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Tango 20A

IP68 Active Multi Constellation GNSS L1 Screw Mount Puck Antenna

Key Features

- Triple-band GNSS support at 1561, 1575 and 1602 MHz for global multi-constellation compatibility
- Top hemisphere RHCP gain, 20 ± 3 dBiC at L1
- Low mismatch design with VSWR < 2 across supported bands
- Strong out-of-band signal rejection for reliable GNSS performance in noisy RF environments
- Rugged M10 screw mount with rubber seal for IP68 weatherproofing when installed
- SMA male connector and RG174 cable as standard, compact weather resistant ABS enclosure

General Description

Tango 20A is a compact, screw mount GNSS L1 puck antenna for reliable outdoor use. It covers the main L1 bands used by GPS, GLONASS, Galileo, BeiDou, QZSS and NavIC, delivering strong top hemisphere performance for fast acquisition and stable tracking in mobile and fixed installations.

The housing is compact and robust, and a fitted rubber seal raises protection to IP68 when installed, making it suitable for harsh environments.

Supplied as standard with a 3 metre RG174 cable and SMA male connector, with other cable lengths and connector types available on request for high volume orders.

Typical Applications

- Vehicle and fleet tracking
- Outdoor GNSS terminals and kiosks
- Industrial asset tracking
- Remote positioning and monitoring systems

Active LNA | GPS L1 | GNSS GALILEO | GNSS BEIDOU | GNSS QZSS | LOW Power | RHCP

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Electrical Specifications

Impedance:	50 Ω
Polarisation:	RHCP
Frequency Range:	1561 to 1602 MHz
VSWR:	< 2
Ground Plane Independent:	No
Filter Insertion Loss:	< 3 dB
Ex Band Attenuation:	35 dB at CF + 50 MHz, 50 dB at CF – 100 MHz
RHCP Gain:	20 ± 2 dBiC, top hemisphere
Noise Figure:	< 1.5 dB
Supply Voltage:	2.2 to 5 V DC
Current Consumption:	16 to 32 mA

Environmental Specifications

Operational Temperature Range:	–40 °C to +85 °C
Storage Temperature Range:	–40 °C to +85 °C
Relative Humidity:	Up to 95 %
Ingress Protection:	IP68 when installed with the supplied rubber seal

Mechanical Specifications

Dimension:	Ø 46 mm × H 14.5 mm
Material:	ABS
Weight:	
Connector:	SMA Male
Cable:	RG174, 3 m standard
Maximum Material Thickness:	4.5 mm

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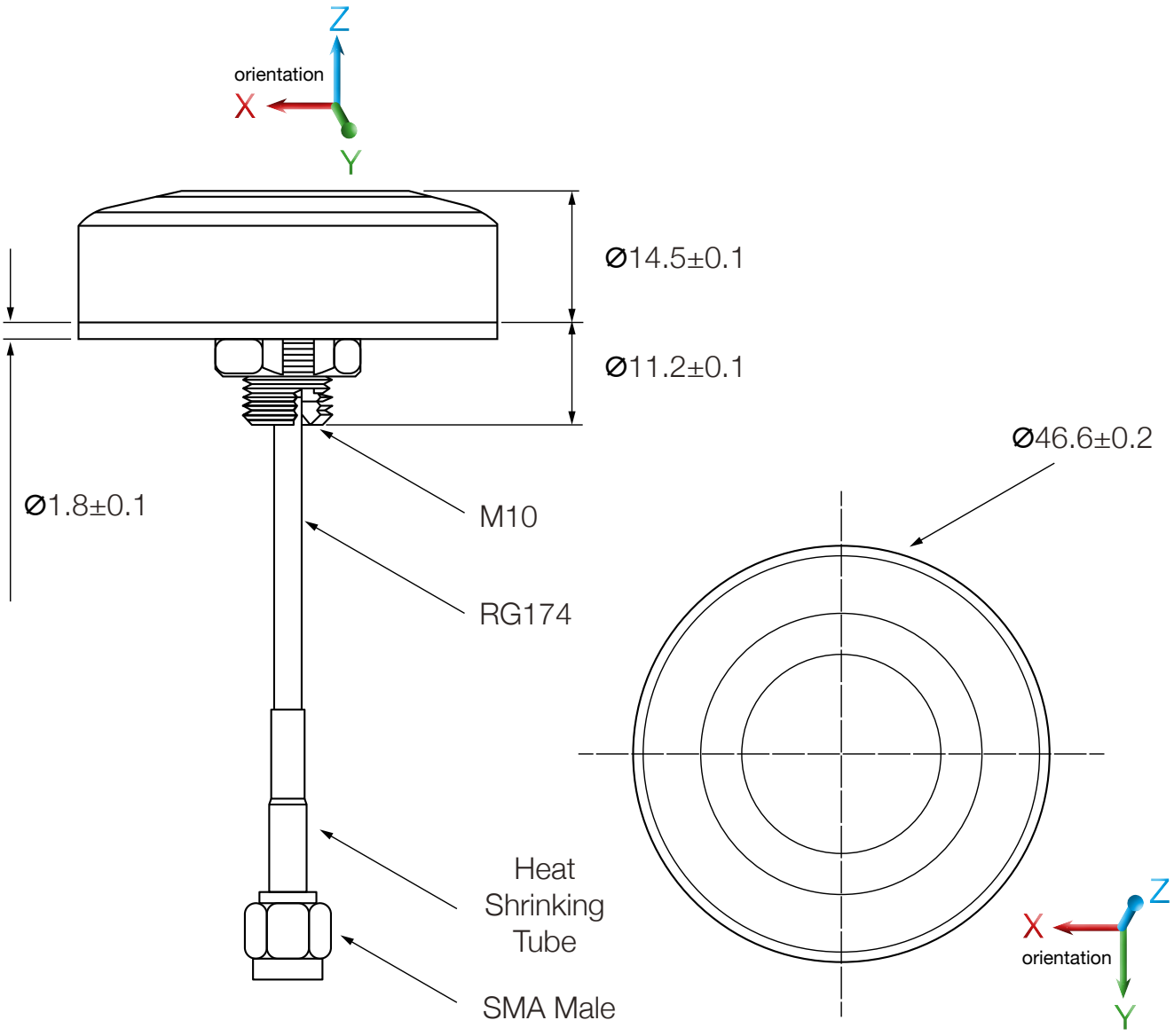
Dimensional Drawing

