

Ordering Information

SKU	Description	UPC
100837	LNA Module - barebones	0616469146786
100838	LNA Module – with enclosure	0616469146793

Description

Nooelec LaNA HF is a very high-performance, wideband, and linear LNA module designed for SDR applications in the LF, MF, HF, and adjacent bands.



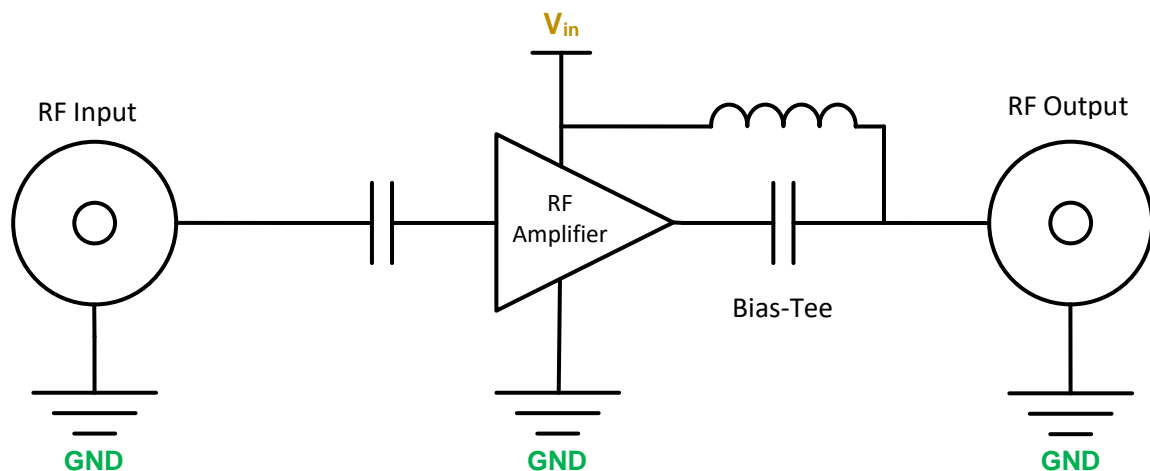
Features

- High linearity
- +20dB of RF gain for 50KHz-150MHz
- 2.5dB average noise figure across the band
- 50Ω low noise gain block
- +3.3V - 5V single supply
- 25mA current draw

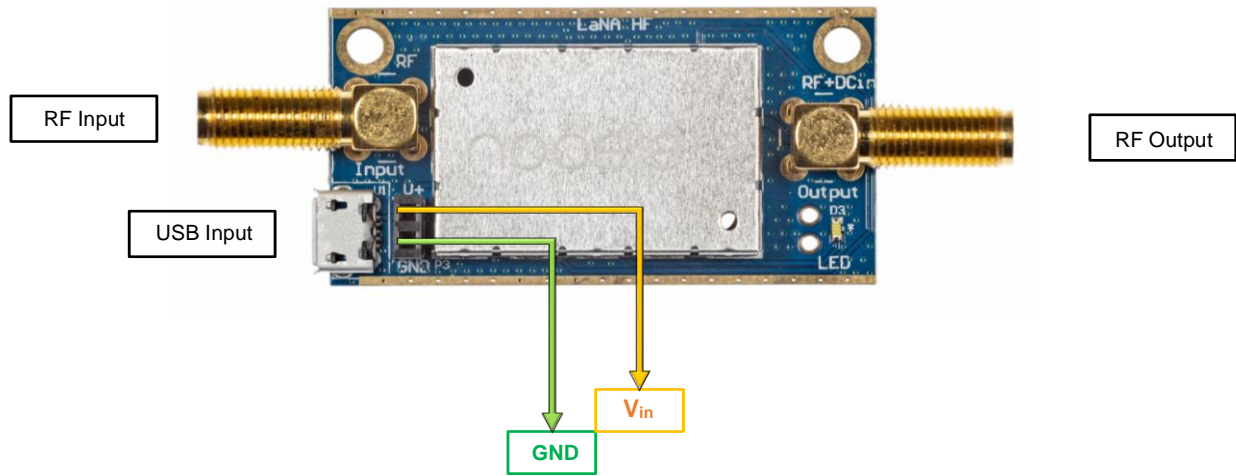
Applications

- LF, MF and HF band amplification
- Software-defined radio
- HF-capable radios and rigs
- HAM radio reception
- Wideband reception
- Noise-sensitive applications

Simplified Schematic



Pin Configuration and Functions



Pin	Function	Type	Description
V_{in}	Voltage Input	Input	Volts input pin to power the device*
GND	Common Ground	-	RF and DC reference voltage

* LaNA HF allows for 3 different power options (USB, bias tee, and pin header). Only 1 power option should be used at any given time

