Ham It Up Plus v2
HF Upconverter

Ordering Information

SKU	Description	UPC
100769	Ham It Up Plus v2	0616469146137



Description

A high-quality RF (ULF, VLF, LF, MF, HF) converter for software defined radio devices like our NESDR series and the HackRF. Also works as a panadapter for most radios! It will function in both transmit and receive modes if available on your SDR. The device has a built-in LNA which can be used during passthrough or upconvert mode.

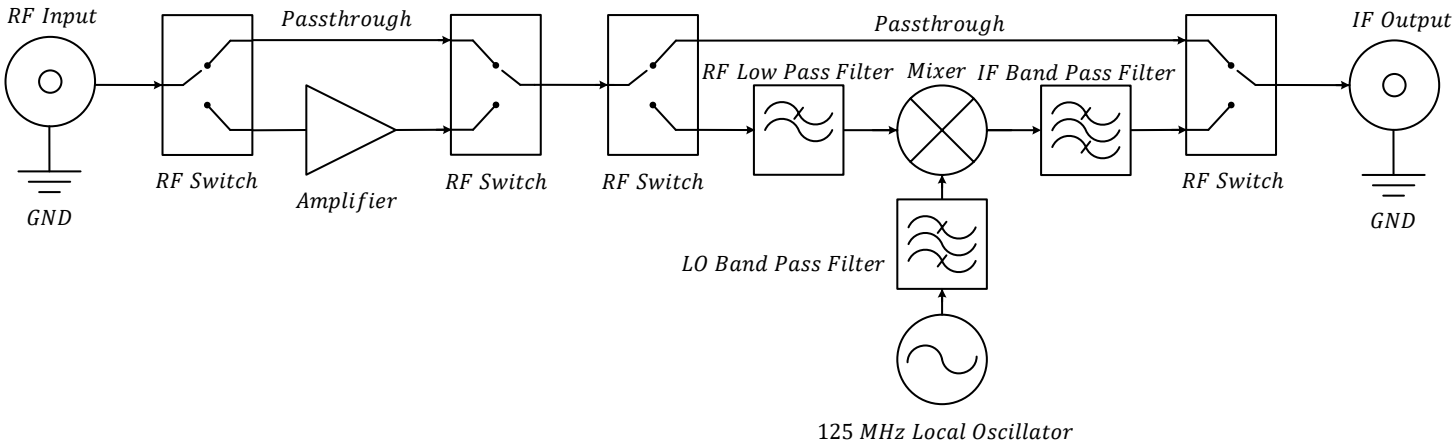
Features

- 0.3kHz – 65MHz in upconvert mode
- 0.3kHz – 3GHz in passthrough mode
- +4V-5.5V single supply
- 28 - 80mA current draw
- 125MHz LO frequency
- Built-in switchable LNA
- Both transmit and receive mode

Applications

- Software Defined Radio
- ULF, VHF, LF, MF and HF reception
- Upconversion and frequency mixing

Simplified Schematic



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Pin Configuration and Functions

During transmission, the amplifier path should be turned – off



Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Input Voltage	V_{in}	4.0	5.0	5.5	Volts
Input Power	P_{in}	-	-	+1.0	dBm
Input Power (LNA enabled)	P_{in}	-	-30.0	+1.0(1)	dBm

(1) Operating under maximum power will generate nonlinear distortion. Use typical value for optimized result.

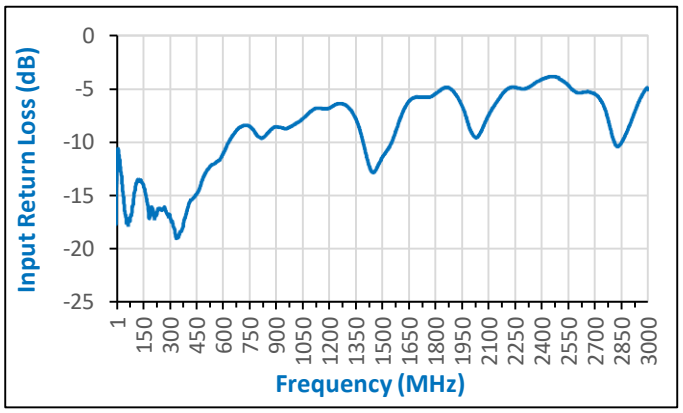
Electrical Specifications

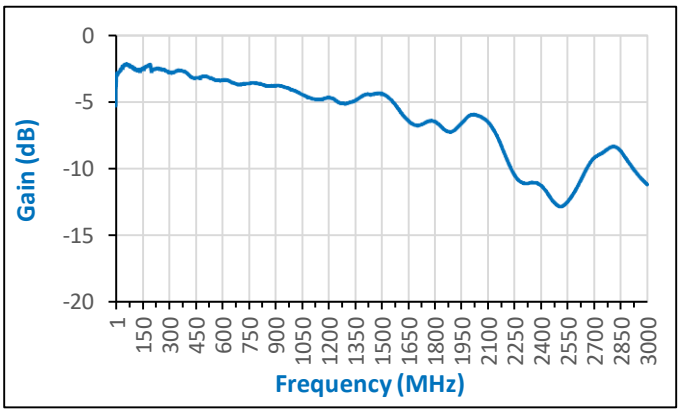
Test Conditions unless otherwise specified: Vin = +5 Vdc, 50 Ohm system, P_{in}=-30.0dBm.