Unit: mm



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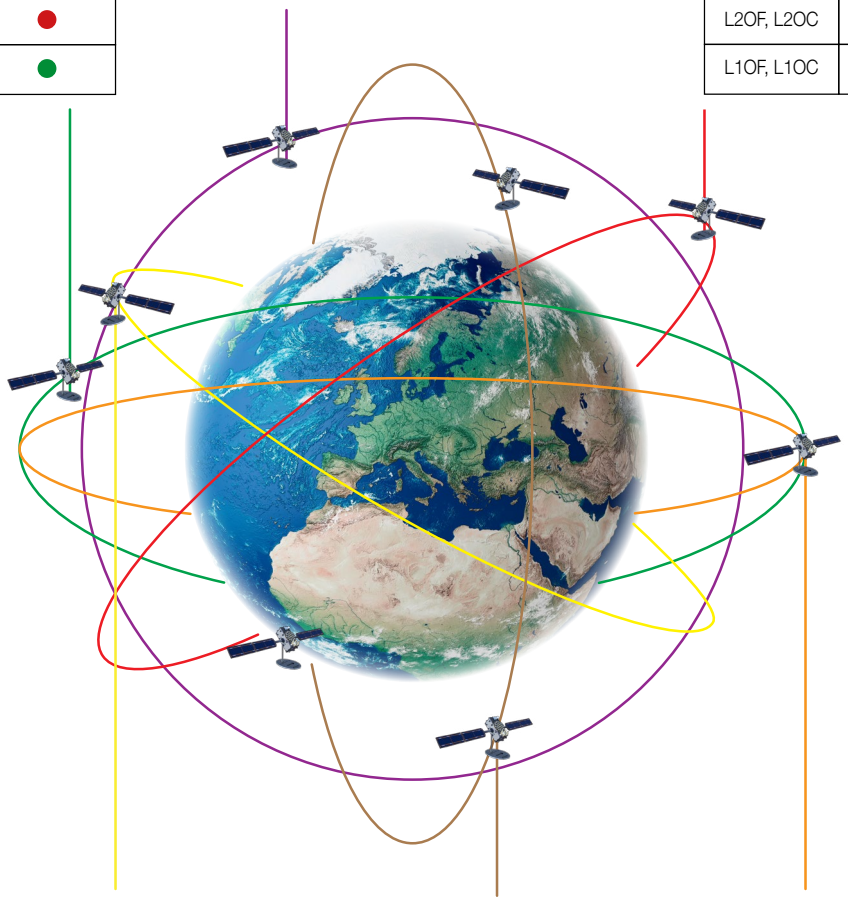
Spectrum Coverage

GPS		
Band	Frequency	Use Indicator
L5	1176.45	●
L2	1227.6	●
L1	1575.42	●

NavIC		
Band	Frequency	Use Indicator
L5	1176.45	●

GLONASS		
Band	Frequency	Use Indicator
L3OC	1202.025	●
L2OF, L2OC	1246	●
L1OF, L1OC	1602	●



Galileo		
Band	Frequency	Use Indicator
E5a	1176.45	●
E5b	1207.14	●
E6-I, E6-Q	1278.75	●
E1-I, E1-Q	1575.42	●

BeiDou		
Band	Frequency	Use Indicator
B2a	1176.45	●
B2I, B2b	1207.14	●
B3I	1268.52	●
B1I	1561.098	●
B1C	1575.42	●

QZSS		
Band	Frequency	Use Indicator
L5	1176.45	●
L2	1227.6	●
L6	1278.75	●
L1	1575.42	●

● Suitable band ● Adequate band in good signal conditions ● Likely to be unsuitable

