NuWaves
RF Solutions

µHILNA™
Low Noise Amplifier

50 - 1500 MHz
20 dB Gain

P/N: µHILNA-V1

Covering VHF to L-band frequencies, NuWaves' µHILNA™ boasts the smallest form factor of the HILNA family of low noise amplifiers, designed to achieve high gain while maintaining low noise and a high third-order intercept point.

The µHILNA's miniature form factor of 0.375 cubic inches and weight of 0.5 oz. is ideal for systems that are SWaP constrained.

This high-performance module delivers 20 dB of gain over the broad range of 50 MHz to 1500 MHz with a noise figure of less than 1 dB and an OIP3 of +31 dBm.

The µHILNA's robust power supply also operates over a very broad range, easily allowing the unit to be integrated into systems without regard to power supply precision.

Features

- Broadband Operation
- Miniature Form Factor (1.00" x 0.75" x 0.50")
- Lightweight
- Low Noise and High Gain
- Rugged Chassis
- Over-Voltage Protection
- Reverse-Voltage Protection
- Wide Input Voltage Range

Benefits

- Low Level Signal Amplification
- Improved Link Margin
- Ruggedized Chassis for Harsh Environments

Applications

- Wideband RF Front Ends
- General Purpose Amplification
- High Performance Receivers
- Broadband High Gain Block
- Low Noise Transmit Driver
- RF Preamplifier
- RF Repeater
- Base Station LNA
- University Research and Instruction
- Multi-Signal Environment Amplifier

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µHILNA™ Low Noise Amplifier

Specifications

Absolute Maximums

Parameter	Rating	Unit
Max Device Voltage	12	V
Max Device Current	90	mA
Max RF Input Power, $Z_L = 50\ \Omega$	15	dBm
Max Operating Temperature	70	℃
Max Storage Temperature	85	℃

Export Classification
EAR99

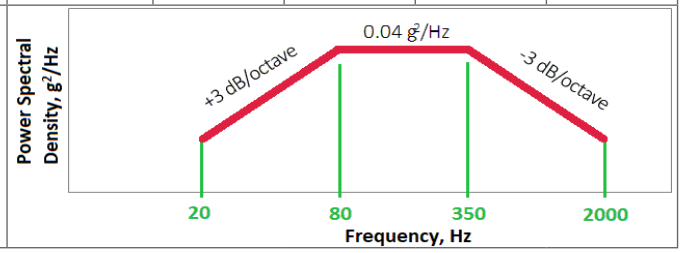
Electrical Specifications @ 12 VDC, 25 ℃, Z_S=Z_L=50 Ω

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Operating Frequency	BW	50		1500	MHz	
RF Gain	G		20		dB	
Reverse Isolation			27		dB	
VSWR	VSWR		2:1			Input
			2:1			Output
Noise Figure	NF		< 1		dB	
Third Order Order Intercept Point	OIP3		+31		dBm	
Output Power @ 1dB Compression	P1dB		+15.5		dBm	
Operating Voltage	VDC	5		12	V	
Operating Current	I_{DD}			82	mA	@ 12 VDC (typ)

Mechanical Specifications

Parameter	Value	Unit	Limits
Dimensions	1.00 x 0.75 x 0.50	in	Max
Weight	0.5	oz	Max
RF Connectors	SMA Female		

Environmental Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_C	-20		+60	℃
Storage Temperature	T_{STG}	-40		+85	℃
Relative Humidity (non-condensing)	RH			95	%
Altitude MIL-STD-810F - Method 500.4	ALT			30,000	ft
Vibration / Shock Profile (Random profile in x,y, z axis, as per Figure for 15 minute duration in each axis)					

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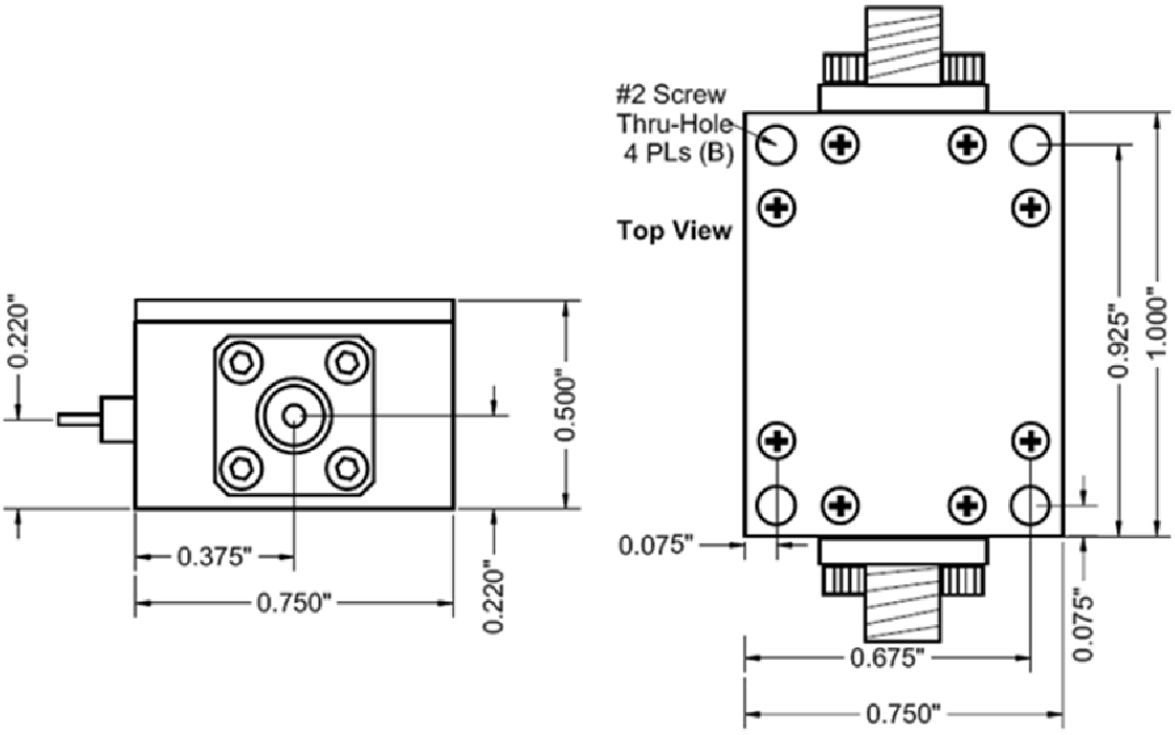
Mechanical Outline



For information on product disposal (end-of-life), please refer to this document:
https://nuwaves.com/wp-content/uploads/Product-Disposal-End-of-Life.pdf

Contact NuWaves

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