

NuWaves

RF Solutions

HILNA LS-C021-D

Low Noise Amplifier

1000 - 3000 MHz
15 dB Gain



P/N: HILNA-LS-C021-D

(includes NW-LN-ACC-CB09MG interface cable)

NuWaves' HILNA LS™ C021-D is a broadband low noise amplifier covering L- & S-bands, and designed to achieve high gain while maintaining low noise and a high third-order intercept point.

This high-performance module delivers 15 dB of gain over the broad range of 1 GHz to 3 GHz with a noise figure of less than 2 dB and OIP3 of +33 dBm.

The HILNA LS's small form factor (3.3 in³) makes it ideal for small communication system installations, co-located to the antenna. In addition, the HILNA LS-C021-D is also available with a bias T compatible option that eliminates the need for a separate power cable run.

HILNA LS'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
- Small Form Factor
- 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
- Bias T Compatible (optional)

Benefits

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

Applications

- Wideband RF Front Ends
- High Performance Receivers
- Broadband Gain Block
- Low Noise Transmit Driver
- RF Preamplifier
- RF Repeater
- Base Station LNA

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Specifications

Absolute Maximums

| Parameter | Rating | Unit |
|---------------------------------------|--------|------|
| Max Device Voltage | 15 | V |
| Max Device Current | 150 | mA |
| Max RF Input Power, $Z_L = 50 \Omega$ | +20 | dBm |
| Max Operating Temperature | 60 | °C |
| Max Storage Temperature | 85 | °C |

| Export Classification |
|-----------------------|
| 5A991.B |

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

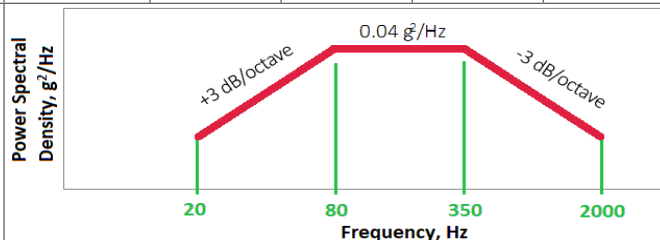
| Parameter | Symbol | Min | Typ | Max | Unit | Condition |
|--------------------------------|----------|------|-------|------|------|---------------|
| Operating Frequency | BW | 1000 | | 3000 | MHz | |
| RF Gain | G | | 15 | | dB | |
| Reverse Isolation | | | 20 | | dB | |
| VSWR | VSWR | | 1.4:1 | | | Input |
| | | | 1.5:1 | | | Output |
| Noise Figure | NF | | 1.7 | 2 | dB | |
| Third Order Intercept Point | OIP3 | | 33 | | dBm | |
| Output Power @ 1dB Compression | P1dB | | 17 | | dBm | |
| Operating Voltage | VDC | +5 | +12 | +15 | V | |
| Operating Current | I_{DD} | | 130 | | mA | @ 12VDC (typ) |

Mechanical Specifications

| Parameter | Value | Unit | Limits |
|--------------------------------------|-----------------------|------|--------|
| Dimensions | 2.50 x 1.75 x 0.75 | in | Max |
| Weight | 3.0 | oz | Max |
| RF Bulkhead Connector | SMA Female | | |
| RF Input and Output Mating Connector | SMA Male | | |
| Interface Connector | Micro-D, 9-pin socket | | |

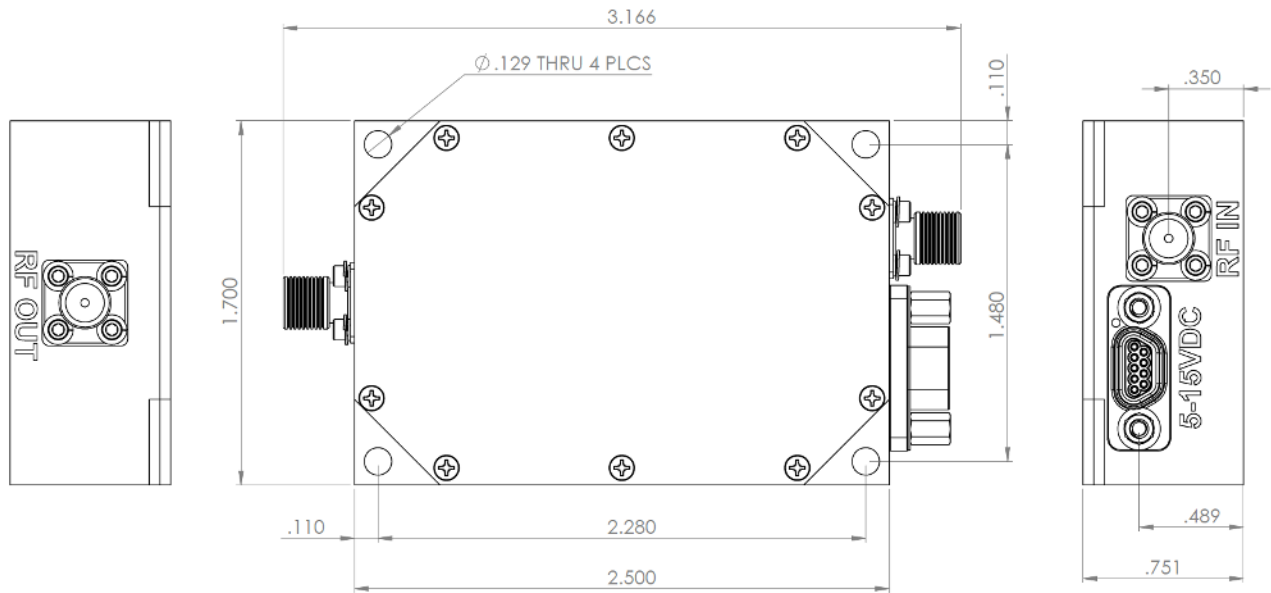
Environmental Specifications

| 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

| Part Number | Description |
|------------------|---|
| NW-LN-ACC-CB09MG | Standard Interface Cable Assembly - Flying Leads (included w/ module) |
| NW-LN-ACC-CT09MG | Upgraded Interface Cable Assembly - Banana Plug Termination |

Pinout

| Function | I/O | Pin |
|-------------------------|-----|------------------|
| Ground | I | 1, 2 |
| DC Power (+5 to +15VDC) | I | 3 |
| No Connect | - | 4, 5, 6, 7, 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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