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GNSS Standards Band Support

	Electrical Interface		Spherical RF Measurements		Top Hemisphere RF Measurements	
Centre Frequency (MHz)	**VSWR**	**Return Loss (dB)**	**Average RHCP Gain (dBiC)**	**Peak RHCP Gain (dBiC)**	**Average RHCP Gain (dBiC)**	**Peak RHCP Gain (dBiC)**
1561.098	1.3443	-16.6650	13.73	21.57	17.76	21.57
1575.42	1.2491	-19.1159	15.22	22.60	19.68	22.60
1602	1.5435	-13.4046	17.78	24.36	21.59	24.36

	Zenith RF Measurements
Centre Frequency (MHz)	**RHCP Gain at Zenith (dBiC)**
1561.098	18.91
1575.42	19.86
1602	23.41

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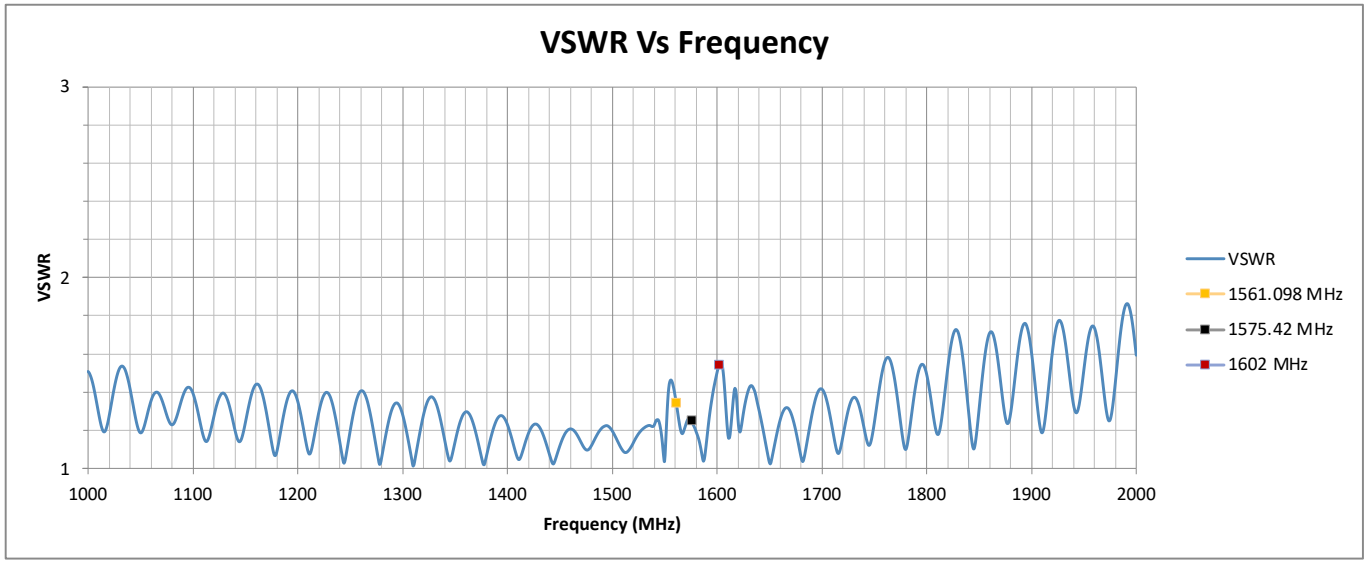
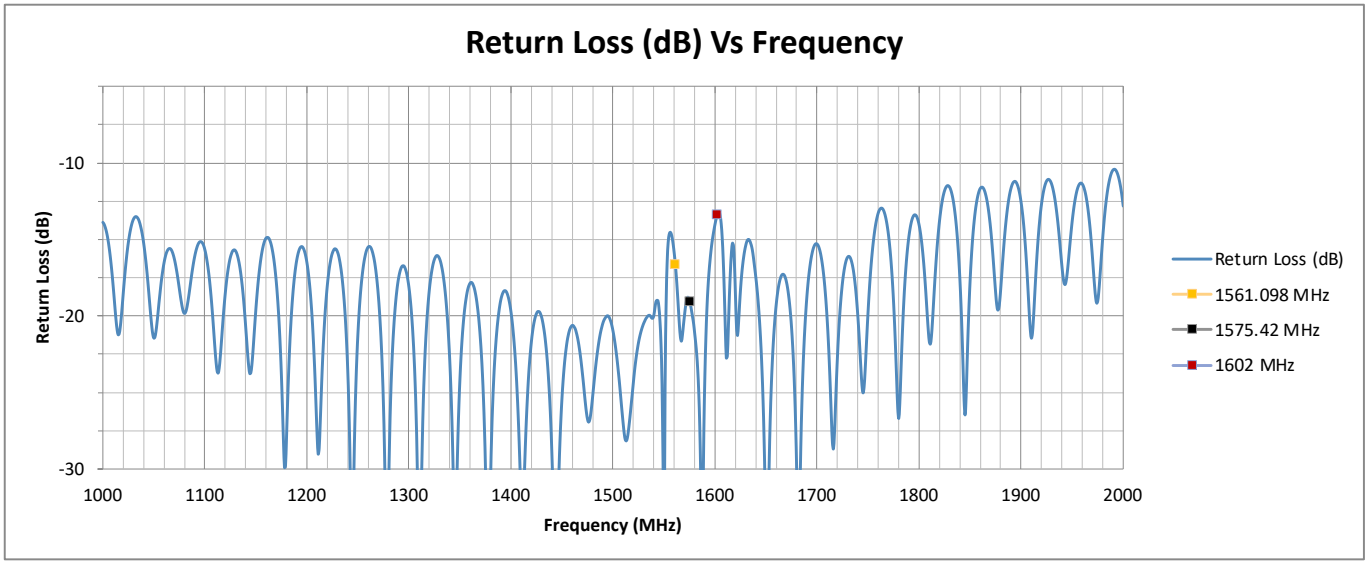
Electrical





