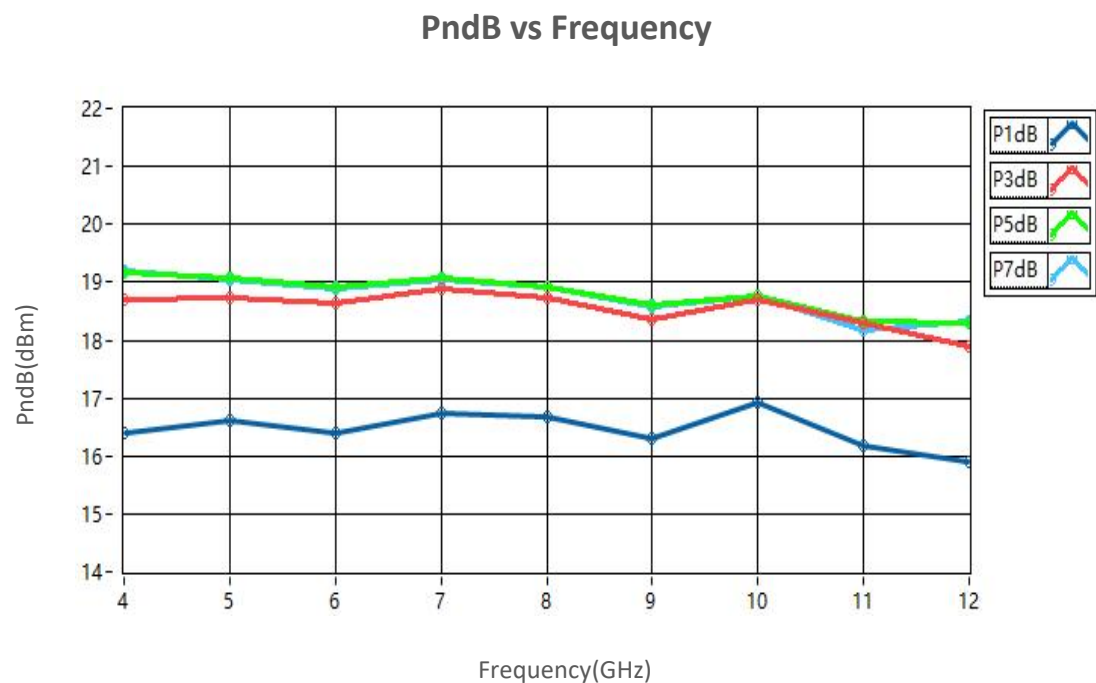
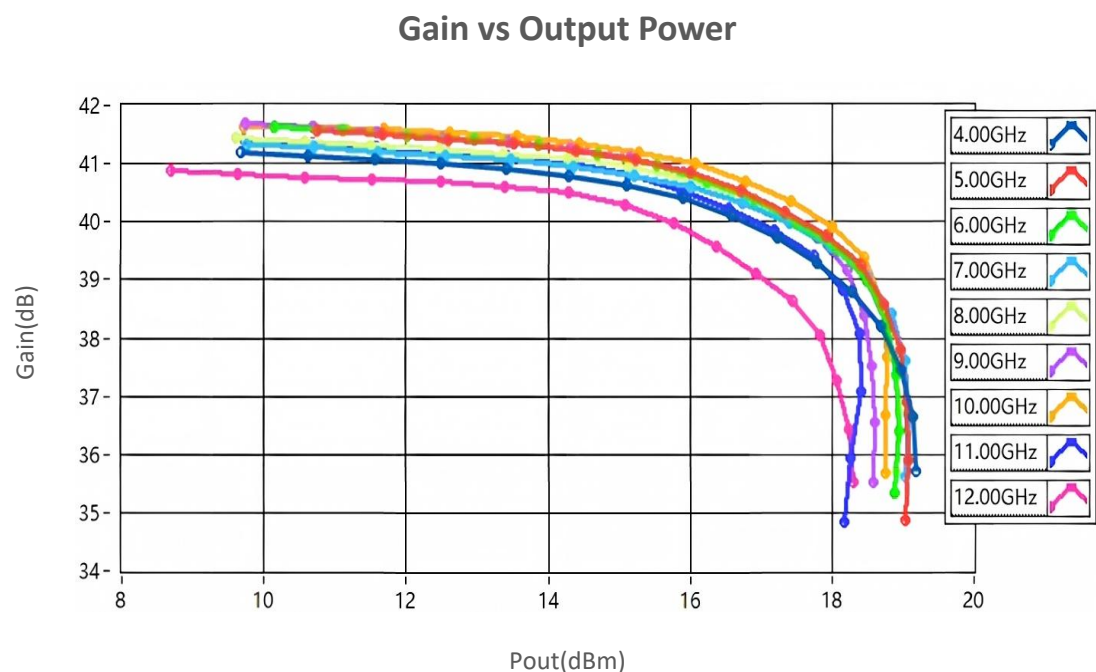
Noise Figure vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.



