

Ordering Information

SKU	Description	UPC
100791	LNA Module – barebones	0616469146274
100792	LNA Module – with enclosure	0616469146359

Description

Nooelec SAWbird+ GOES is a premium SAW filter & cascaded ultra Low Noise Amplifier (LNA) module for NOAA (GOES/LRIT/HRIT/HRPT) applications with a center frequency of 1688MHz.



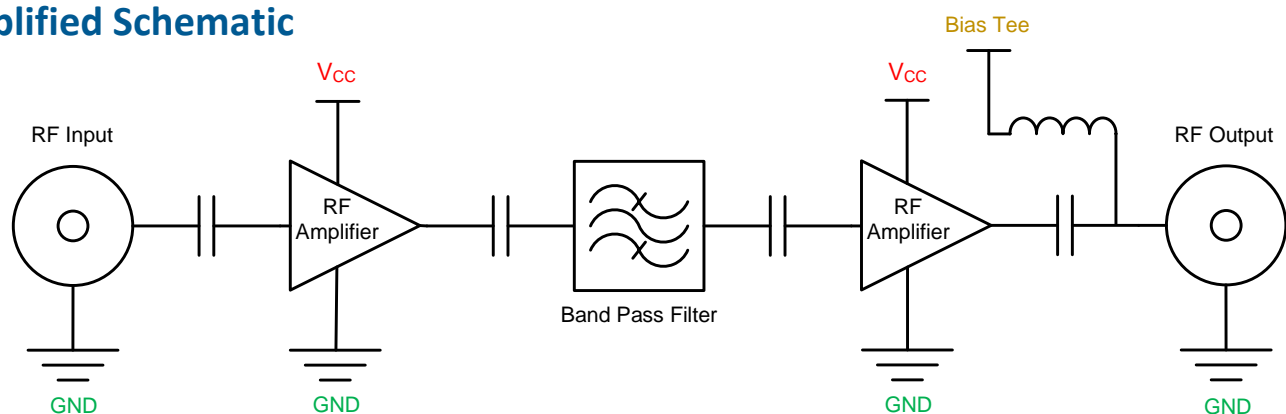
Features

- 38dB of RF gain at 1694MHz
- 70MHz 3dB bandwidth
- 2-stage high-quality MMIC amplifiers
- +3.3 – 5V single supply
- Three DC powering options
- 140mA nominal current draw
- 50Ω matched input/output

Applications

- GOES weather satellite imagery reception
- GOES-16 and GOES-17 low-noise image reception
- High Rate Information Transmission (HRIT)
- Low Rate Information Transmission (LRIT)
- High-Resolution Picture Transmission (HRPT)

Simplified Schematic



Pin Configuration and Functions



Important Note: The SAWbird+ GOES 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

