



VeraChoke® 6100 Antenna

High Precision Full GNSS Spectrum Choke Ring Antenna

The patented *VeraChoke* 6100 antenna is a full GNSS spectrum antenna. It has consistent performance (gain, axial ratio, PCV, and PCO) across the full bandwidth of the antenna. It provides the lowest axial ratios (horizon to horizon, over all azimuths) across all GNSS frequencies (<0.5dB at zenith, <3 dB typ. at horizon). It has an exceptional front to back ratios, high efficiency (>80%), a tight PCV, and near constant PCO for all azimuth and elevation angles, over all in-band frequencies.

The VC6100 provides high receive gain over the full GNSS spectrum: Low GNSS band (1164MHz to 1300MHz) and High GNSS band (1559MHz to 1610 MHz). It has a robust pre-filtered LNA, with high IP3 to minimize de-sensing from high-level out-of-band signals, including 700MHz LTE, while still providing a low noise figure.

The antenna is compatible with both large and small SCIGN radomes.

Other models are available with different reception capabilities. Please inquiry at sales@tallysman.com



VeraChoke

Applications

- Survey
- High Precision GNSS systems
- RTK / PPP systems
- Reference Networks
- Monitoring Stations

Features

- Low axial ratios from horizon to horizon
- Very Tight Phase Center Variation (<1mm)
- Low current (45mA)
- Invariant performance from: +2.7 to 24 VDC

Benefits

- Consistent performance across all frequencies
- Extreme precision
- Excellent multipath rejection
- IP67, REACH, and RoHS compliant



VeraChoke® 6100 – High Precision Full GNSS Constellation Antenna

Specifications (Measured @ Vcc = 3V, and Temperature=25°C)

Antenna

Antenna Gain	7.5 dBic to 8.5 dBic (all Frequency Bands)
Efficiency	>80%
Axial Ratio, over full bandwidth	< 0.5 dB at zenith, (refer to table below for other elevations)
Phase Centre Variation	± 1 mm across all frequencies (see graphs on following pages)
Phase Centre Offset (RMS)	± 0.2 mm across all frequencies
IGS model available	Soon
NGS model available	Soon

Electrical

Available LNA Configurations	35 dB or 50 dB
Gain Variation with Temperature.	3dB max over operational temperature range
P1dB Output	+12 dBm
Bandwidth	1164 – 1300 MHz plus 1559 – 1610 MHz
LNA Noise Figure	2.0dB typ. (1169-1300MHz) 2.5dB typ (1559-1610 MHz)
VSWR (at LNA output)	<1.5:1 max.
Supply Voltage Range	+2.7 to 24VDC nominal
Supply Current	<40mA (35dB gain) <45 mA (50dB gain)
Out of Band Rejection	
900MHz	50dB
1000MHz	40dB
1100MHz	25dB
	1400MHz 35dB
	1500MHz 56dB
	1536MHz 27dB
	1630MHz 30dB
	1700MHz 50dB
Group Delay variation	<10 ns for each band

Mechanicals & Environmental

Antenna Reference Plane (ARP)	Bottom of 5/8" thread
North Orientation Indicator	Mark on Choke ring aligned with connector
Operating Temperature Range	-40°C to +85°C
Weight	<4 kg
Mounting Thread	5/8"x 11 TPI female
Environmental	IP67, RoHS, RED, and REACH compliant
Salt Fog	MIL-STD-810G, Method 509.6
Shock	Vertical axis: 50 G, other axes: 30 G
Vibration	MIL STD 810E, Method 514.5
Optional Radome	SCIGN compatible

Ordering Information:

VeraChoke 6100 with 35 dB LNA	33-VC6135-xx
VeraChoke 6100 with 50 dB LNA,	33-VC6150-xx
Where xx = 14 for N-Type	
Short SCIGN Radome	24-0053-0

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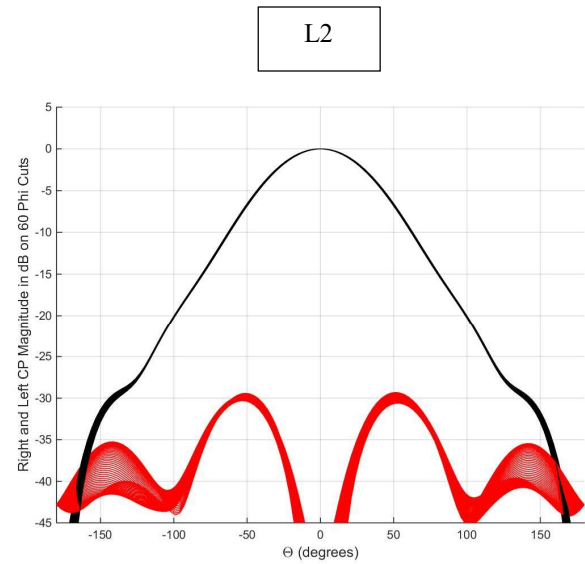
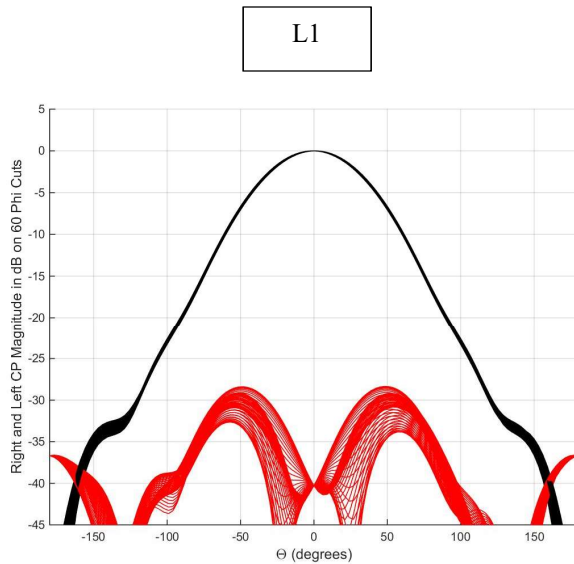


