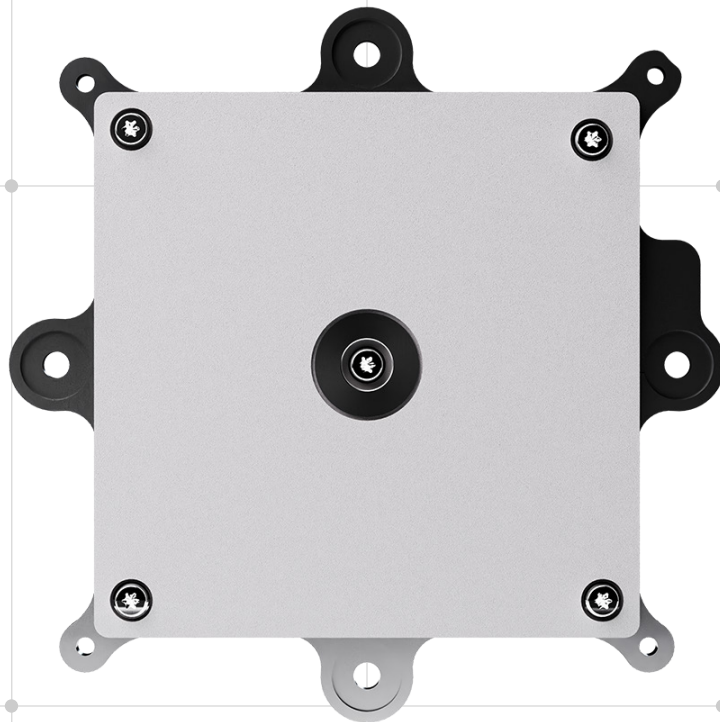


# GNSS E1/L1 Bands Antenna



Anywaves' GNSS E1/L1 Bands antenna is our latest navigation antenna designed for LEO platforms, ensuring precise positioning and timing in harsh space environments. Operating in the GPS L1 and Galileo E1 frequency bands, this antenna guarantees exceptional performance. It offers a superior gain ( $> 6$  dBi) and low reflection ( $< -18$  dB), and the Right Hand Circular polarization improves signal stability and reliability to avoid any blackouts risks.

This antenna is equipped with a robust PEEK radome for protection against extreme conditions. Its compact size, light weight and SMA connector facilitate easy integration with your platform without compromising on performance.

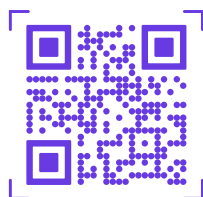
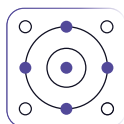
**NB : compatible with Anywaves Test Hat for GNSS All-Bands Antennas.**

Rx

Hemispherical Coverage

HPBW  $> 90^\circ$

Size  $< 1U$



**High Performance on L1 Band (GPS) & E1 Band (Galileo)**



**High cross-polarization discrimination**



**Fully qualified:**

RF, mechanical, and thermal acceptance tests included (return loss, vibration, thermal cycling).



**ITAR-free:**

Suitable for international programs without export restrictions.



**Robust design:**

Radome protection ensures reliable operation in harsh environments (temperature, ESD).

## Benefits

[anywaves.com](http://anywaves.com)

