



Echo 26A

Embedded Active GPS L1 19 x 19 mm Ceramic Patch Antenna with LNA



Key Features

- Supports GPS L1, Galileo E1, BeiDou B1C, QZSS L1
- Peak RHCP gain up to 22.18 dBiC
- Integrated LNA with 18 dB gain (typical)
- Compact 19.7 × 19.6 × 6.6 mm embedded ceramic form factor
- Low voltage, low current design for power-sensitive devices
- Supplied with 100 mm cable and IPEX/u.FL connector (other options available for volume orders)

General Description

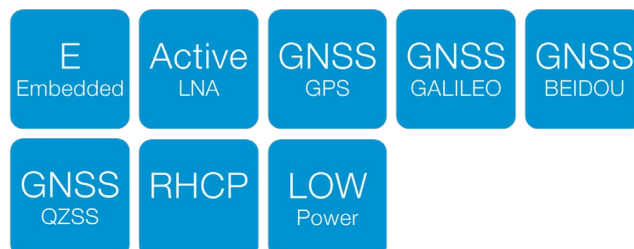
The Echo 26A is a compact, embedded ceramic patch antenna optimised for high-accuracy GPS L1 (1575.42 MHz) applications with additional support for Galileo E1, BeiDou B1C, and QZSS L1.

Despite its small 18 mm patch form factor, the Echo 26A achieves strong performance with a peak RHCP gain exceeding 22 dBiC at zenith. The integrated 18 dB LNA delivers robust signal reception while maintaining low noise performance, resulting in faster satellite acquisition and stable tracking.

Its low power consumption and small footprint make it an excellent choice for space-constrained applications such as asset tracking devices, UAVs, and portable GNSS equipment.

Typical Applications

- IoT and asset tracking devices
- UAVs and drones
- Portable GNSS receivers
- Compact navigation modules





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Electrical Specifications

Impedance:	50 Ω
Polarisation:	RHCP
Frequency Bands:	GPS L1 (1575.42 MHz), Galileo E1, BeiDou B1C, QZSS L1
Return Loss:	-15.9 dB
VSWR:	1.38 (typical)
Ground Plane Independent:	No
RHCP Gain:	18 $\pm$ 3 dBiC
Noise Figure:	1.5 dB typ
Supply Voltage:	2.3 – 5.5 V DC
Current Consumption:	6.6 – 16 mA (depending on Vcc)

Environmental Specifications

Operational Temperature Range:	-40 °C to +90 °C
Storage Temperature Range:	-40 °C to +90 °C
Relative Humidity:	10 – 95 %

