



ACCELERATED PERFORMANCE



Trusted RF Solutions™

2022
2nd Quarter

EXCELLENCE

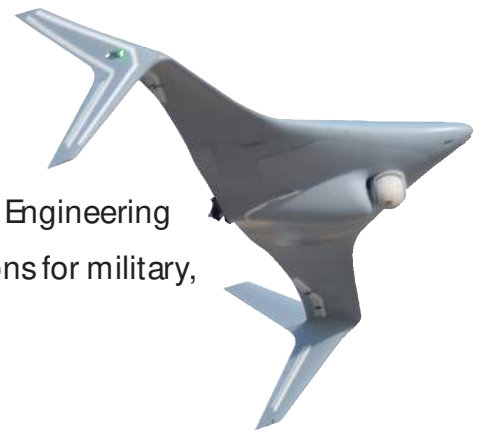
AGILITY

INTEGRITY

RESPONSIVENESS



A veteran-owned small business (VOSB) founded in 2000, NuWaves Engineering is a premier supplier of Radio Frequency (RF) and Microwave solutions for military,



WHAT WE OFFER

RF Design Services

NuWaves Engineering offers quick-tempo RF system, subsystem and module-level design services **from HF to Ku-band frequencies**. As a turn-key solutions provider, NuWaves can take an idea from the concept stage through design and development, prototyping and even transition it to production in a seamless and cost-effective manner.

Utilizing state-of-the-art design and simulation tools and relying on decades of applied experience, our RF engineers are capable of designing *transmitters, receivers, transceivers, solid state power amplifiers, low noise amplifiers, RF front ends, upconverters, downconverters, preselectors, noise modules, synthesizers, modulators, IF chains, high-performance filters*, etc.

While best known for its RF and microwave engineering prowess, NuWaves Engineering is also adept at providing high-level communications and telemetry system-level design services. The company's complementary embedded systems design services include digital hardware, hardware description languages such as VHDL and Verilog, and embedded software/firmware such as C++ and C#. NuWaves also offers mechanical design and thermal analysis, using the very latest 3D CAD tools, allowing the team to ensure the mechanical design is optimized for fit while also taking heat transfer into consideration.

Engineering Services

NuWaves Engineering offers a wide breadth of Engineering Services related to the deployment, testing, evaluation and sustainment of advanced communications and telemetry systems.

System Sustainment – With in-depth organizational knowledge,



HILNA™ High Intercept Low Noise Amplifier Selection Guide

LNA Model	Frequency Range	Gain	Noise Figure	OIP3	Supply Voltage	Current Consumption	Size (L x W x H)	Weight	Operating Temperature
HILNA HF	2 - 50 MHz	30 dB	3 dB	+30 dBm	+12 to +30 VDC	300 mA @ +12 VDC	3.15" x 2.50" x 1.18"	5 oz.	-30 to +70 °C
HILNA HF AGC	2 - 50 MHz	30 dB	3 dB	+30 dBm	+12 to +30 VDC	300 mA @ +12 VDC	3.15" x 2.50" x 1.18"	5 oz.	-30 to +70 °C
μHILNA	50 - 1500 MHz	20 dB	1 dB	+31 dBm	+5 to +12 VDC	82 mA @ +12 VDC	1.00" x 0.75" x 0.50"	0.5 oz.	-20 to +60 °C
HILNA V1	50 - 1000 MHz	20 dB	0.8 dB	+32 dBm	+5 to +20 VDC	70 mA @ +12 VDC	3.15" x 2.50" x 1.18"	5 oz.	-30 to +70 °C
HILNA G2V1	50 - 1000 MHz	40 dB	0.8 dB	+31 dBm	+5 to +20 VDC	140 mA @ +12 VDC	3.15" x 2.50" x 1.18"	5 oz.	-30 to +70 °C
HILNA GPS	1200 - 1600 MHz	32 dB	0.8 dB	+30 dBm	+5 to +20 VDC	140 mA @ +12 VDC	3.15" x 2.50" x 1.18"	5 oz.	-30 to +70 °C
HILNA GPS C034 ¹	1200 - 1600 MHz	32 dB	0.8 dB	+30 dBm	+22 to +34 VDC	60 mA @ +28 VDC	3.76" x 3.27" x 0.95" ²	5 oz.	-30 to +70 °C
HILNA LS	1000 - 3000 MHz	50 dB	1.7 dB	+33 dBm	+5 to +15 VDC	300 mA @ +12 VDC	2.50" x 1.75" x 0.75"	2.5 oz.	-20 to +60 °C
HILNA LS C021 ³	1000 - 3000 MHz	15 dB	1.7 dB	+33 dBm	+5 to +15 VDC	130 mA @ +12 VDC	2.50" x 1.75" x 0.75"	2.5 oz.	-20 to +60 °C
HILNA LS C026 ⁴	1400 - 1900 MHz	21 dB	2 dB	+30 dBm	+5 to +8 VDC	275 mA @ +5 VDC	2.50" x 1.70" x 0.75"	3 oz.	-20 to +85 °C
HILNA CX	5 - 10 GHz	35 dB	2.5 dB	+21 dBm	+5.5 to +20 VDC	170 mA @ +5.5 VDC	1.77" x 1.52" x 0.45"	1.3 oz.	-20 to +60 °C