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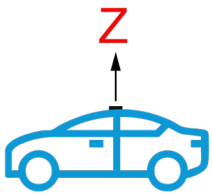
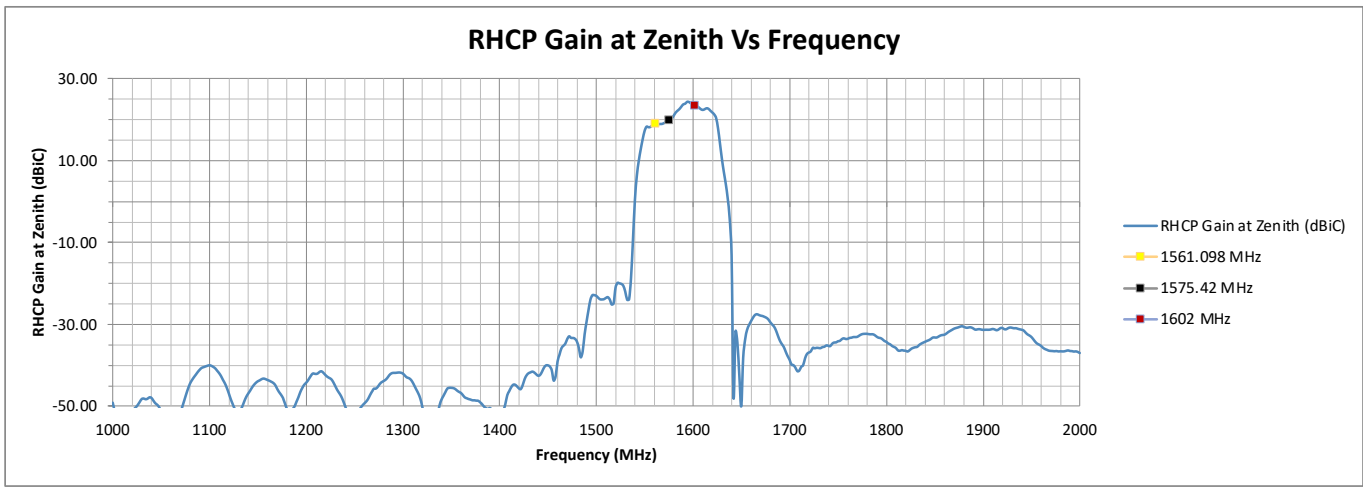
RF Zenith



This page presents the RHCP Gain at Zenith and the Axial Ratio at Zenith as a function of frequency. These measurements indicate how well the antenna performs when receiving signals directly from satellites overhead (zenith direction). A higher RHCP gain ensures strong signal reception, while a lower axial ratio signifies better polarization purity for optimal GNSS performance.