Mechanical Specifications

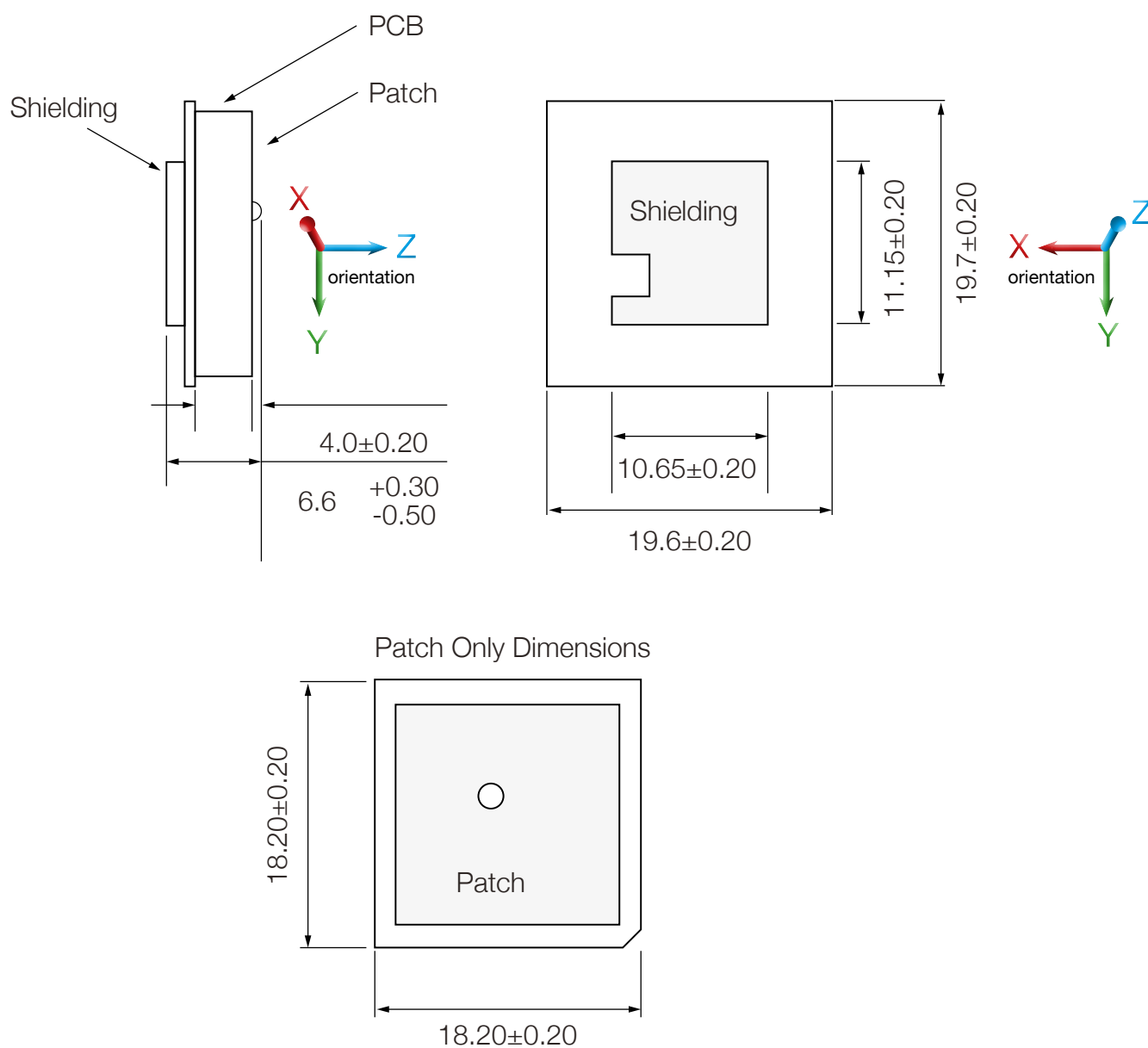
Dimension:	19.7 × 19.6 × 6.6 mm
Weight:	7 g
Connector:	IPEX/u.FL
Cable:	1.13 mm coax, 100 mm length
Mounting Methods:	Embedded (internal PCB integration)

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Dimensional Drawing

Unit: mm



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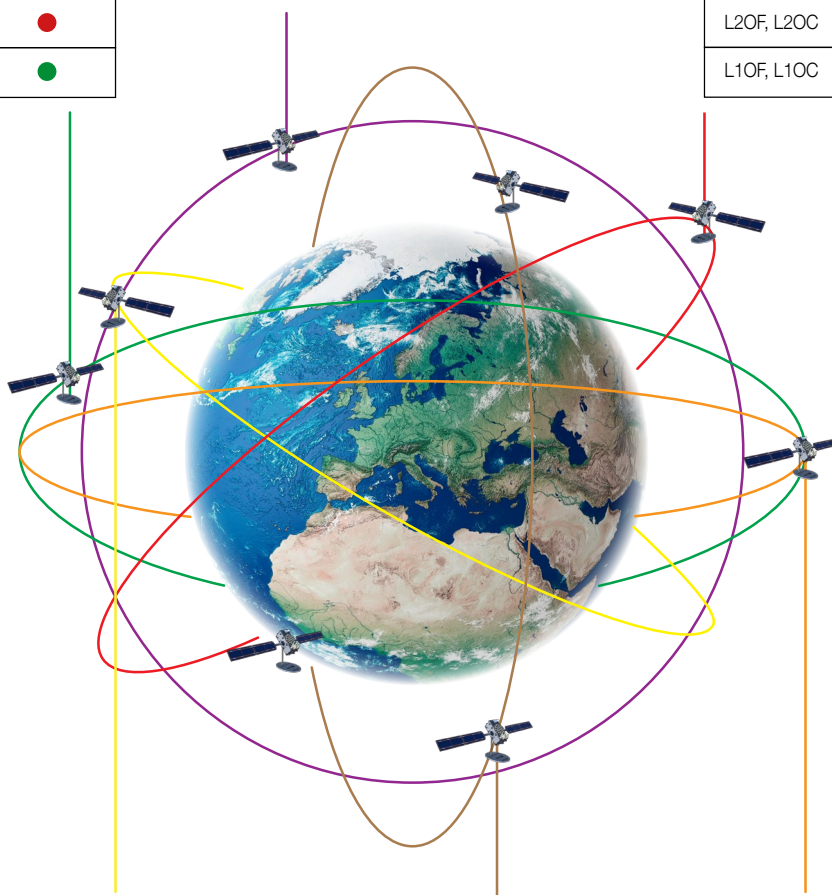
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Spectrum Coverage