Notes:

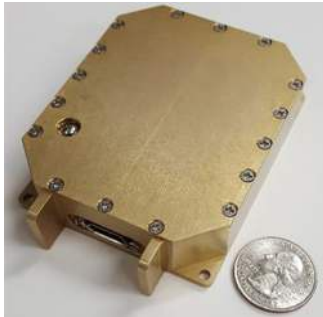


RF Front-End



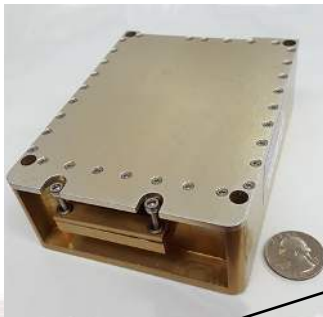
Cybersecurity Hardware Solutions

Cybersecurity has become a top priority of our nation's defense organizations and commercial counterparts. As threats to our cyber environments continue to grow and evolve, innovative technologies must be developed to combat these ever-evolving threats. Utilizing technology developed by the Air Force Research Laboratory (AFRL), NuWaves Engineering offers protection for avionics busses through the use of physical mitigation devices.



Vegas-S MIL-STD-1553 Data Diode

Vegas-S allows for the isolation of the main MIL-STD-1553 avionics bus from bus monitors or systems under test for enhanced safety of flight. This control of data flow over the MIL-STD-1553 bus provides true risk reduction to the aircraft's avionics bus for early software upgrades to existing bus monitoring systems, along with reducing the risk to the aircraft's avionics bus for early bus monitor integration. Vegas-S supports two independent MIL-STD-1553 channels (ie: one 'A' and one 'B') and comes in a 7 in³ / 0.5 lbs package offering 40 mA at 28 VDC.



Vampire MIL-STD-1553 Anomaly Detection and Data Recording

RF & MICROWAVE PRODUCTS

Military • Government • Industrial

NuWaves Engineering is a premier supplier of Radio Frequency (RF) products, with a particular emphasis on subsystem, module-level products. Our market-leading designs are derived from over a decade of successful RF engineering design service work for a wide breadth of clients.



Power Amplifiers

200 MHz to 5.85 GHz

5 W to 100 W

Miniature size – as small as 1.6 in³

Ruggedized IP67 tactical modules available



Single- & Multi-Channel Amplifiers

225 MHz to 5.875 GHz

5 W to 25 W



CYBERSECURITY SOLUTIONS

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 **NuWaves**
engineering

Trusted RF Solutions™