Typical Performance Data:

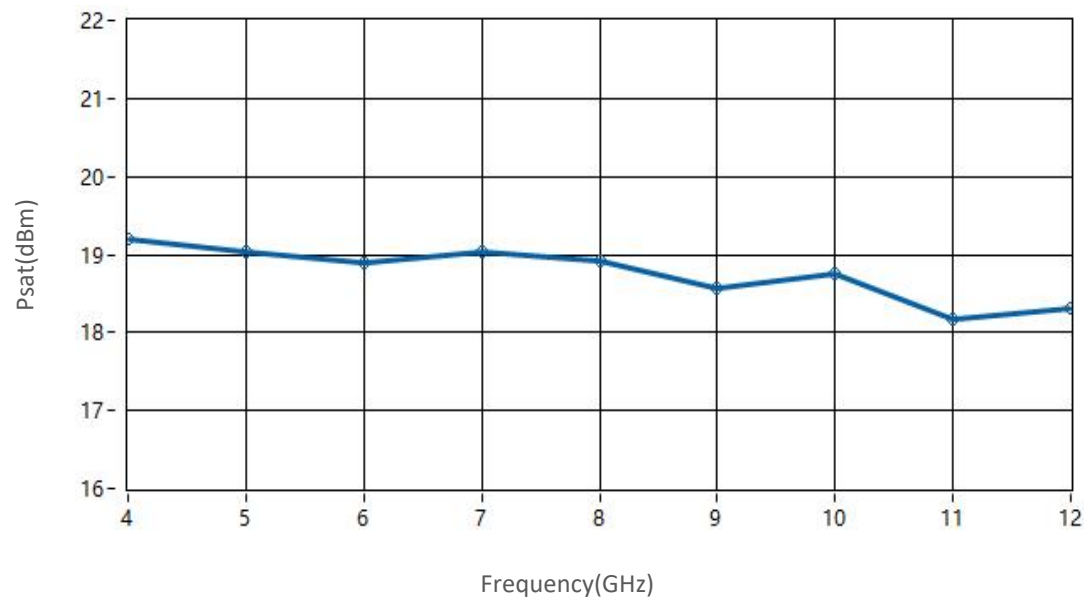


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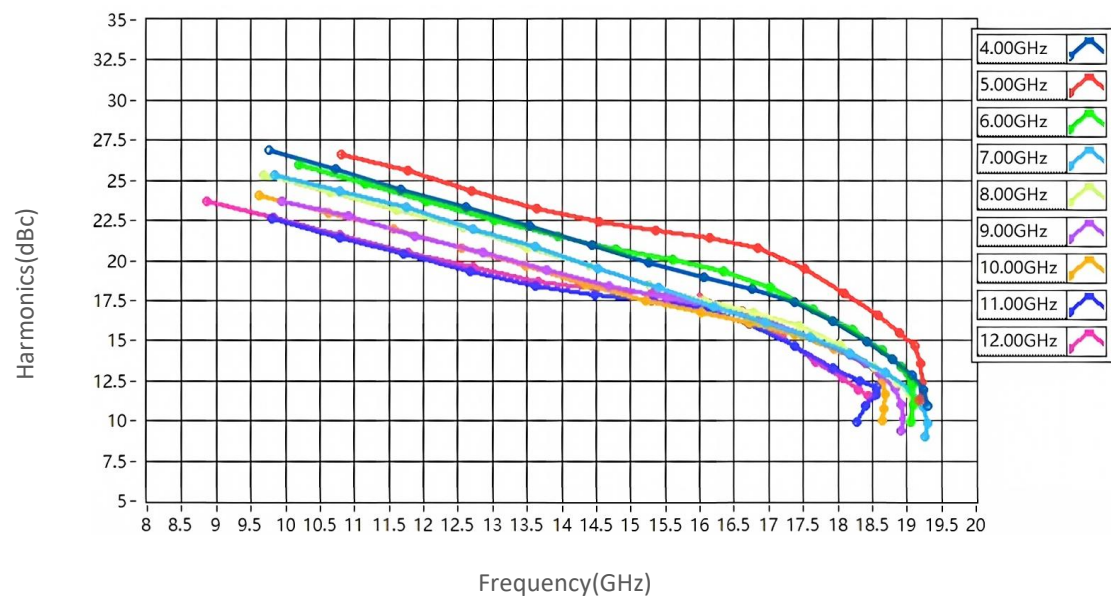


Typical Performance Data:

Psat vs Frequency