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	
Centre Frequency (MHz)	VSWR	Return Loss (dB)	Average RHCP Gain (dBiC)	Peak RHCP Gain (dBiC)
1575.42	1.3819	-15.8999	17.66	22.18

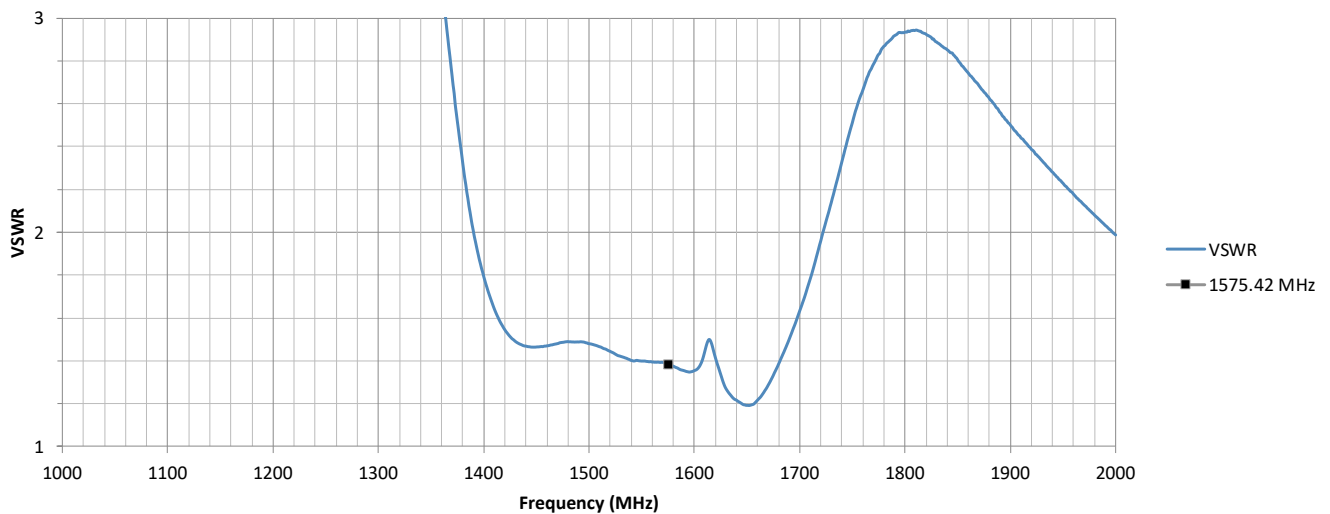
	Top hemisphere RF Measurements		Zenith RF Measurements
Centre Frequency (MHz)	Average RHCP Gain (dBiC)	Peak RHCP Gain (dBiC)	RHCP Gain at Zenith (dBiC)
1575.42	18.98	21.54	21.09