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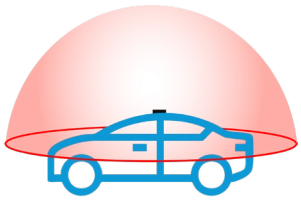
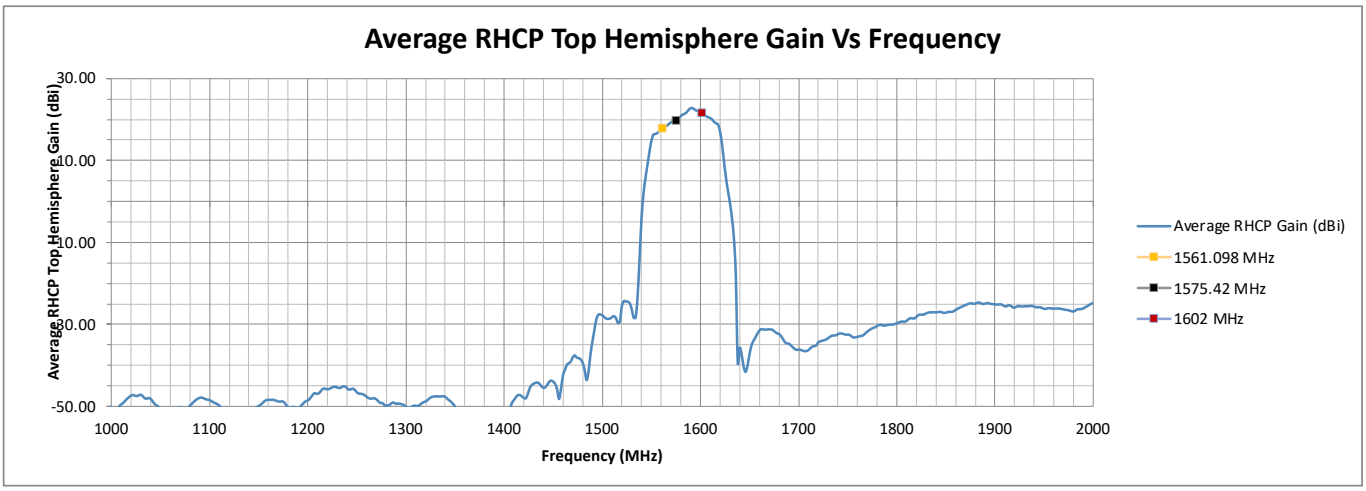
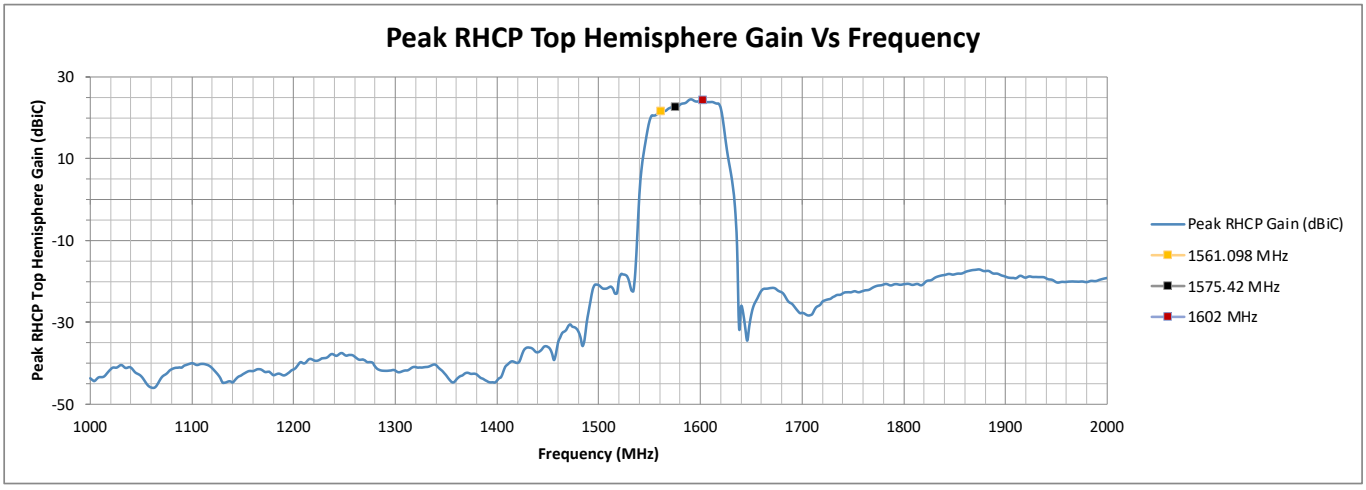
RF Top Hemisphere

The graphs on this page showcase the Average and Peak RHCP Gain in the Top Hemisphere. These measurements assess how effectively the antenna receives signals from satellites positioned in the upper half of the sky. Strong RHCP gain in this region is critical for reliable GNSS reception, especially in environments where satellites may not always be directly overhead.







