

# VSS6337L



## TALLYSMAN®

A CALIAN® COMPANY

When precision matters.®

### VSS6337L VeroStar™ Surface-Mount Triple-band GNSS Precision Antenna + L-band

**Frequency Coverage:** GPS/QZSS-L1/L2/L5, GLONASS-G1/G2/G3, Galileo-E1/E5a/E5b, BeiDou-B1/B2/B2a, NavIC-L5  
+ L-band correction services

The patent-pending VSS6337L antenna employs Tallysman's unique VeroStar™ technology, providing high gain over the GPS/QZSS-L1/L2/L5, GLONASS-G1/G2/G3, Galileo-E1/E5a/E5b, BeiDou-B1/B2/B2a, and NavIC-L5 frequency bands, including the satellite-based augmentation system (SBAS) available in the region of operation [WAAS (North America), EGNOS (Europe), MSAS (Japan), or GAGAN (India)], as well as L-band correction services.

The light and compact surface-mount VeroStar™ VSS6337L is designed and crafted for high-accuracy positioning while being robust and reliable.

With an exceptionally low roll-off from zenith to the horizon, the VeroStar™ antenna provides the best-in-class tracking of GNSS and L-band correction signals from low elevation angles. In addition, the optimized axial ratio at all elevation angles results in excellent multipath rejection, thus enabling accurate and precise code and phase tracking of GNSS and L-band correction signals.

A wide-band spherical antenna element enables the VeroStar™ to deliver a  $\pm 2$  mm phase centre variation (PCV), making it ideal for high-precision applications, such as autonomous vehicle navigation (land, sea, and air), machine control, and precision agriculture.

The VeroStar™ antenna features a robust pre-filter and high-IP3 LNA architecture, minimizing de-sensing from high-level out-of-band signals, including 700 MHz LTE, while still providing a noise figure of only 1.8 dB.

The surface-mount antenna has passed a battery of tests (water pressure, altitude, salt fog, shock, drop, and vibration) to ensure it can survive the rigours of day-to-day field use.

The unique features of the VeroStar™ antenna guarantee it can deliver high signal-to-noise ratio (SNR) and highly accurate and precise code and phase tracking of GNSS signals from all elevation angles in the most challenging environments.

**NavtechGPS**

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#### Applications

- High-precision GNSS systems
- All surface-mount precision applications, such as:
  - Autonomous vehicle navigation (land, sea, air)
  - Marine navigation
  - RTK/PPP systems
  - Precision agriculture

#### Features

- Tight phase centre variation ( $\pm 2$  mm typ.)
- Low axial ratios from zenith to horizon
- Low roll-off from zenith to the horizon
- Superior low-elevation L-band correction reception
- High G/T at low elevation angles
- Invariant performance from 3.0 to 16 VDC
- Low current (50 mA)
- Low noise figure (1.8 dB)
- Light, compact, and robust design
- IP67, REACH, and RoHS compliant

#### Benefits

- Consistent performance across all frequency bands
- Excellent GNSS tracking from low elevation angles
- Extreme accuracy and precision
- Excellent multipath rejection

**NavtechGPS**

Contact NavtechGPS for product details. [www.NavtechGPS.com](http://www.NavtechGPS.com)  
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+ L-band correction services

## Antenna

Technology

GNSS triple-band crossed dipoles

		Gain	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
<b>GNSS</b>			
GPS / QZSS	L1	4.0	< 1.0
	L2	4.5	< 1.0
	L5	4.0	< 1.0
GLONASS	G1	4.0	< 1.0
	G2	4.5	< 1.0
	G3	4.5	< 1.0
Galileo	E1	4.0	< 1.0
	E5a	4.0	< 1.0
	E5b	4.5	< 1.0
	E6	-	-
BeiDou	B1	4.0	< 1.0
	B2	4.5	< 1.0
	B2a	4.0	< 1.0
	B3	-	-
IRNSS / NavIC	L5	4.0	< 1.0
QZSS	L6	-	-
L-band correction services		4.0	< 1.0
<b>Satellite Communications</b>			
Iridium		-	-
Globalstar		-	-
<b>Other</b>			
Axial Ratio at 10°	5.0 dB max.	Efficiency	> 70%
Phase Centre Variation	± 2 mm typ. (no azi.)	G/T @10°C (L-band c.s.)	≥ -25.4 dB/K

## Mechanicals

Mechanical Size	146.7 mm (dia.) x 43.9 mm (h.)
Weight	340 g
Available Connectors	TNC (female)
Radome / Enclosure	EXL9330 plastic
Mount	4 x M6 screws

## Environmental

Operating Temperature	-45 °C to +85 °C
Storage Temperature	-55 °C to +95 °C
Mechanical Vibration	MIL-STD-810E - Test method 514.5
Shock and Drop	MIL-STD-810G - Test method 516.6
Salt Fog	MIL-STD-810G - Test method 509.6
Low Pressure - Altitude	MIL-STD-810F - Test method 500.5
IP Rating (housing)	IP67
Compliance	IPC-A-610, FCC Part 15, RED / CE Mark, RoHS, REACH

## Warranty:

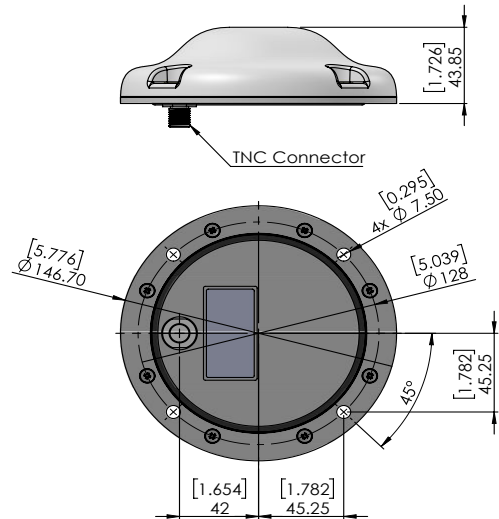
Parts and Labour	3-year standard warranty
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## Low Noise Amplifier (LNA) - Measured at 3.0 VDC and 25°C

Frequency Bandwidth	Out-of-Band Rejection
Lower Band	1160 - 1255 MHz
L-band corrections services	1539 - 1559 MHz
Upper Band	1559 - 1606 MHz

Architecture	Pre-filter → LNA stage 1 → filter → LNA stage 2
Gain	37 dB min.
Noise Figure	1.8 dB typ. @ 25 °C
VSWR	< 1.5:1 typ.   1.8:1 max.
Supply Voltage Range	3.0 to 16 VDC nominal
Supply Current	50 mA typ.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	+ 6.0 dBm
Group Delay Variation	< 10 ns

## Mechanical Diagram



## Ordering Information

Part Number **33-VSS6337L**

Please refer to our **Ordering Guide** to review available radomes and connectors at:  
<https://www.tallysman.com/resource/tallysman-ordering-guide/>



Contact NavtechGPS for product details. [www.NavtechGPS.com](http://www.NavtechGPS.com)  
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