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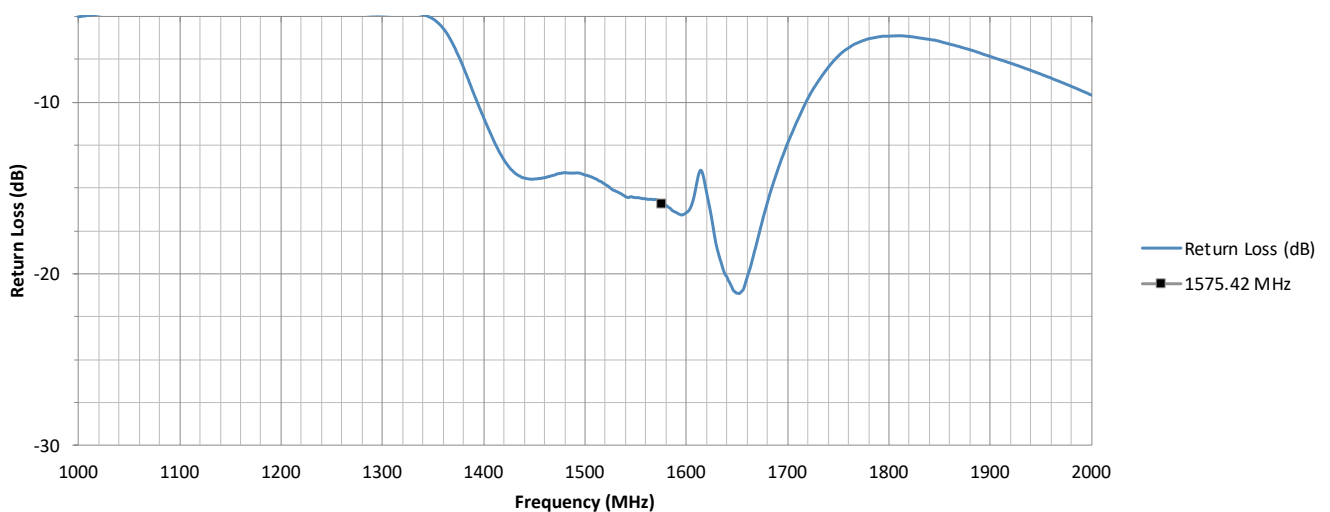
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Electrical

VSWR Vs Frequency



Return Loss (dB) Vs Frequency

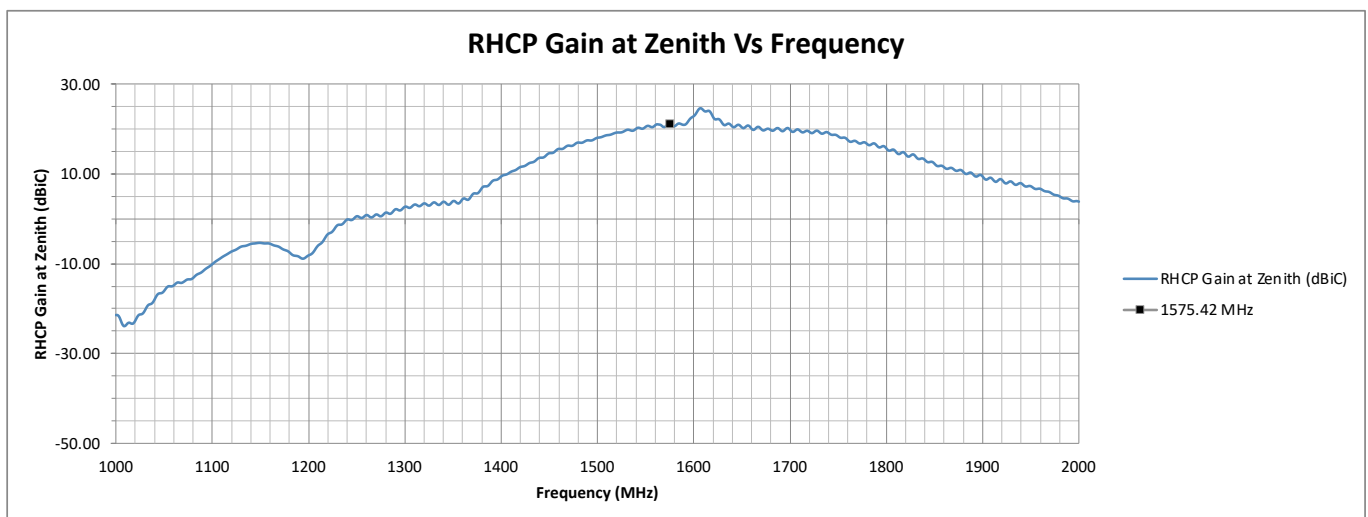
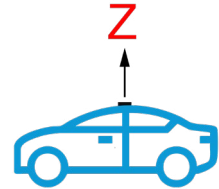


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RF Zenith

This page presents the RHCP Gain at Zenith as a function of frequency. This measurement indicates how well the antenna performs when receiving signals directly from satellites overhead (zenith direction). A higher RHCP gain ensures strong signal reception.

