

VP6335

VP6335 VeraPhase[®] High-Precision Triple-Band GNSS Antenna

Frequency Coverage: GPS/QZSS-L1/L2/L5, GLONASS-G1/G2/G3, Galileo-E1/E5a/E5b, BeiDou-B1/B2/B2a/B3, NavIC-L5

The patented VeraPhase[®] technology rivals, and in some aspects, surpasses the performance of choke ring technology but is lighter, smaller, and more economical.

The VP6335 antenna is capable of receiving GPS/QZSS L1/L2/L5, GLONASS-G1/G2, BeiDou B1/B2, Galileo E1/E5b, and L-Band (1195 – 1254 MHz plus 1525-1610 MHz).

It has consistent performance (gain, axial ratio, PCV, and PCO) across the full bandwidth of the antenna. It provides the lowest axial ratios (zenith to the horizon, over all azimuths) across all GNSS frequencies (< 0.5 dB at zenith, < 2 dB typ. at horizon).

It has an exceptional front to back ratios, high efficiency (> 70%), a tight PCV, and near constant PCO for all azimuth and elevation angles, over all in-Band frequencies.

The VP6335 provides high receive gain over the full GNSS spectrum: It has a robust pre-filtered LNA, with high IP3 to minimize de-sensing from high-level out-of-band signals, including 700 MHz LTE, while still providing a noise figure of less than 2.5 dB.

An uncommitted PCB is available within the base of the antenna for integration of a custom system board such as a PPP or RTK GNSS receiver or other applications.



Applications

- Survey
- High-Precision GNSS systems
- Custom OEM products
- RTK / PPP systems

Features

- Low axial ratio from zenith to the horizon
- Calibrated by Geo++[®]
- Very Tight Phase centre Variation (< 1 mm)
- Low current (35 mA)
- Invariant performance from 2.7 to 24 VDC
- Space in housing for integrated GNSS Receiver (PPP, RTK)

Benefits

- Consistent performance across all frequencies
- Broadest tracking elevation
- Extreme precision
- Excellent multipath rejection
- IP67, REACH, and RoHS compliant
- Reduced time to market

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Antenna			
Technology		Wideband Quadrature RHCP Element	
		Gain	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
GNSS			
GPS / QZSS	L1	7.0	0.8
	L2	6.0	0.5
	L5	5.0	0.5
GLONASS	G1	7.0	0.8
	G2	6.0	0.5
	G3	6.0	0.5
Galileo	E1	7.0	0.8
	E5a	5.0	0.5
	E5b	5.0	0.5
	E6	-	-
BeiDou	B1	7.0	0.8
	B2	6.0	0.5
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-band correction services		-	-
Satellite Communications			
Iridium		-	-
Globalstar		-	-
Other			
Axial Ratio at 10°	1.0 - 3.0 dB	Efficiency	> 70%
Phase Centre Variation	± 1.5 mm		

Mechanicals

Mechanical Size	Flat radome: 167 mm (dia.) x 110 mm (h.) Conical radome: 167 mm (dia.) x 175 mm (h.)
Weight	Flat radome: 800 g Conical radome: 820 g
Available Connectors	type-N (female)
Radome / Enclosure	Flat or Conical
Mount	5/8" x 11 TPI female

Environmental

Operating Temperature	-60 °C to +85 °C
Storage Temperature	-60 °C to +95 °C
Mechanical Vibration	MIL-STD-810D - Method 514.3
Shock and Drop	Vertical axis: 50 G, other axes: 30 G
Salt Fog	-
Low Pressure - Altitude	0
IP Rating (housing)	IP67
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

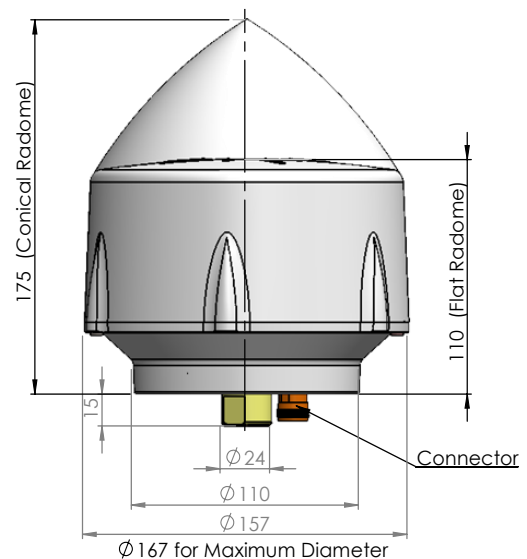
Parts and Labour	3-year standard warranty
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Low Noise Amplifier (LNA) - Measured at 3.0 VDC and 25°C

Frequency Bandwidth	Out-of-Band Rejection
Lower Band	1195-1254 MHz
	> 60 dB @ < 800 MHz = 60 dB @ < 950 MHz = 60 dB @ < 1100 MHz
Upper Band	1559 - 1606 MHz
	> 1450 MHz 60 dB < 1536 MHz 50 dB > 1650 MHz 50 dB > 1800 MHz > 60 dB

Architecture	Pre-filter → LNA stage 1 → filter → LNA stage 2
Gain	35 dB
Noise Figure	2.5 dB typ. at 25 °C
VSWR	< 1.5:1 Max
Supply Voltage Range	2.7 to 24 VDC nom.
Supply Current	< 35 mA
ESD Circuit Protection	15 kV air discharge
P 1dB Output	+12 dBm
Group Delay Variation	Lower Band 7 ns Upper Band 15 ns

Mechanical Diagram



Ordering Information

Part Number **33-6335cd-ee-ff**

c = Base: 0 = Standard Base | d = Options: 0 = No options
ee = Connector: 01 = TNC Female 14 = N-Type Female
ff = Radome: 01 = White Conical 11 = White Flat top

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