When precision matters...™

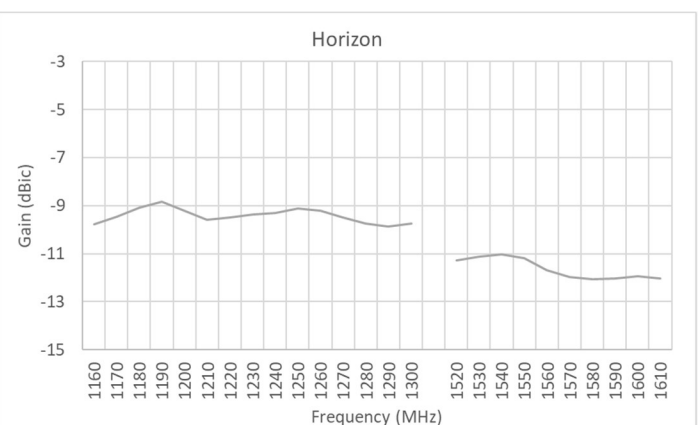
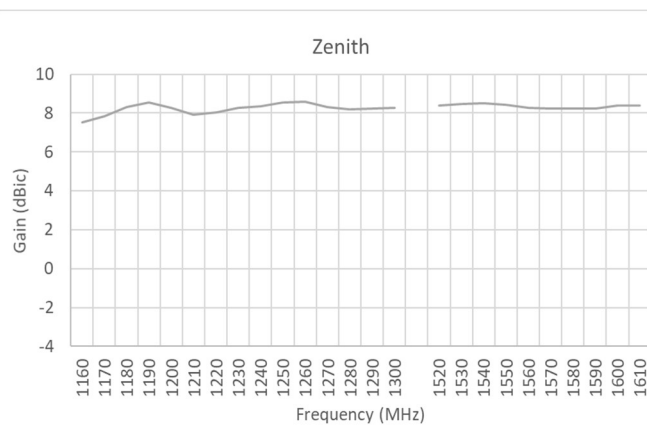
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Antenna radiating performances

Normalized radiation patterns



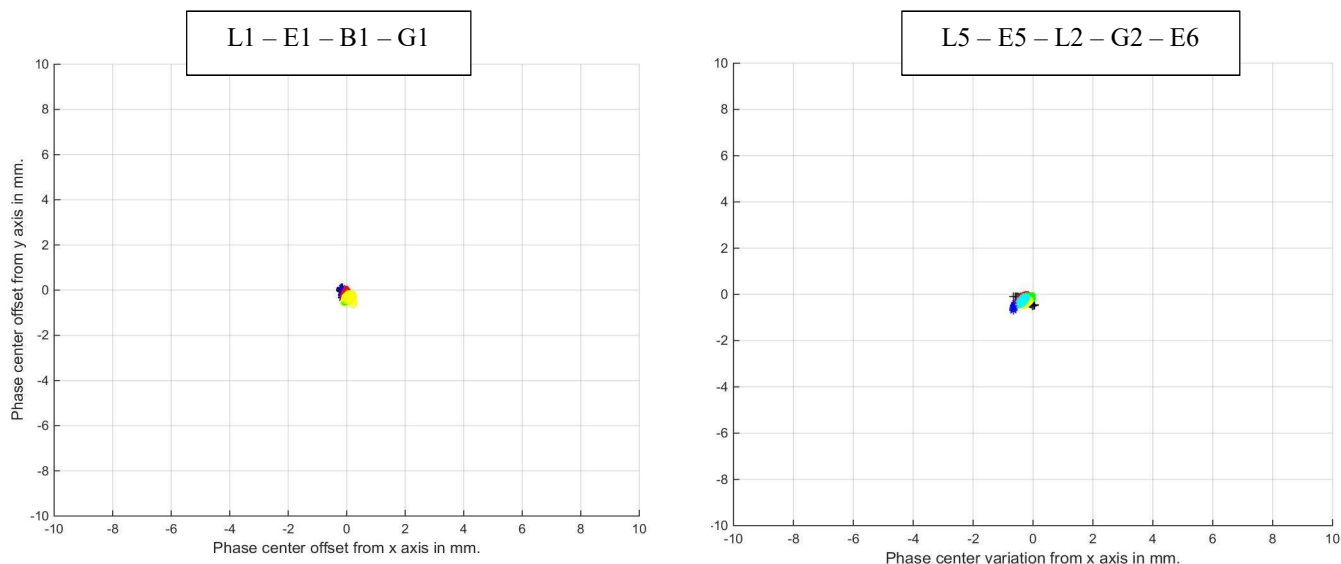
Gain





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Phase center variation



Axial ratio (dB) (typical)							
Elevation	L5 - E5a	E5b - B2 - G3	L2 - G2	B3	E6	L1 - E1 - B1	G1
90°	0.3	0.3	0.3	0.3	0.3	0.2	0.3
30°	2	1.8	1.8	1.8	2	2	2.5
10°	2.5	2.25	2	2	2	3	3.5

Tallysman



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