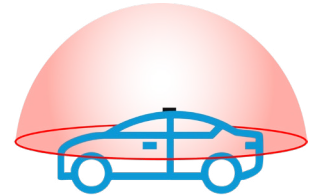


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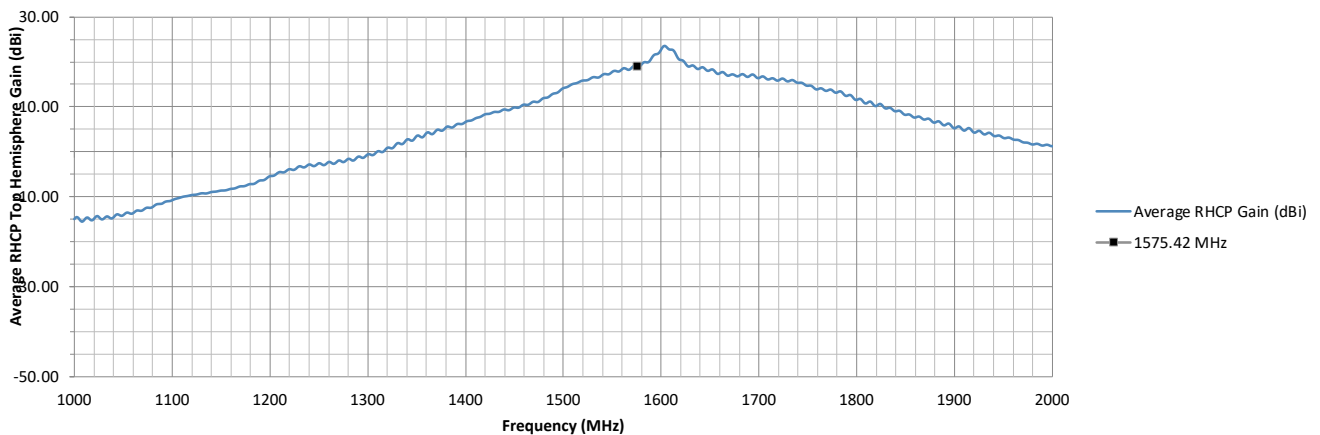
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RF Top Hemisphere

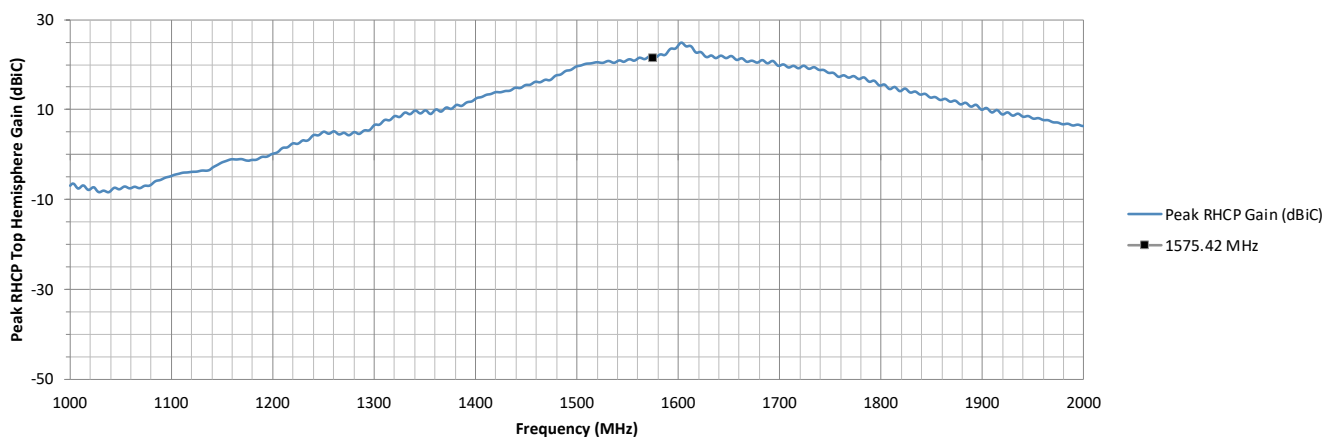
The graphs on this page showcase the Average and Peak RHCP Gain in the Top Hemisphere. These measurements assess how effectively the antenna receives signals from satellites positioned in the upper half of the sky. Strong RHCP gain in this region is critical for reliable GNSS reception, especially in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



