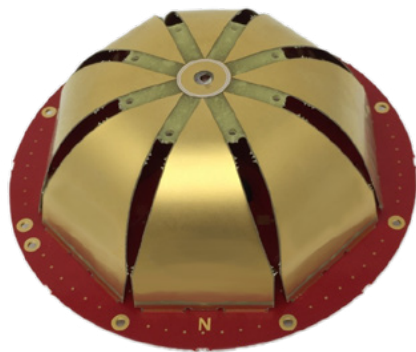




VeroStar™

Product Brochure

Embedded, Pole Mount, and Surface Mount Antennas

Designed to receive Dual, Triple, and Full Band GNSS signals as well as L-Band Correction Services, Calian's innovative VeroStar™ technology supports survey, marine, aviation, agriculture, machine control, and other demanding applications.

VeroStar™ Antenna Family



The patent-pending VeroStar™ is designed to receive Dual, Triple, Full GNSS Band and L-Band correction service signals.

In addition, the novel design of the VeroStar™ provides both best in class low elevation angle : gain and axial ratio.

The VeroStar™'s gain at zenith is similar to competitor antennas; however, its gain roll off to the horizon is typically 3dB less. Higher gain at low elevation angles allows the GNSS receiver to more reliably track both GNSS and L-Band correction services signals.

(See "Roll-Off" Figure, below top for a competitive analysis).

An antenna's axial ratio provides a measure of how well an antenna can receive the Right Hand Circularly Polarized (RHCP) GNSS signal. An axial ratio close to zero indicates that the antenna more purely captures the broadcast signal and also strongly rejects multipath signals. Mitigating multipath enables the GNSS receiver to precisely track the broadcast signal and estimate accurate and precise observations and position estimates. (See "Axial Ratio" Figure, below bottom for a competitive analysis)

All above mentioned features and the size and shape of the radiating elements come together to produce an antenna with a tight ± 2 mm Phase Centre Variation.

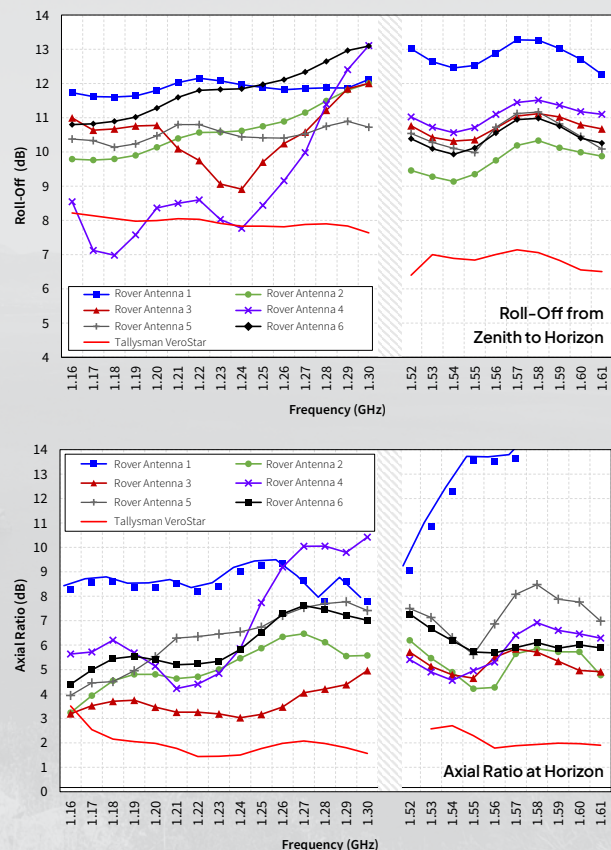
Learn More: Calian.com/gnss/verostar

VeroStar™ Features

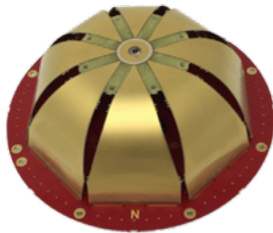
- Full GNSS Band and L-Band support
- Interoperable with all GNSS receivers
- Strong gain at zenith with extremely low roll-off to the horizon
- Excellent axial ratio and multipath mitigation
- Best-in-class low elevation tracking
- Compact, lightweight and robust design
- Excellent L-Band correction reception
- Tight filtering and Phase Centre Variation (± 2 mm)
- Geo++ Calibration available

Applications

- High Precision GNSS Systems (Survey, Marine)
- All Embedded Precision Applications (Autonomous Vehicle Navigation, Precision Agriculture, All RTK/PPP Systems)