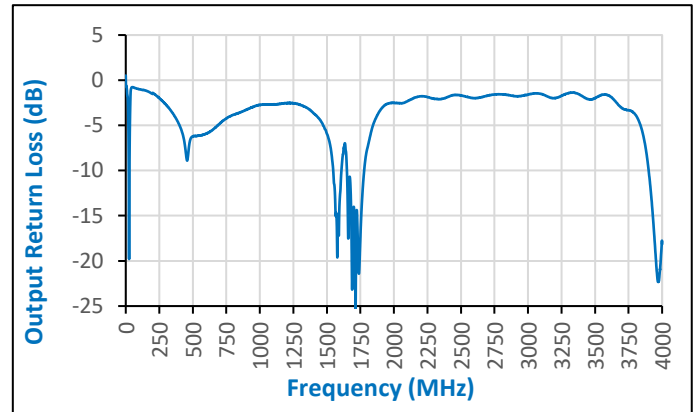
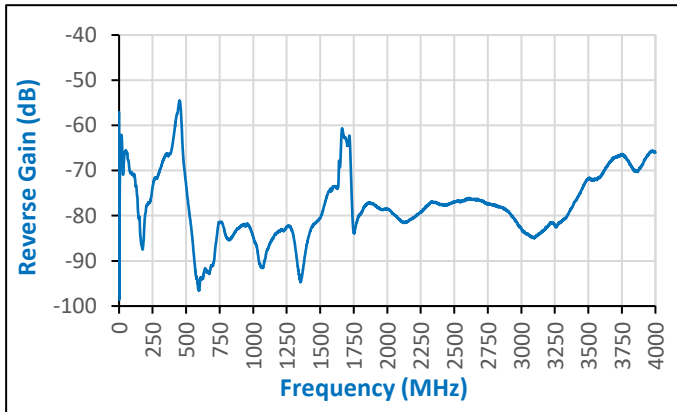
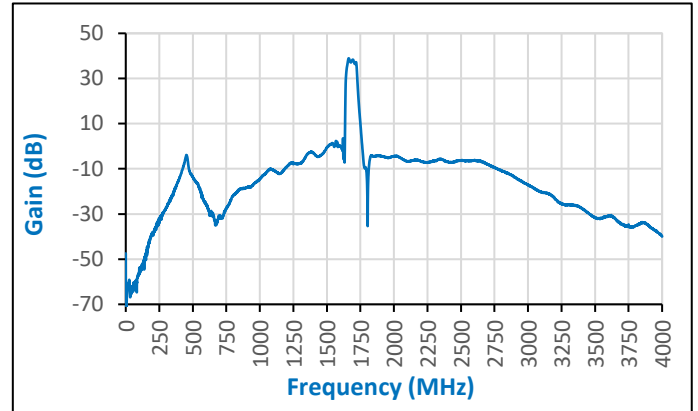
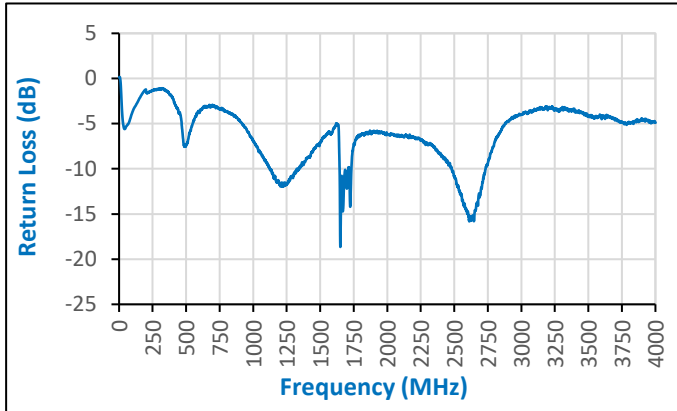
Parameter	Symbol	Min	Typical	Max	Unit
Input Voltage	V_{in}	3.3	5	5.5	Volts
Input Power	P_{in}	-	-	0	dBm

Electrical Specifications

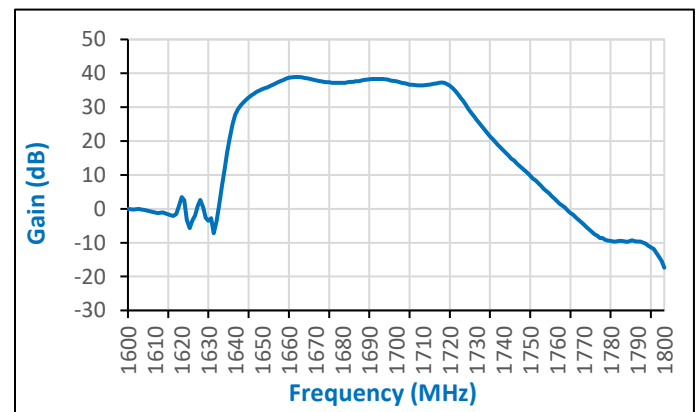
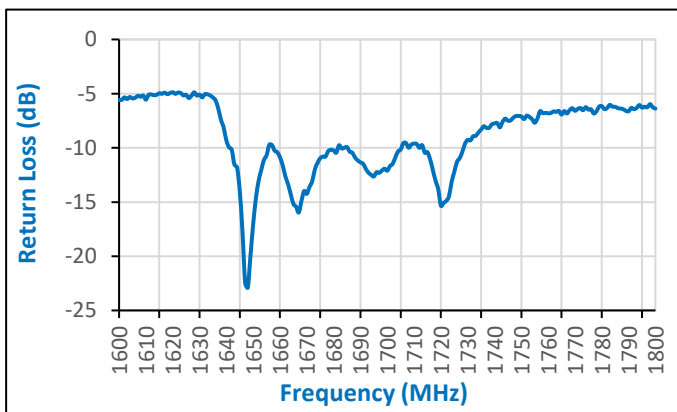
Test Conditions unless otherwise specified: $V_{in} = +5$ Vdc, 50 Ohm system.