Average RHCP Top Hemisphere Gain Vs Frequency



Peak RHCP Top Hemisphere Gain Vs Frequency

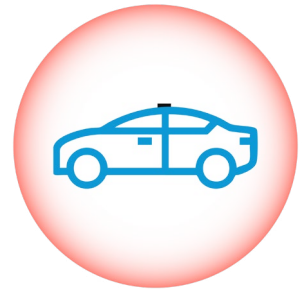


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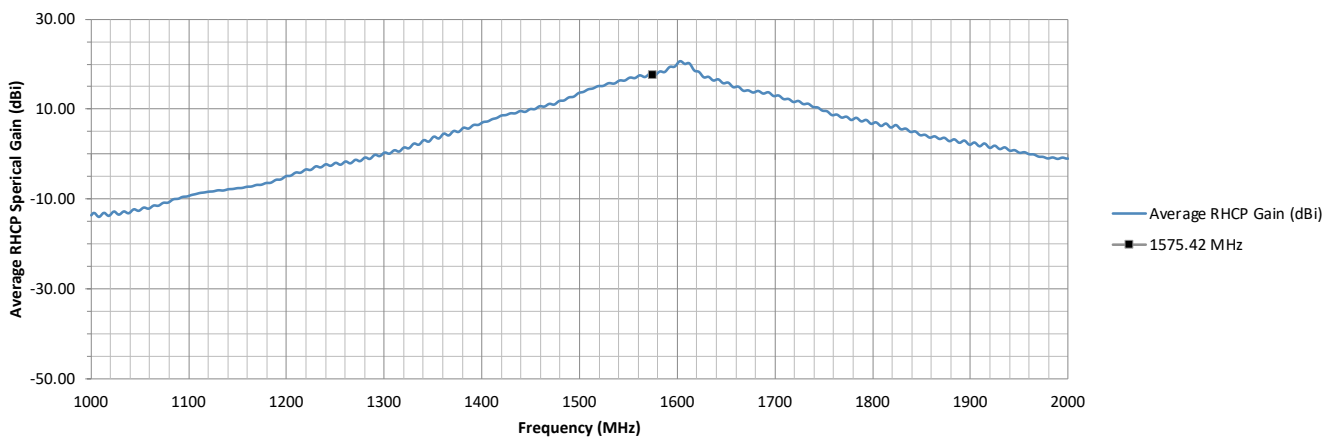
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RF Spherical

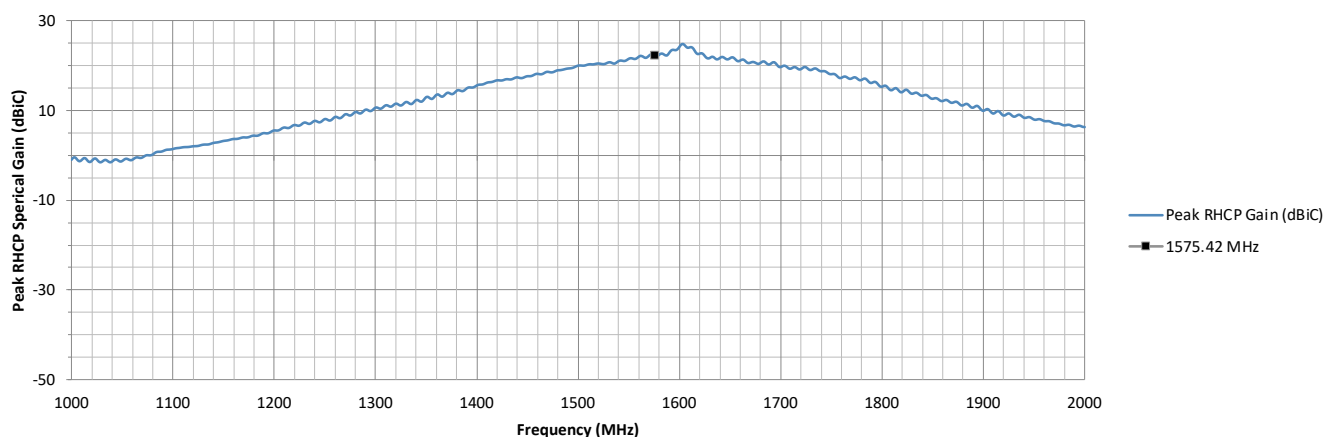
This page displays the Average and Peak RHCP Gain across the entire spherical coverage of the antenna. These metrics provide a comprehensive view of the antenna's ability to receive signals from satellites at all elevations and directions. Consistently high gain across the sphere ensures strong and stable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