VeroStar™ Embedded (Standard and Mini)



Standard VeroStar™



Mini VeroStar™

Features

- Triple, Full GNSS Band and L-Band support
- Embedded applications (28 and 37 dB gain versions)
- Rugged and lightweight (80 g) with tight filtering
- 106mm ground plane for the Standard VeroStar™
- 90mm or 106mm ground plane for the Mini VeroStar™
- REACH and RoHS compliant

Applications

Smart Antenna, Survey Rover, Embedded Full-Band Integrated GNSS Systems, and all Precision Applications

Model	L-Band Corrections	Frequency Bands	Gain	Mounting
VSE6028/37	VSE6028L/37L	L1/L2/L5/L6, G1/G2/G3, E1/E5a/E5b/E6, B1/B2/B2a/B3	28/37 dB typ.	Direct Screw
VSM6028/37	VSM6028L/37L			
VSE6328/37	VSE6328L/37L	L1/L2/L5, G1/G2/G3, E1/E5a/E5b, B1/B2/B2a		
VSM6328/37	VSM6328L/37L			

VeroStar™ Pole Mount



Features

- Dual, Triple, Full GNSS Band and L-Band support
- Rugged and lightweight (500 g) with tight filtering
- Available package with a 5/8" and 1" mount
- Passed 2m drop test and a suite of MIL-STD-810 environmental tests
- IP69K, REACH and RoHS compliant
- Geo++ Calibrated (± 2 mm PCV)

Applications

Survey Rover, Marine, Inertial Sensor Systems, RTK / PPP Systems, and all Precision Applications

Model	L-Band Corrections	Frequency Bands	Gain	Mounting
VSP6037	VSP6037L, VSP6037L-MAR	L1/L2/L5/L6, G1/G2/G3, E1/E5a/E5b/E6, B1/B2/B2a/B3	37 dB typ.	Standard Survey Mount
VSP6237	VSP6237L	L1/L2, G1/G2/G3, E1/E5b, B1/B2		
VSP6337	VSP6337L	L1/L2/L5, G1/G2/G3, E1/E5a/E5b, B1/B2/B2a		

VeroStar™ Surface Mount



Features

- Triple, Full GNSS Band and L-Band support
- Excellent L-Band correction reception
- Low profile and lightweight (340 g) with tight filtering
- Passed a suite of MIL-STD-810 environmental tests
- IP69K, REACH and RoHS compliant

Applications

Autonomous Vehicle Navigation, Precision Agriculture, Safety & Security Vehicles, and all Precision Applications.

Model	L-Band Corrections	Frequency Bands	Gain	Mounting
VSS6037	VSS6037L	L1/L2/L5/L6, G1/G2/G3, E1/E5a/E5b/E6, B1/B2/B2a/B3	37 dB typ.	Surface Mount, Direct Screw
VSS6337	VSS6337L	L1/L2/L5, G1/G2/G3, E1/E5a/E5b, B1/B2/B2a		

Explore GNSS Precision with Calian

Calian provides an affordable line of high performance, precision GNSS antennas focused on supporting a broad range of satellite-based positioning, navigation, and data applications. In addition to the VeroStar™ family of antennas, here is a list of additional GNSS technologies from the Calian Precision Portfolio.



Accutenna® Technology

Out performs single feed patch antennas, providing superior multi-path signal rejection thereby providing un-matched precision for its size and price.

calian.com/gnss/accutenna



Helical Technology

Designed for applications that require high performance and versatility, with an absolute minimum of weight, such as Unmanned Aerial Vehicles.

calian.com/gnss/helical



VeraPhase® Technology

Proven to have a more stable PCV through all elevations and azimuths than any other antenna technology available today with elevation angles greater than 15°.

calian.com/gnss/vera



VeraChoke® Technology

Offers a choice in form-factor for reference and monitoring applications, delivering the best performance of any choke ring antenna available on the market.

calian.com/gnss/vera

About Calian

We keep the world moving forward. Calian® helps people communicate, innovate, learn and lead safe and healthy lives. Every day, our employees live our values of customer commitment, integrity, innovation and teamwork to engineer reliable solutions that solve complex problems. That's Confidence. Engineered. A stable and growing 40-year company, we are headquartered in Ottawa with offices and projects spanning North American, European and international markets. Visit calian.com to learn about innovative healthcare, communications, learning and cybersecurity solutions.

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