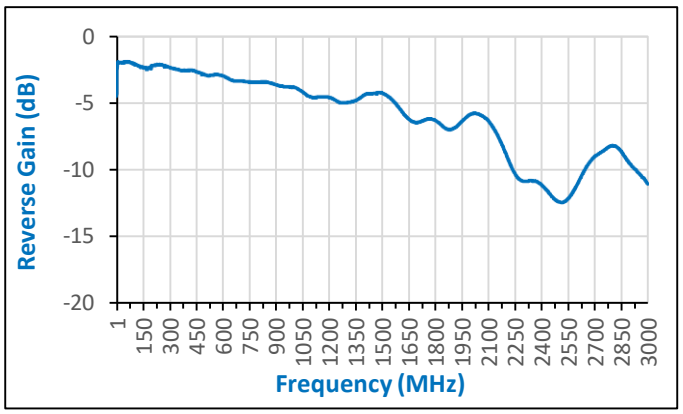
Parameter	Symbol	Min	Typical	Max	Unit
Frequency Range in Upconvert Mode	$f_L - f_H$	0.3	-	65000	kHz
Frequency Range in Passthrough Mode	$f_L - f_H$	0.0003	-	3000	MHz
Conversion Loss	CL	8.5	10	-	dB
LO Power	P_{LO}	-56	-53	-50	dBm
LO Frequency	f_{LO}	124.9999	125.0000	125.0001	MHz
LO Stability	-	0	0.5	1.0	PPM
Input Return Loss	S11	-	-	-10	dB
Output Return Loss	S22	-	-	-10	dB
Supply Current in (Upconvert Mode)	I_{supply}	56	58	62	mA
Supply Current in (Passthrough Mode)	I_{supply}	26	28	32	mA
Supply Current in (LNA mode)	I_{supply}	46	51	55	mA
Supply Current in (LNA + Upconvert Mode)	I_{supply}	76	80	85	mA

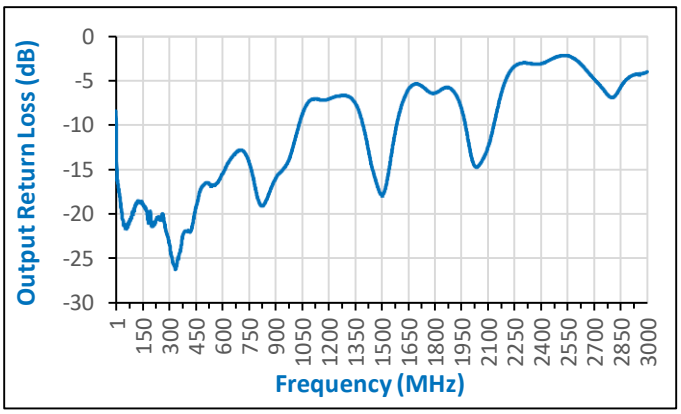
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Mode 1 - Passthrough:
Electrical Characteristics Plots (1 MHz to 3000 MHz)