Recommended Operating Conditions

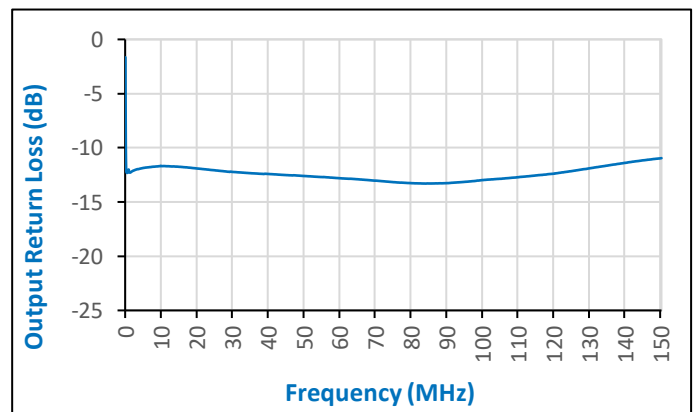
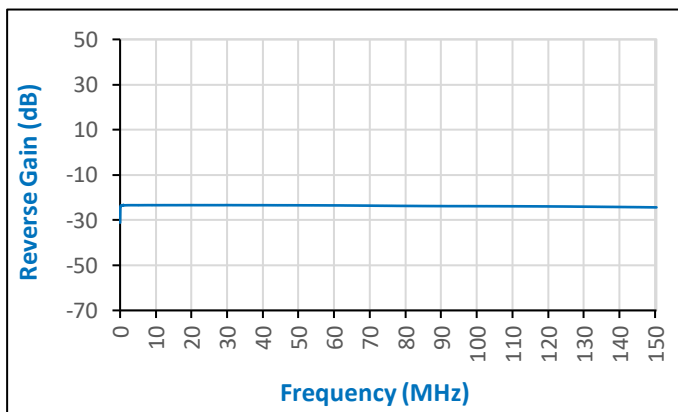
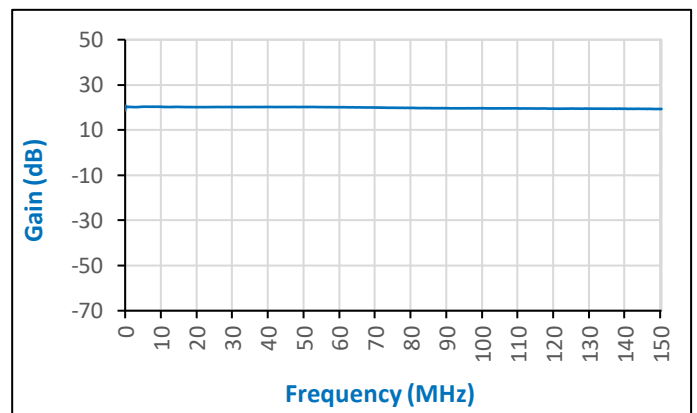
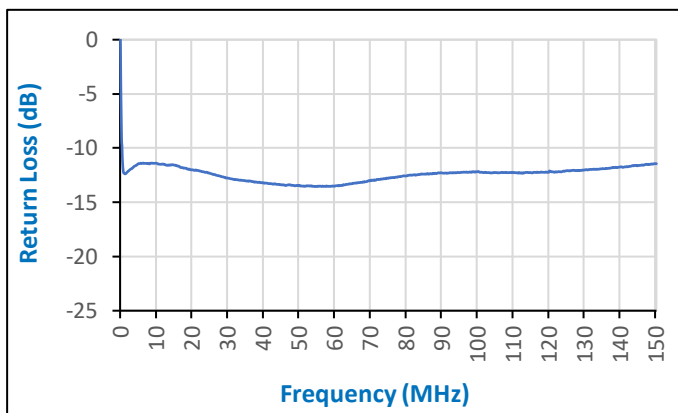
Parameter	Symbol	Min	Typical	Max	Unit
Input Voltage	V _{in}	3.3	5	5.5	Volts
Input Power	P _{in}	-	-	-9	dBm

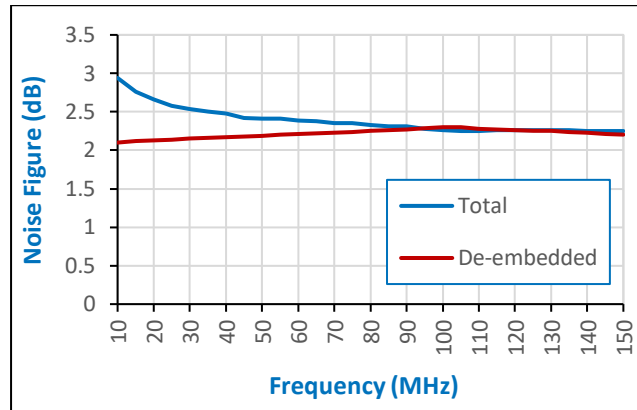
Electrical Specifications

Test Conditions unless otherwise specified: $V_{in} = +5\text{ Vdc}$, 50 Ohm system

Parameter	Symbol	Min	Typical	Max	Unit
Frequency Range	$f_L - f_H$	0.05	-	150	MHz
Gain	S_{21}	-	20	-	dB
Input Return Loss	S_{11}	-13	-12	-11	dB
Output Return Loss	S_{22}	-13	-12	-11	dB
Output P1dB	OP1dB	-	10.5	-	dBm
Total Noise Figure	NF	2.3	2.5	2.7	dB
Noise Temperature	T_n	202	225	250	K
Supply Current	I_{supply}	23	25	28	mA

Electrical Characteristics Plots (50 kHz to 150 MHz)





Physical Specifications

The physical specifications were measured with the device in an enclosure

Parameter	Value	Unit
Length	73.7 (2.9)	Millimeter (Inch)
Width	30.6 (1.2)	Millimeter (Inch)
Height	18.7 (0.74)	Millimeter (Inch)
Weight	36 (0.08)	Gram (Pound)

Accessories



NESDR SMARtee XTR SDR	NESDR SMART	Ham It Up Plus
SKU: 100726	SKU: 100701	SKU: 100769