SUCCESS STORY

Pre-Filtered GPS LNAs for Hypersonic Weapons

Qualified for the most critical environments for military and airborne applications

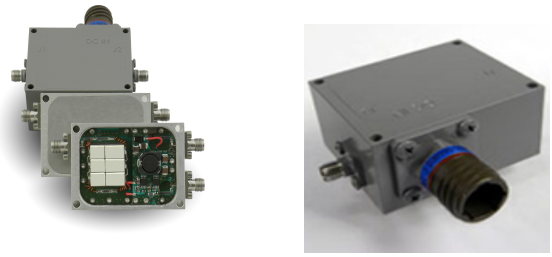
Spectrum Control's pre-filtered GPS Low Noise Amplifiers (LNA) enable hypersonic weapons to track targets and position with precision at very high speeds. Hypersonic weapons can travel at five times the speed of sound -- Mach 5 and faster. This technology is critical for next-generation, advanced missile-defense systems. Hypersonic weapons can fly in a flatter trajectory and hit targets at greater speeds. They are harder to detect and more difficult to shoot down.

Low Loss Filter, Minimize System Noise

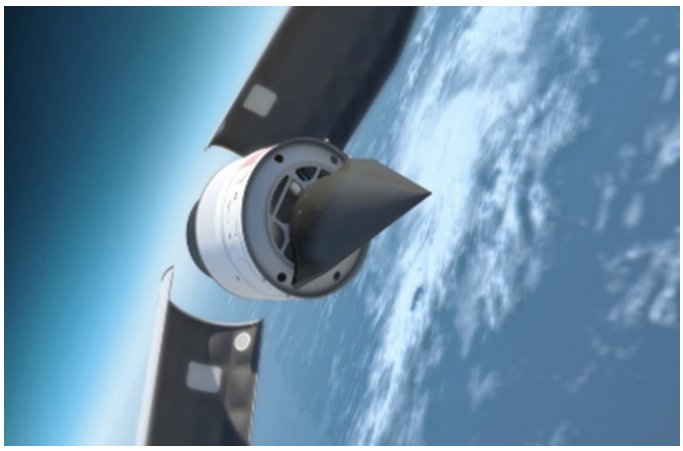
Spectrum Control's pre-filtered LNA modules are designed to amplify GPS signals while protecting the front-end of the GPS receiver by filtering out interferences from a crowded electromagnetic spectrum. These modules leverage multiple Spectrum Control's core competencies: low-loss filter, amplifier, and mechanical design that maximizes out-of-band rejection, and minimizes system noise while maintaining a small-size footprint.

The 312 Series Pre-Filtered LNA modules are qualified for the most critical of environments for military and airborne applications

The core part of Spectrum Control's GPS LNA is the amplifier assembly board. The assembly has built-in flexibility to allow for various gain levels, supply bias options, GPS band frequencies, and number of outputs. The amplifier assembly is housed in one of three laser-welded, hermetic housings which provides for a variety of field-removable mating connectors. The customer simply indicates which configuration works best for their target application.



Spectrum Control's pre-filtered GPS LNA is a configurable product



Core Differentiator: Anti-Jam Performance

The performance of these weapons depends on getting a clean signal, free from intentional and unintentional interferers. Spectrum Control's pre-filtered GPS Low Noise Amplifier modules exhibit excellent anti-jam performance along with a Sub 2 dB noise figure.

Spectrum Control's LNA product line also includes unique custom features for specialized requirements. Customized GPS filters and limiter protections are provisioned on the amplifier assembly and are considered semi-standard. This means that these features can be added without significantly impacting lead times.

Featured Specs

- Frequency Range: L1, L1/L2, L1/L5, L1/ (L2-L5)
- Noise Figure: 1.8 dB, 2.5 dB
- The part number is built to allow the designer to specify which GPS Band(s) that the module must operate in, the level of gain from 16 to 40 dB in 3 dB increments, either single or dual output, the bias option, and the mating RF and DC interfaces.