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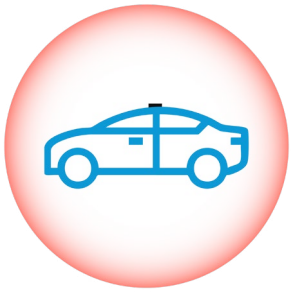
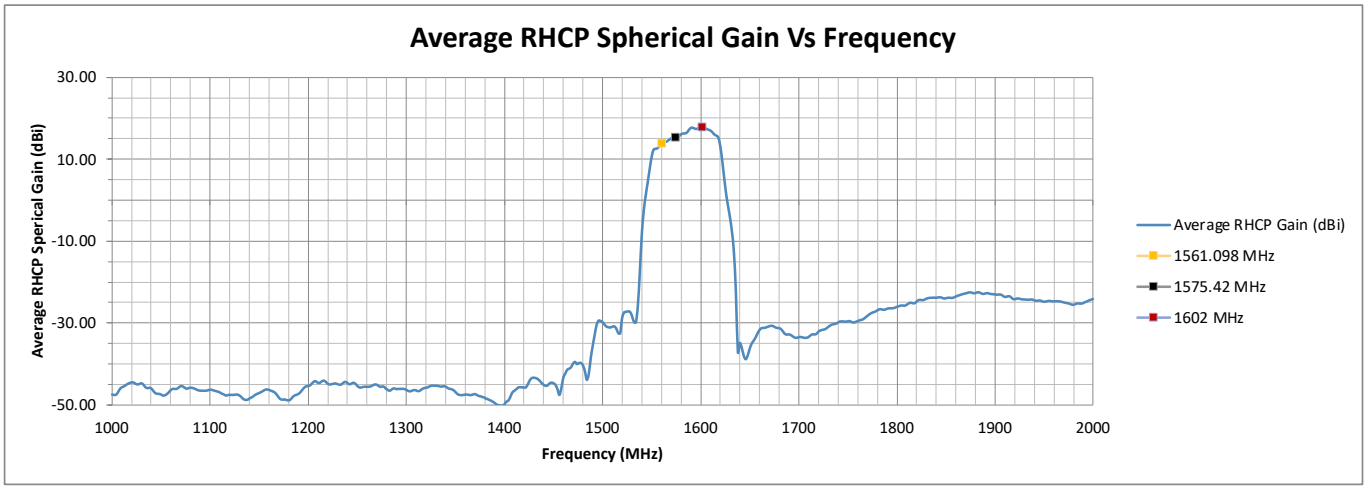
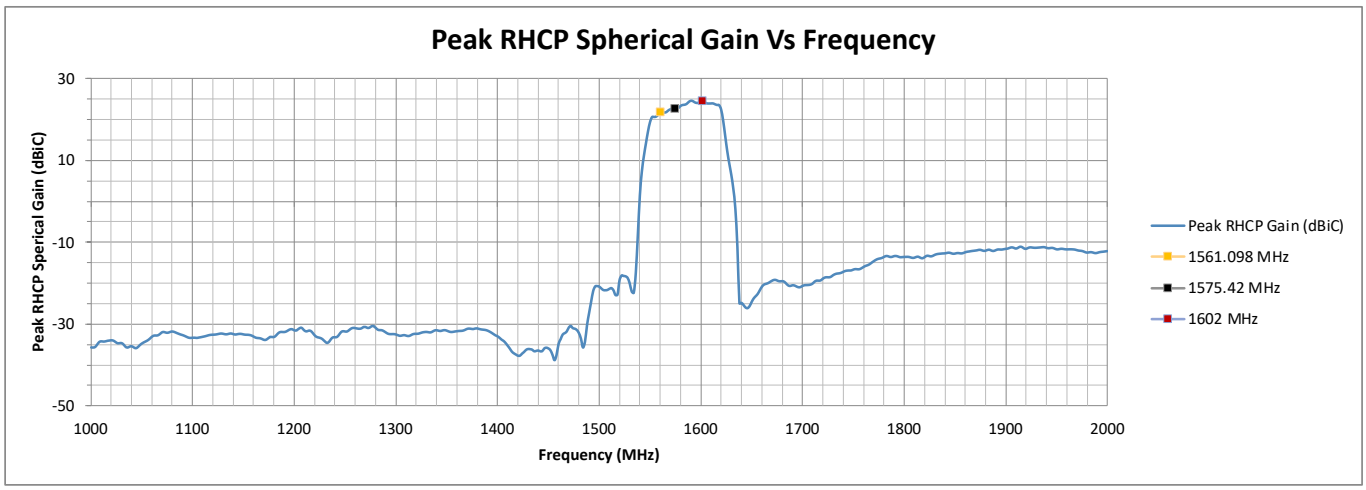
RF Spherical

