

Ordering Information

SKU	Description	UPC
100799	LNA Module – barebones	0616469146465
100800	LNA Module – with enclosure	0616469146472



Description

Nooelec SAWbird+ NOAA Barebones is a premium SAW filter & cascaded ultra Low Noise Amplifier (LNA) module for receiving NOAA weather satellite images with a center frequency of 137.5MHz.

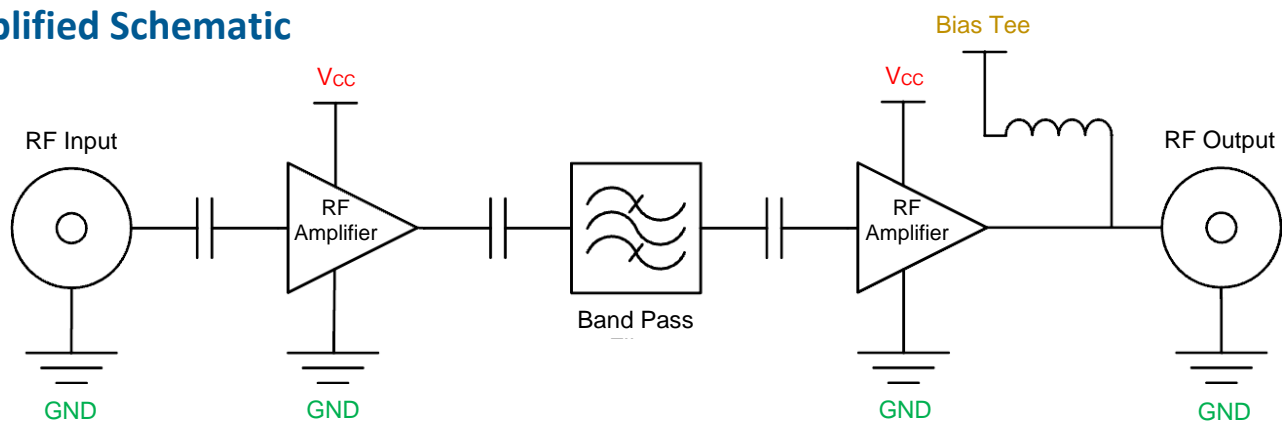
Features

- 41dB of RF gain at 137.5MHz
- 2.6MHz 3dB bandwidth
- 2-Stage high-quality MMIC Amplifiers
- +3.3 – 5V single supply
- Three DC powering options
- 170mA nominal current draw
- 50Ω matched input/output

Applications

- NOAA weather satellite imagery reception
- Orbcomm satellite reception
- Direct Sounder Broadcast (DSB) reception
- Other satellite signals within 136-138MHz

Simplified Schematic



Pin Configuration and Functions



Important Note: The SAWbird+ NOAA allows for 3 different power options (USB, Pin Header and Bias-Tee). Not more than one option should be used at any given time.

