

# VSP6037L

## VSP6037L VeroStar™ Precision Antenna

Frequency Coverage: Full GNSS Spectrum + L-band corrections

### Overview

The patent-pending, compact VSP6037L VeroStar™ antenna supports the full GNSS spectrum (all constellations and signals) plus L-band correction services. The VSP6037L-VeroStar™ provides high receive gain over the full GNSS spectrum: low GNSS band (1164 MHz to 1300 MHz) L-band correction services (1539 MHz to 1559 MHz) and high GNSS band (1559 MHz to 1610 MHz).

The VeroStar™ antenna element is very efficient and has an exceptionally low roll-off from zenith to the horizon. As a result, the VeroStar™ provides the best in class low elevation angle GNSS and L-Band satellite tracking. Additionally, the VeroStar™ element has a low axial ratio through all elevation angles, which provides strong multipath rejection. Precision manufacturing, together with an efficient antenna element, allows the VeroStar™ to realize a very stable Phase Center Offset (PCO) and consistent Phase Centre Variation (PCV), from unit to unit.

All VeroStar™ antennas have a robust pre-filter, and an LNA architecture that supports high IP3, which minimizes de-sensing from high-level out-of-band signals, including 700 MHz LTE, while still providing a noise figure of 1.8 dB.

The performance of the VSP6037L VeroStar™ antenna rivals all compact full-band GNSS antennas and it is lighter, smaller, more power-efficient, more robust, and very economical.



### Applications

- High-precision GNSS systems
- Deformation monitoring stations
- Land survey
- Marine
- RTK/PPP systems
- Reference networks

### Features

- Light, compact, and robust design
- Tight phase center variation (< 2.0 mm)
- Low axial ratios from zenith to horizon
- Low current (50 mA)
- Invariant performance from 3.0 to 16 VDC
- High gain/temp. at low elevation angles
- REACH and RoHS compliant

### Benefits

- Consistent performance across all frequency bands
- Excellent tracking from 0° - 90°
- Extreme precision
- Excellent multipath rejection

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## Antenna

Technology Full GNSS frequency crossed dipoles

		Gain dBic typ. at Zenith	Axial Ratio 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	4.0	< 1.0
BeiDou	B1	4.0	< 1.0
	B2	4.5	< 1.0
	B2a	4.0	< 1.0
	B3	4.0	< 1.0
IRNSS / NavIC	L5	4.0	< 1.0
QZSS	L6	4.0	< 1.0
L-Band Services (1525 MHz - 1559 MHz)		4.0	< 1.0
<b>Satellite Communications</b>			
Iridium		-	-
Globalstar		-	-
<b>Other</b>			
Axial Ratio at 10°	5.0 dB max.	Efficiency	> 70%
PC Variation	+/- 2.0 mm (all freq.)	Gain / Temp @ 10 °C	≥ -25.4 dB/K

## Mechanicals

Mechanical Size	170 mm (dia.) x 74.9 mm (h.)
Weight	500 g
Available connectors	TNC female
Radome	White
Mount	5/8"-11 TPI or 1"-14 TPI

## Environmental

Operating Temperature	- 45 °C to + 85 °C
Storage Temperature	- 50 °C to + 95 °C
Vibration	MIL-STD-810-D
Shock	Vertical axis: 50 G, other axes: 30 G
Salt Fog	-
IP Rating	IP67 (housing)
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

## Warranty:

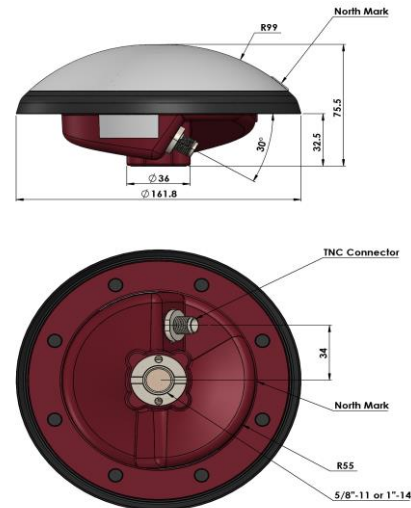
Parts and Labour	Three years standard warranty
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## Low Noise Amplifier (LNA) - Measured at 3 V and 25 °C

Frequency Bandwith		Out of Band Rejection	
		Upper Band	Lower Band
1164 - 1300 MHz	1539 - 1610 MHz	< 1450 MHz : > 70 dB > 1650 MHz : > 50 dB > 1710 MHz : > 60 dB	< 800 MHz : > 55 dB < 900 MHz : > 45 dB < 1000 MHz : > 45 dB

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-VSP6037L-zz**

Mounting Type (zz): zz = 58 | 5/8"-11 TPI zz = 01 | 1"-14 TPI

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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