NuWaves engineering

Trusted RF Solutions™

HILNA CX

Low Noise Amplifier

5 - 10 GHz
35 dB Gain

P/N: HILNA-CX

NuWaves' HILNA CX™ is the latest addition to the family of HILNA broadband low noise amplifiers covering C- to X- band frequencies. This model features a miniature form factor of 1.2 cubic inches and weighs only 0.50 ounces, allowing ease of integration inso space-constrained systems.

This high-performance module delivers over 35 dB of gain across the entire broad range of 5 GHz to 10 GHz with a noise figure of 2.5 dB (typ) and OIP3 of +21 dBm (typ). The HILNA CX's ultra-broadband coverage allows the user conprehensive spectrum coverage within a single module.

HILNA CX'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 (1.77" x 1.52" x 0.45")
- Low Noise and High Gain
- High Intercept Point
- Rugged Chassis
- Over-Voltage Protection
- Reverse-Voltage Protection
- Wide Input Voltage Range
- Internal Regulator/Active Bias Devices for Stability

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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HILNA CX Low Noise Amplifier

Specifications

Absolute Maximums

Parameter	Rating	Unit
Max Device Voltage	20	V
Max Device Current	170	mA
Max RF Input Power, $Z_L = 50\ \Omega$	15	dBm
Max Operating Temperature	70	℃
Max Storage Temperature	85	℃

Export Classification
EAR99

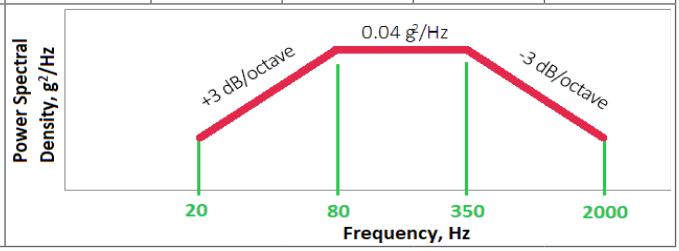
Electrical Specifications @ 12 VDC, 25 ℃, Z_S=Z_L=50 Ω

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Operating Frequency	BW	5		10	GHz	(Usable from 3 GHz to 12 GHz)
RF Gain	G	35		45	dB	
Reverse Isolation			53		dB	
VSWR	VSWR		2.5:1			Input
			2.5:1			Output
Noise Figure	NF		2.5		dB	
Third Order Order Intercept Point	OIP3		+21		dBm	
Output Power @ 1dB Compression	P1dB		+11		dBm	
Operating Voltage	VDC	5.5	12	20	V	
Operating Current	I_{DD}		170		mA	@ 12 VDC (typ)

Mechanical Specifications

Parameter	Value	Unit	Limits
Dimensions	1.77 x 1.52 x 0.45	in	Max
Weight	1.3	oz	Max
RF Bulkhead Connector	SMA Female		
RF Input and Output Mating Connector	SMA Male		
DC Power Connector	EMI Feed Through		

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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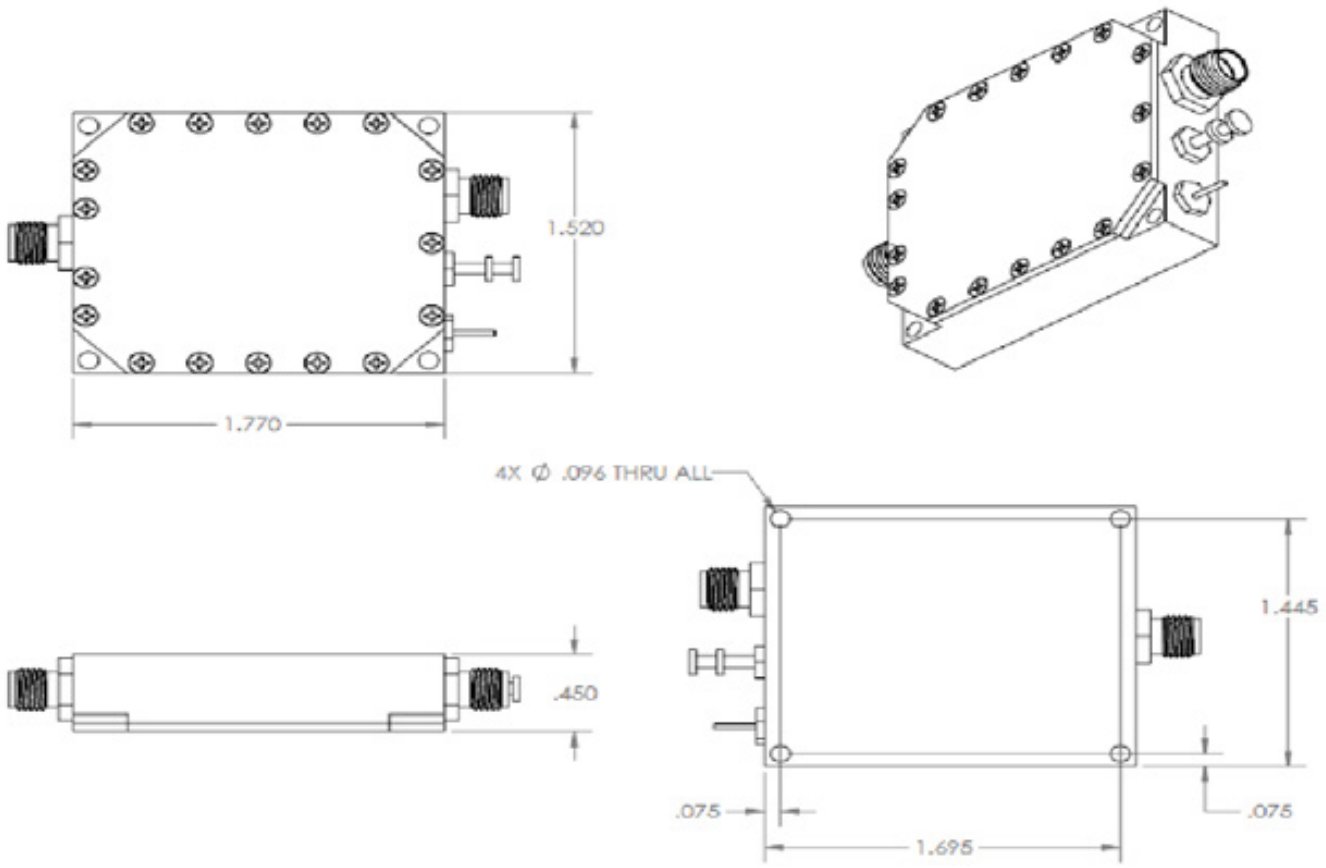
Mechanical Outline



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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