**ANYWAVES**

# Navigation Antennas GNSS E1/L1 Bands Antenna



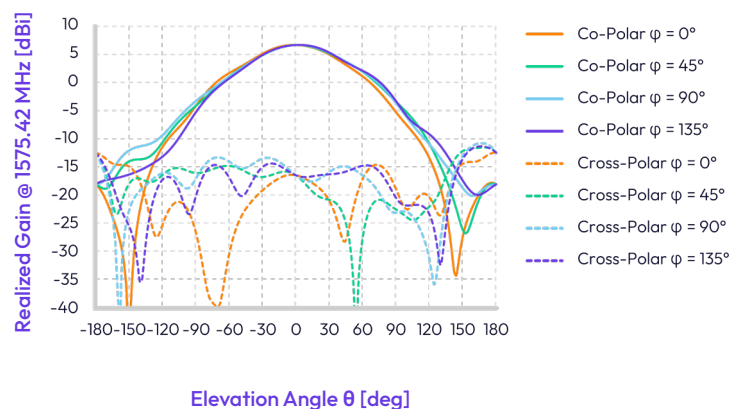
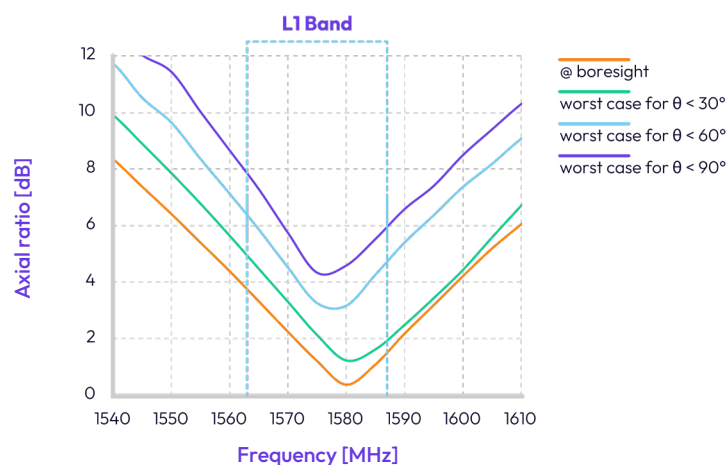
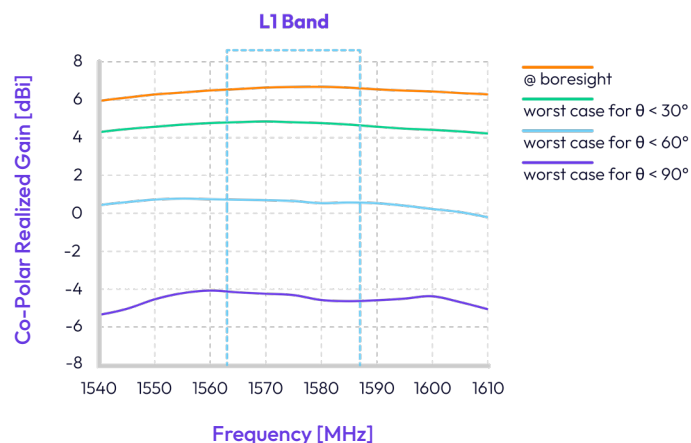
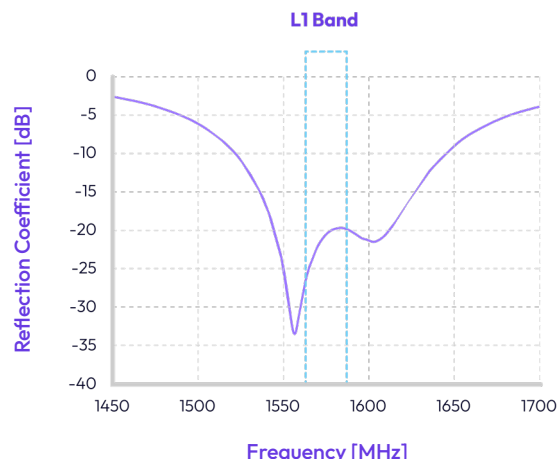
Rx

Hemispherical Coverage

HPBW > 90°

Size < 1U

## Typical Measured Performance



## Typical Measured Performance

|                                                                                          |                                                                                   |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Frequency Band                                                                           | GPS L1: 1563 to 1587 MHz                                                          |
| Polarization                                                                             | Right Hand Circular Polarization                                                  |
| Reflection Coefficient                                                                   | < -18 dB                                                                          |
| Realized Gain @1575.42 MHz                                                               | > 6.5 dBi @boresight<br>> 0.5 dBi @ $\pm 60^\circ$<br>> -4.5 dBi @ $\pm 85^\circ$ |
| Axial Ratio @1575.42 MHz                                                                 | < 1.5 dB @boresight<br>< 3.5 dB @ $\pm 60^\circ$<br>< 4.5 dB @ $\pm 85^\circ$     |
| Phase Center Position (PCO) Variation<br><small>(Maximum Variation vs Frequency)</small> | Variation within a sphere of radius < 1 mm                                        |
| Phase Center Variation (PCV)<br><small>(Maximum Variation vs Elevation)</small>          | < 0.4 mm ( $\pm 60^\circ$ FoV)                                                    |
| Group Delay Variation                                                                    | < 0.8 ns                                                                          |

## Physical Characteristics

|                                         |                                                                                                                                                                           |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Envelope Size                           | L 96.6 x W 96.6 x H 23.26mm <sup>3</sup><br>Protruding Height: <8 mm                                                                                                      |
| Mass<br><small>(With Connector)</small> | 103 g                                                                                                                                                                     |
| Connector                               | Coaxial SMA female (50Ω)                                                                                                                                                  |
| Mechanical Interface                    | 4 x M3.65                                                                                                                                                                 |
| Qualification Temperature               | - 120°C / + 120°C                                                                                                                                                         |
| Protective Radome                       | <b>PEEK</b> coated with <b>SG121FD</b> white paint<br>(on Flight Models only)<br>resistant to thermal and radiation environments and preventing electrostatic discharges. |
| Acceptance Tests                        | <b>Flight Models</b><br>- Radio Frequency<br>- Mechanical<br>- Thermal<br><b>Engineering Models</b><br>- Radio Frequency Only                                             |