Product Brief | NPI

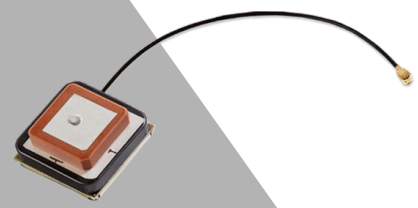
Wireless

Active Patch Antenna

L1/L2/L5 Tri-Band

PRODUCT OVERVIEW

GNSSL125182530S is a compact **L1/L2/L5** tri-band GNSS **active patch antenna** designed for space-constrained platforms that still require high-accuracy positioning. Featuring a stacked ceramic patch architecture, integrated **30 dB low-noise amplifier** (LNA), and strong out-of-band rejection, this antenna supports global GNSS constellations while minimizing PCB footprint.



Quick Facts

Tri-band GNSS: L1 (1561–1602 MHz), L2 (1215–1237 MHz), L5 (1164–1189 MHz)

Compact footprint: 25 × 25 mm stacked ceramic patch

Wide operating voltage: 2.5–18 VDC

Contact & Information

Visit our Product Pages on YAGEOGroup.com

Key Selling Points

Features

- **Stacked L1 / L2 / L5 ceramic patch design enabling tri-band GNSS operation**
- **Internal LDO voltage regulation for stable operation across wide input voltages**
- **Integrated 30 dB LNA**
- **Low noise figure:**
  - **~1.7 dB @ L1**
  - **~2.2 dB @ L2 / L5**

Customer Value

- Saves PCB area compared to larger 30 × 30 mm tri-band GNSS patch solutions
- Simplifies system design with integrated LNA, LDO, and DC-bias feed
- Supports global deployment across GPS, GLONASS, Galileo, BeiDou, and IRNSS
- Strong internal filtering supports improved RF coexistence with cellular and Wi-Fi radios
- Shorten development cycles using a proven, fully integrated GNSS antenna module

Target Applications

- **High-precision asset tracking and logistics devices**
- **Fleet management and telematics platforms**
- **Surveying, mapping, and positioning systems**
- **Precision agriculture, mining, and construction equipment**
- **Compact GNSS-enabled consumer and industrial electronics**
- **Geofencing and location-based services**

Market Advantages

- Smaller footprint than typical tri-band GNSS patches, ideal for dense PCB layouts
- Tri-band L1/L2/L5 capability aligns with high-precision and emerging GNSS requirements
- Integrated 30 dB gain stage eliminates the need for external LNAsWide voltage tolerance (2.5–18 V) supports diverse GNSS chipsets and power rails
- Consistent RHCP radiation patterns across all three GNSS bands
- Designed for interference-heavy environments such as asset trackers and gateways