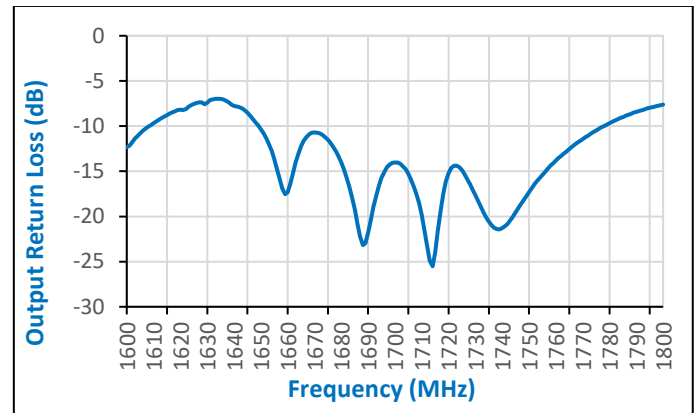
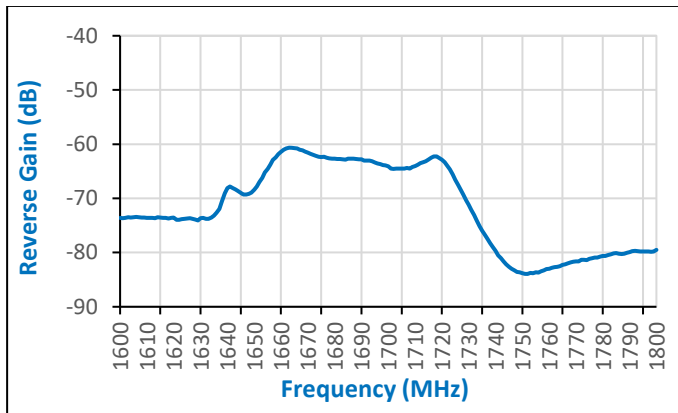
Parameter	Symbol	Min	Typical	Max	Unit
3dB Bandwidth	BW	-	70	-	MHz
10dB Bandwidth	BW	-	80	-	MHz
Center Frequency	f_o	-	1688	-	MHz
Gain	$S_{21} @ f_o$	-	-	38	dB
Input Return Loss	$S_{11} @ f_o$	-	-	-12	dB
Output Return Loss	$S_{22} @ f_o$	-	-	-15	dB
Output P1dB	OP1dB	-	20	-	dBm
Noise Figure_{total}	NF	-	1.2	-	dB
Noise Temperature_{total}	T_n	100	110	120	K
Supply Current	I_{supply}	120	140	160	mA

Electrical Characteristics Plots (1 MHz to 4000 MHz)



Electrical Characteristics Plots (1600 MHz to 1800 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



LaNA - Wideband Ultra Low-Noise Amplifier (LNA)	SMA In-Line DC Block	NESDR SMARtee XTR - Premium RTL-SDR w/ Bias Tee
SKU: 100812	SKU: 100816	SKU: 100726