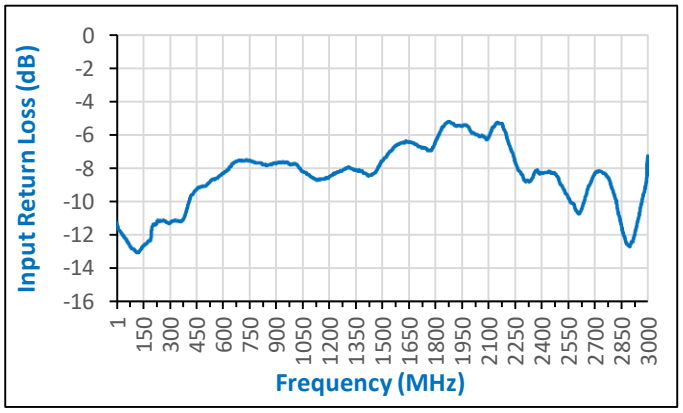


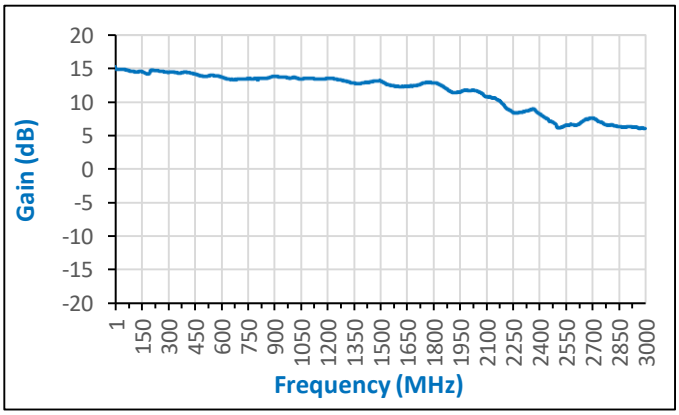




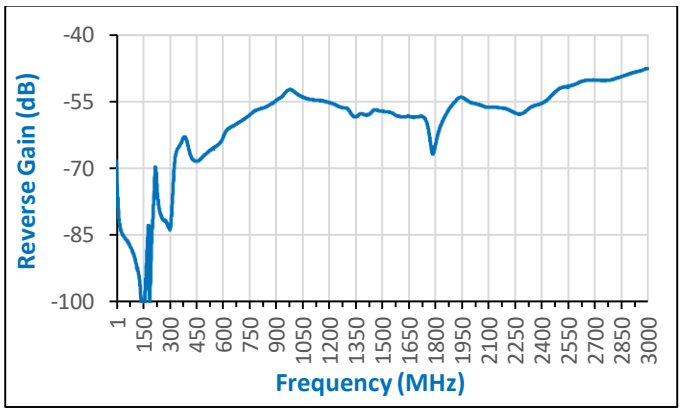
Mode 2 - LNA:

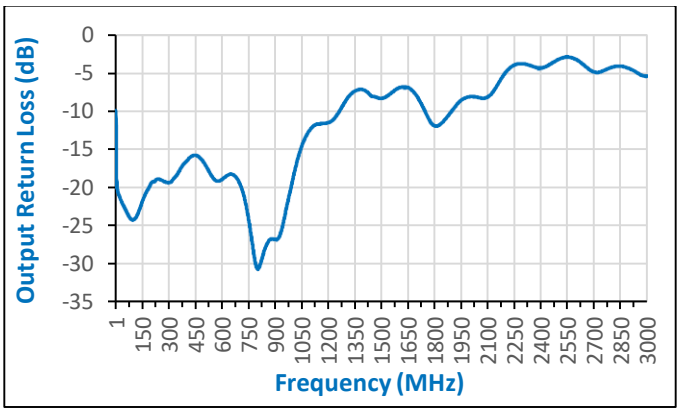
Electrical Characteristics Plots (1 MHz to 3000 MHz)





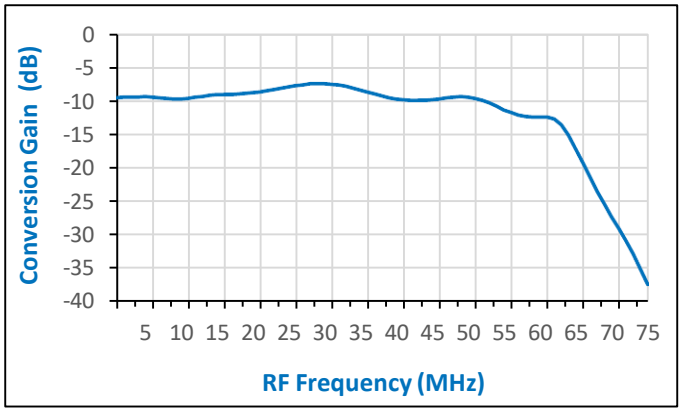
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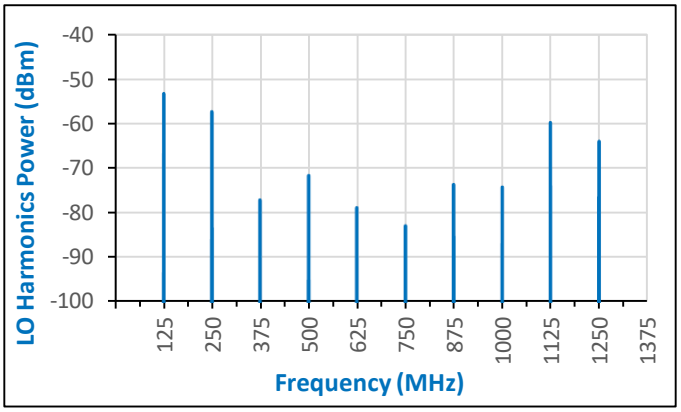




Mode 3 - Upconvert:

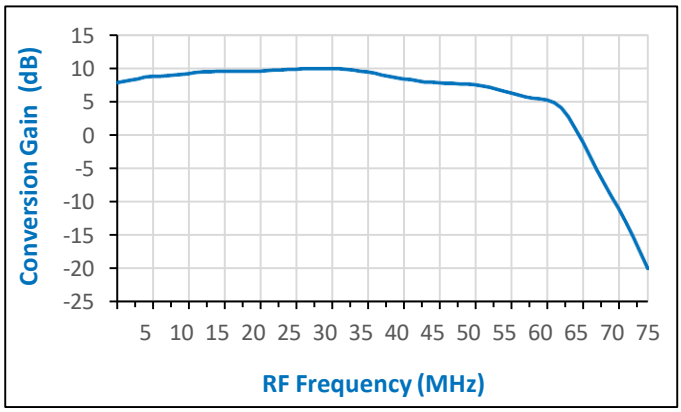
Electrical Characteristics Plots (1 MHz to 75 MHz)

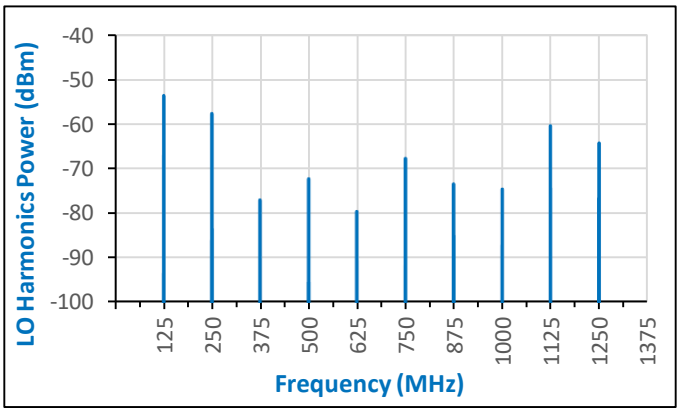




Mode 4 - LNA+Upconvert:

Electrical Characteristics Plots (1 MHz to 75 MHz)



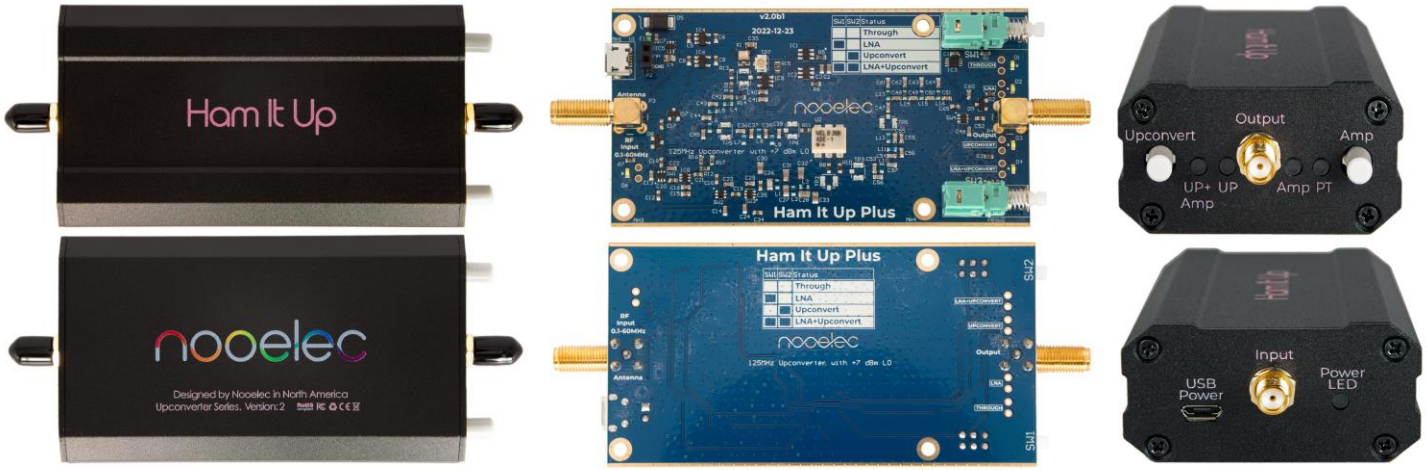


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Physical Specifications

Parameter	Value	Unit
Length	122 (4.80)	Millimeter (Inch)
Width	56 (2.20)	Millimeter (Inch)
Height	28.5 (1.12)	Millimeter (Inch)
Weight	110 (0.242)	Gram (Pound)

Product Images



Accessories



Balun One Nine v2 – Bundle – HF Balun/Unun	Nooelec NESDR SMArt v5 Bundle – Premium RTL-SDR	SMA Attenuator Kit – 1dB to 42dB Bundle – 2W SMA attenuations
SKU: 100806	**SKU**: 100700	**SKU**: 100815

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