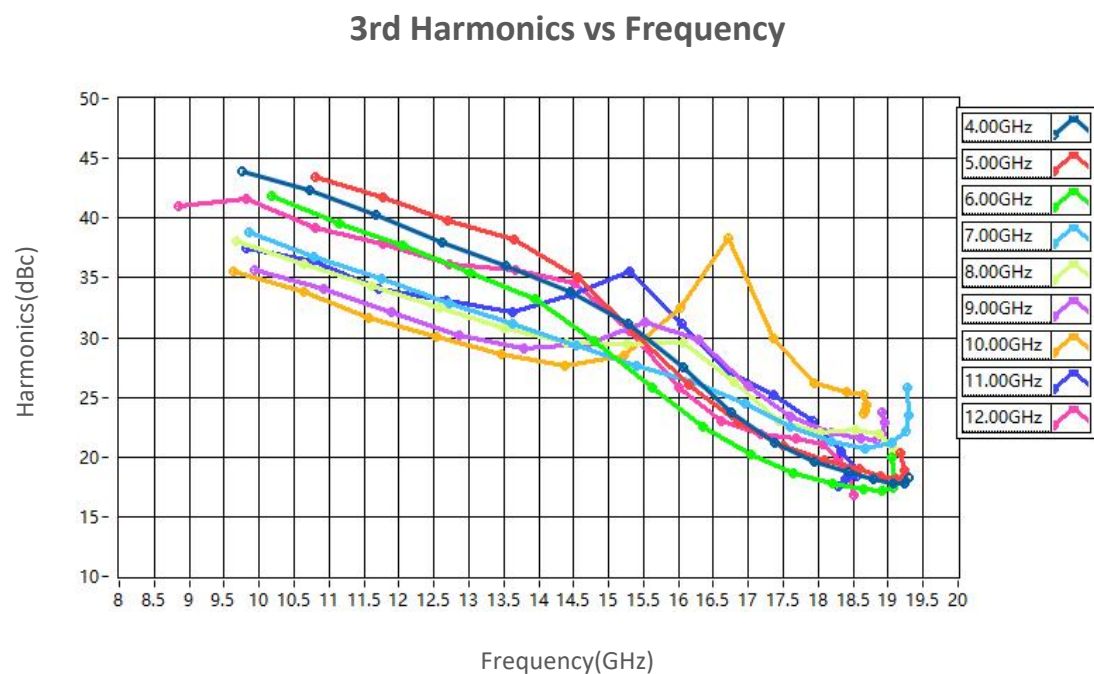
2nd Harmonics vs Frequency



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Typical Performance Data:



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