

NuWaves

RF Solutions

HILNA HF AGC

Low Noise Amplifier

2 - 50 MHz
30 dB Gain

P/N: HILNA-HF-AGC
HILNA-HF-AGC-M/F (with mounting flanges)



NuWaves' HILNA HF AGC is a broadband low noise amplifier, featuring Automatic Gain Control (AGC), designed to achieve high gain while maintaining low noise and a high third-order intercept point in the High Frequency (HF) bands.

This high-performance module delivers 30 dB of gain across the entire broad range of 2 to 50 MHz with an OIP3 of +30 dBm and a P1dB of +18 dBm. This HILNA™ model is also available without Automatic Gain Control (AGC); see the HILNA HF for details.

The HILNA HF'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

- 2 to 50 MHz
- Broadband Operation
- Low Noise and High Gain
- High Intercept Point
- Programmable AGC
- 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

HILNA HF AGC Low Noise Amplifier

Specifications

Absolute Maximums

Parameter	Rating	Unit
Max Device Voltage	30	V
Max Device Current	300	mA
Max RF Input Power, $Z_L = 50 \Omega$	12	dBm
Max Operating Temperature	70	°C
Max Storage Temperature	85	°C

Export Classification
EAR99

Electrical Specifications @ 12VDC, 25 °C, $Z_S=Z_L=50 \Omega$

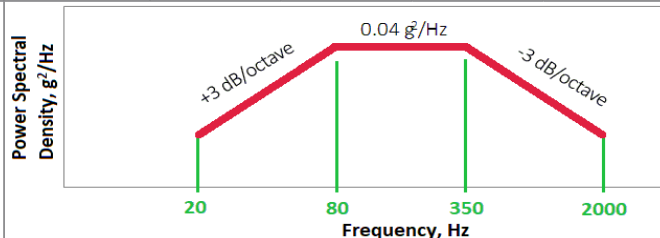
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Operating Frequency	BW	2		50	MHz	
RF Gain	G		30		dB	
Reverse Isolation			53		dB	
VSWR	VSWR		1.5:1			Input
			1.5:1			Output
Noise Figure	NF			5	dB	
Third Order Order Intercept Point	OIP3		+30		dBm	
Output Power @ 1dB Compression	P1dB		+18		dBm	
Operating Voltage	VDC	12	12	30	V	
Operating Current	I_{DD}		150	300	mA	@ 12VDC (typ)

Mechanical Specifications

Parameter	Value	Unit	Limits
Dimensions	3.15 x 2.50 x 1.18	in	Max
Weight	5.0	oz	Max
RF Bulkhead Connector	SMA Female		
RF Input and Output Mating Connector	SMA Male		
DC Power Connector	Micro-DB9		

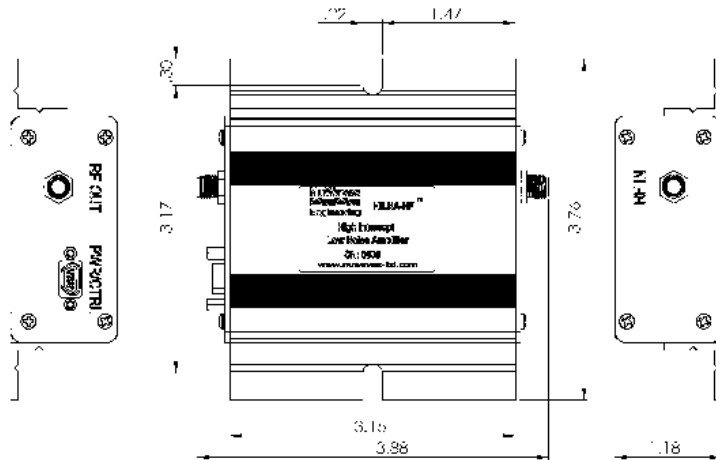
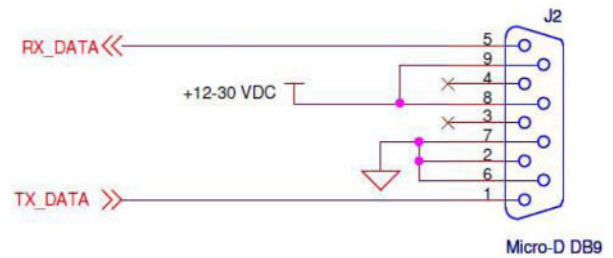
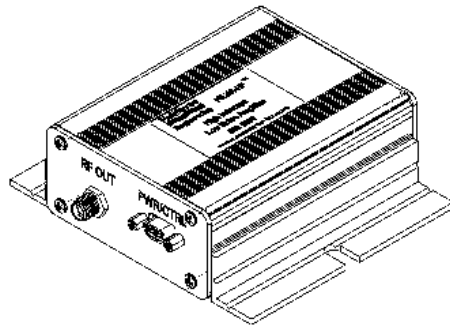
Environmental Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_C	-20		+60	°C
Storage Temperature	T_{STG}	-40		+85	°C
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



Accessory Part Numbers - Sold Separately

Part Number	Description
NW-LN-ACC-CB09MD	Standard Interface Cable Assembly - Flying Leads
NW-LN-ACC-CT09MD	Upgraded Interface Cable Assembly - Banana Plug Termination

Pinout

Function	I/O	Pin
Transmit Data	O	1
Ground	I	2, 6, 7
No Connect	-	3, 4
Receive Data	I	5
DC Power (+12 to +30VDC)	I	8, 9

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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