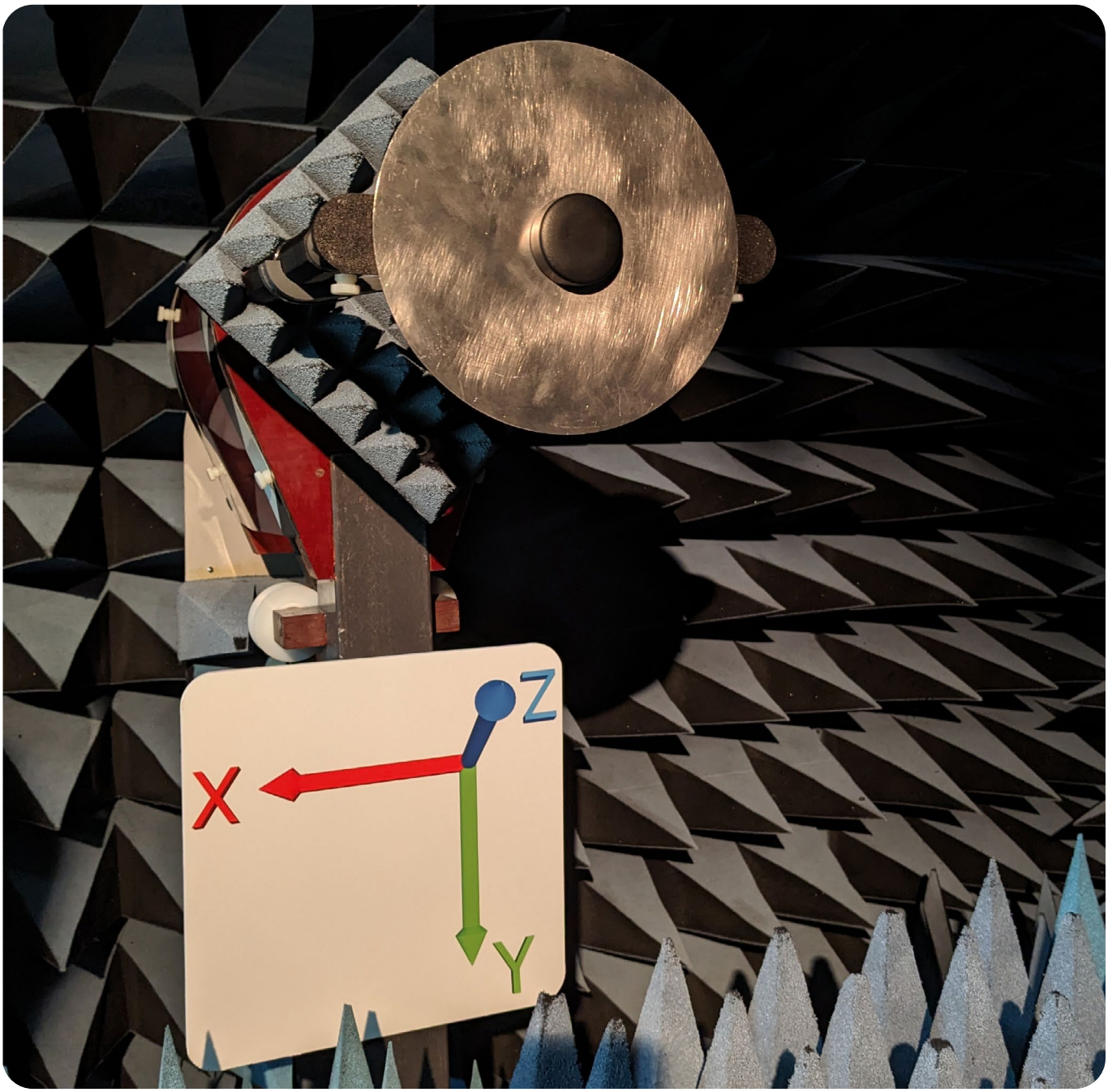
This page displays the Average and Peak RHCP Gain across the entire spherical coverage of the antenna. These metrics provide a comprehensive view of the antenna's ability to receive signals from satellites at all elevations and directions. Consistently high gain across the sphere ensures strong and stable GNSS reception in a variety of operating conditions.







Test Setup (in ∅200 mm Ground Plane)



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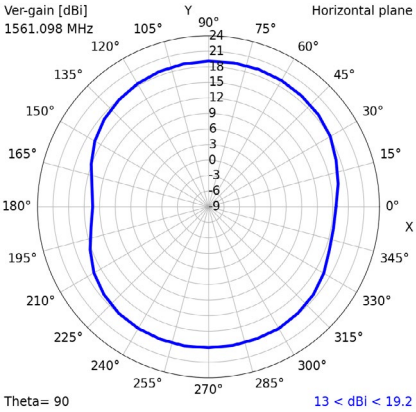
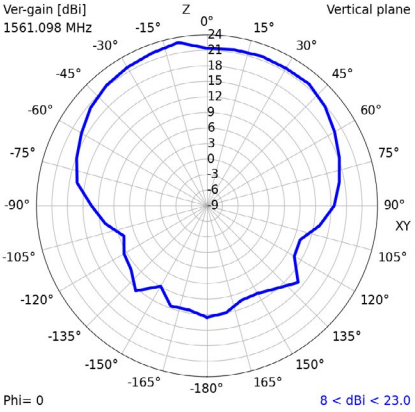
2D Radiation Plots

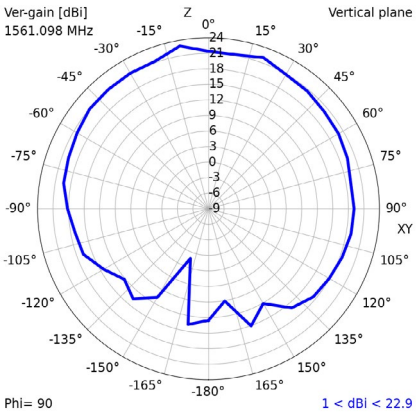
1561.098 MHz XY



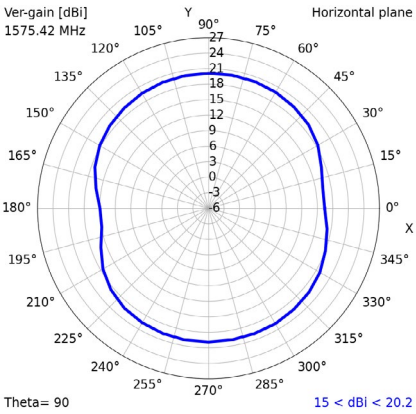
XZ



YZ



1575.42 MHz XY



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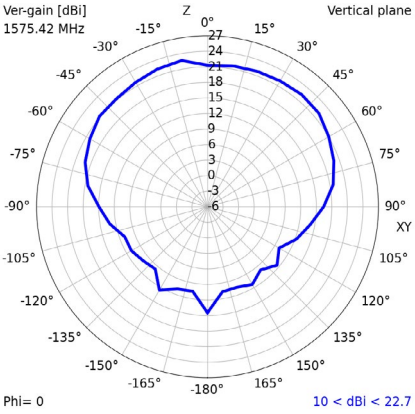