Recommended Operating Conditions

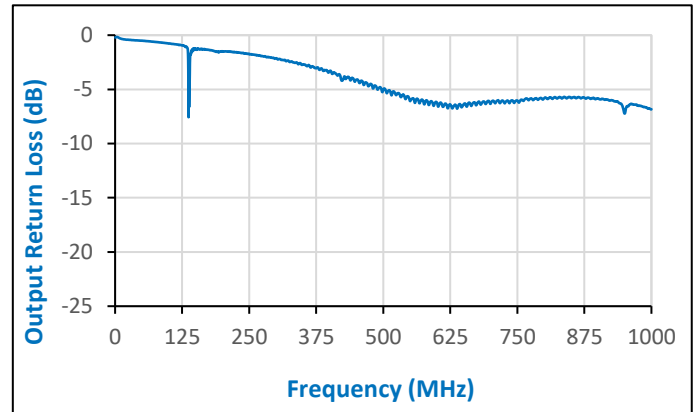
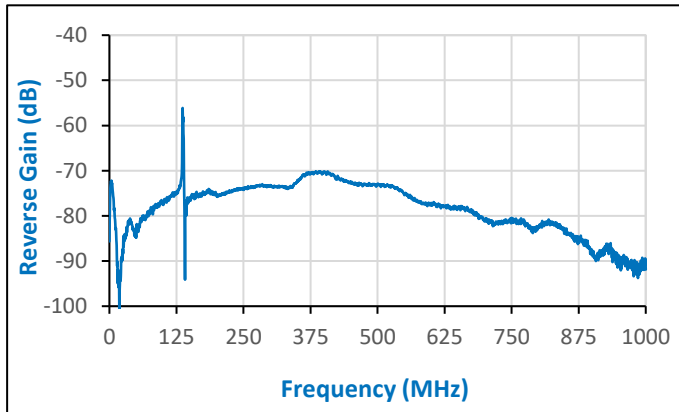
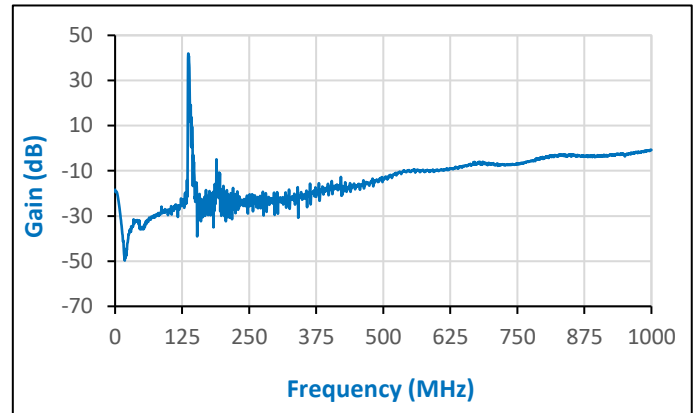
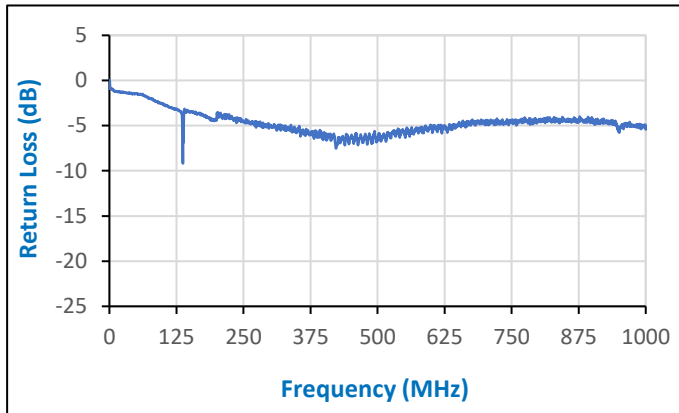
Parameter	Symbol	Min	Typical	Max	Unit
Input Voltage	V_{in}	3.3	5	5.5	Volts
Input Power	P_{in}	-	-	0	dBm

Electrical Specifications

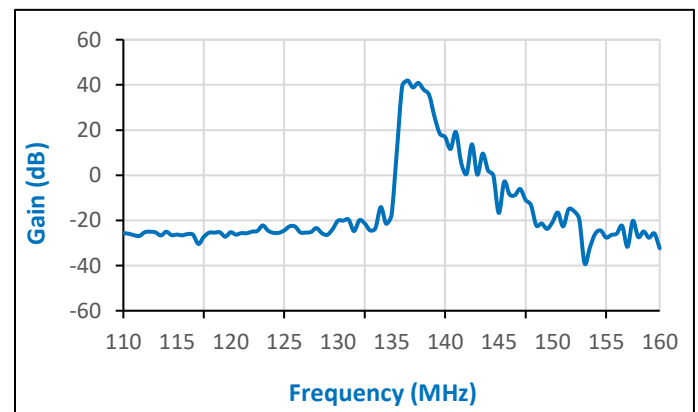
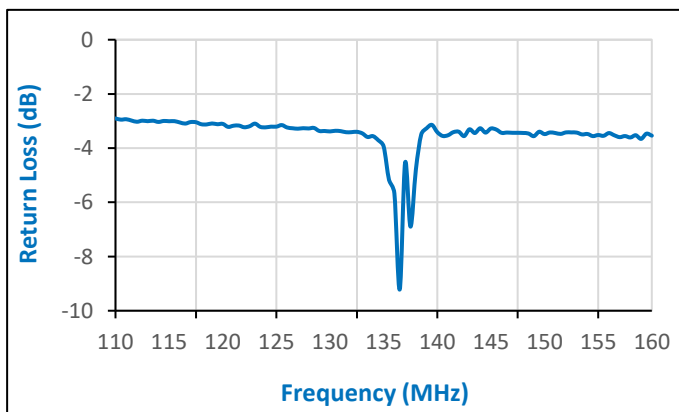
Test Conditions unless otherwise specified: $V_{in} = +5$ Vdc, 50 Ohm system

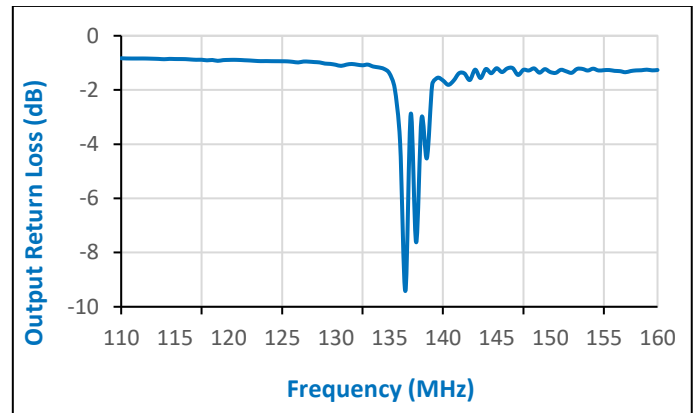
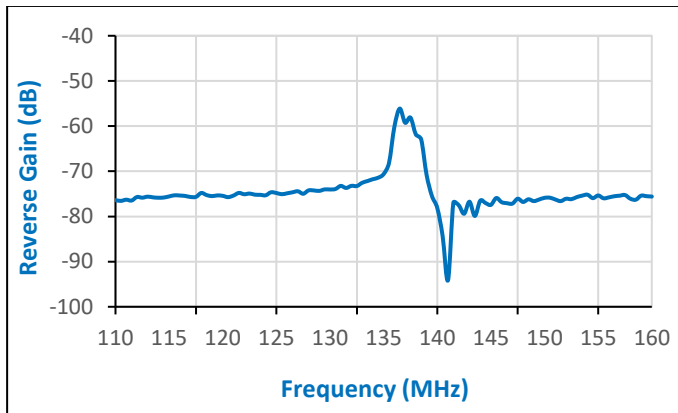
Parameter	Symbol	Min	Typical	Max	Unit
3dB Bandwidth	BW	-	2.6	-	MHz
10dB Bandwidth	BW	-	3	-	MHz
Center Frequency	f_o	-	137.5	-	MHz
Gain @ 137.5 MHz	S_{21}	-	41	-	dB
Input Return Loss @ 137.5 MHz	S_{11}	-	-9	-	dB
Output Return Loss @ 137.5 MHz	S_{22}	-	-9.5	-	dB
Output P1dB	OP1dB	-	20	-	dBm
Noise Figure _{total}	NF	-	1.1	-	dB
Noise Temperature _{total}	T_n	-	84	-	K
Supply Current _{USB}	I_{USB}	-	175	-	mA
Supply Current _{Bias-T}	I_{Bias-T}	-	170	-	mA

Electrical Characteristics Plots (1 MHz to 1000 MHz)



Electrical Characteristics Plots (110 MHz to 160 MHz)

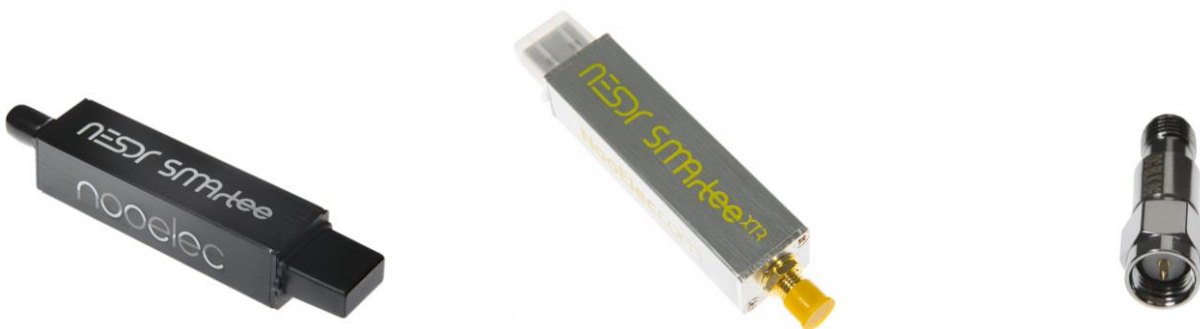




Physical Specifications

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 - Premium RTL-SDR w/ Bias Tee	NESDR SMARtee XTR - Premium RTL-SDR w/ Bias Tee	SMA In-Line DC Block
SKU: 100777	SKU: 100726	SKU: 100816