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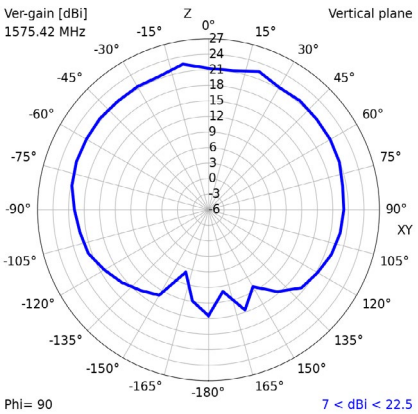
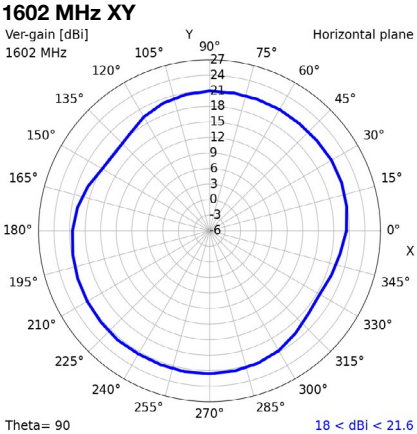
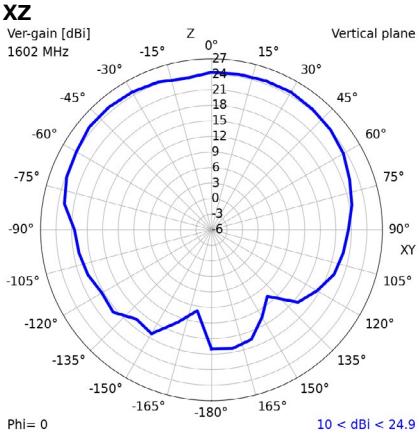


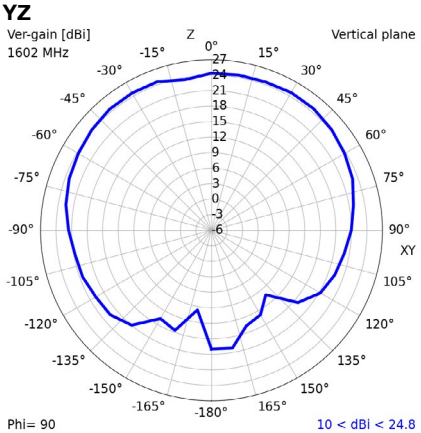
1602 MHz XY



XZ



YZ



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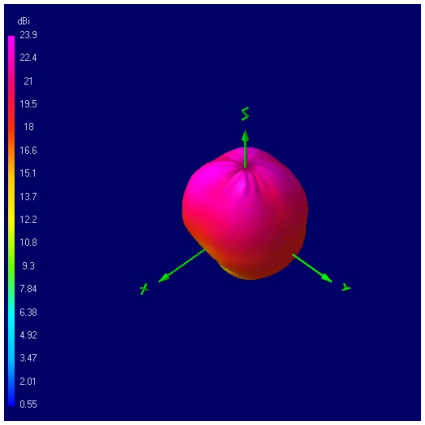
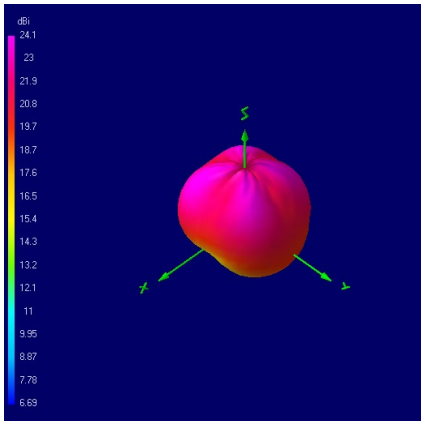
3D Radiation Plots

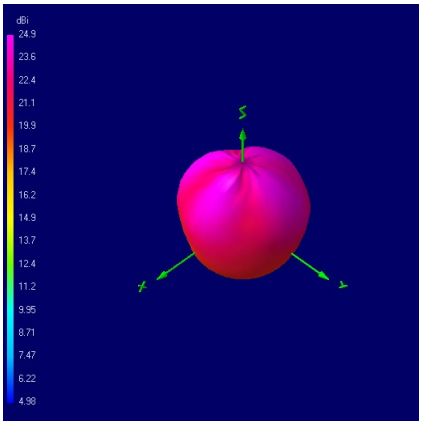
1561.098 MHz



1575.42 MHz



1602 MHz



NOTE: All 3D radiation plots are shown with Theta = 45 and Phi = 45.

Ordering Details:

Part Number	Description
TANGO20A/3M/SMAM/S/S/26	GNSS L1 Puck Antenna with SMA Male connector and 3 m RG174 cable

Alternative cable lengths and connector types can be specified for high-volume projects.
Please email - siretta@sales.com