Average RHCP Spherical Gain Vs Frequency



Peak RHCP Spherical Gain Vs Frequency

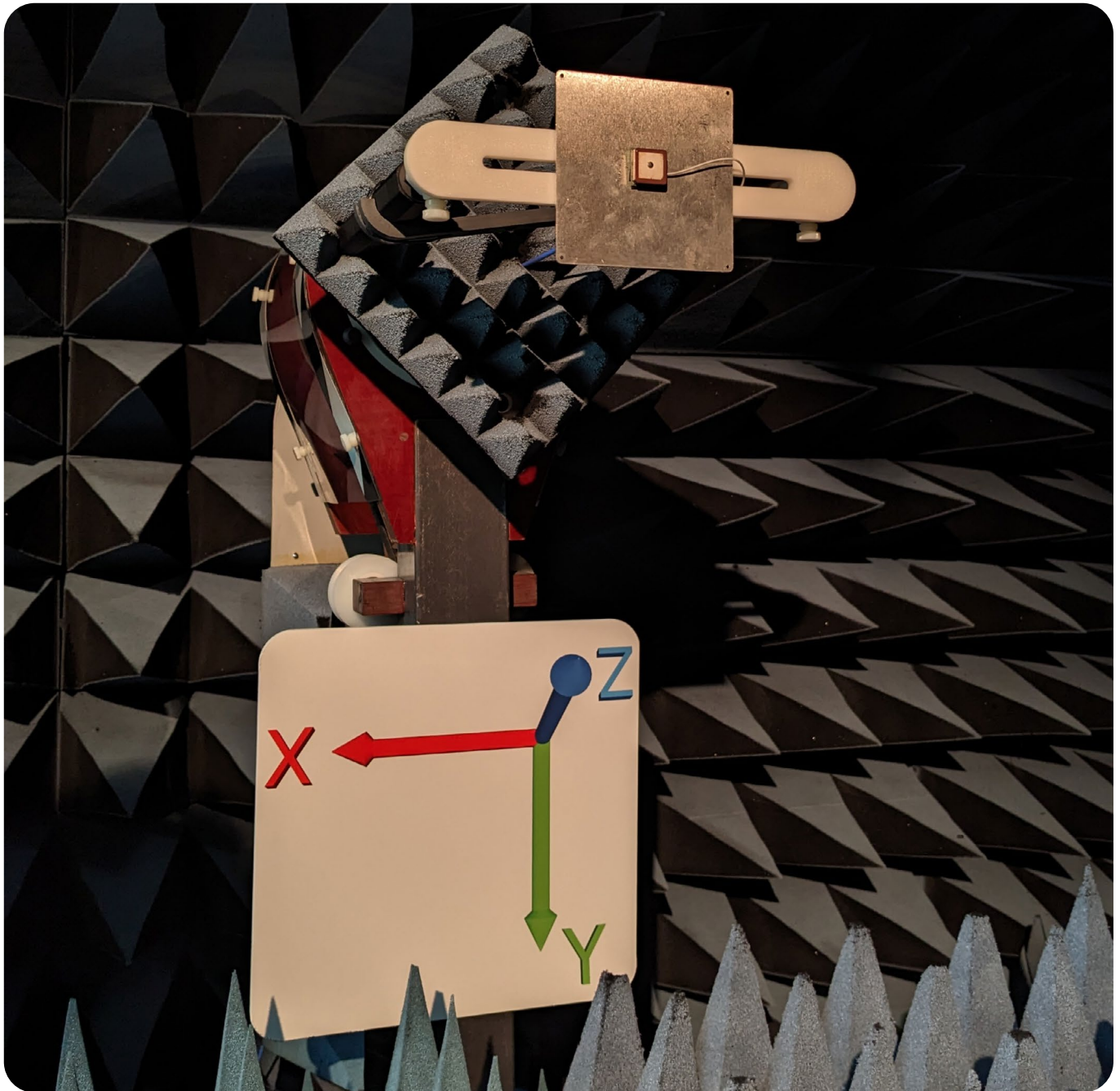




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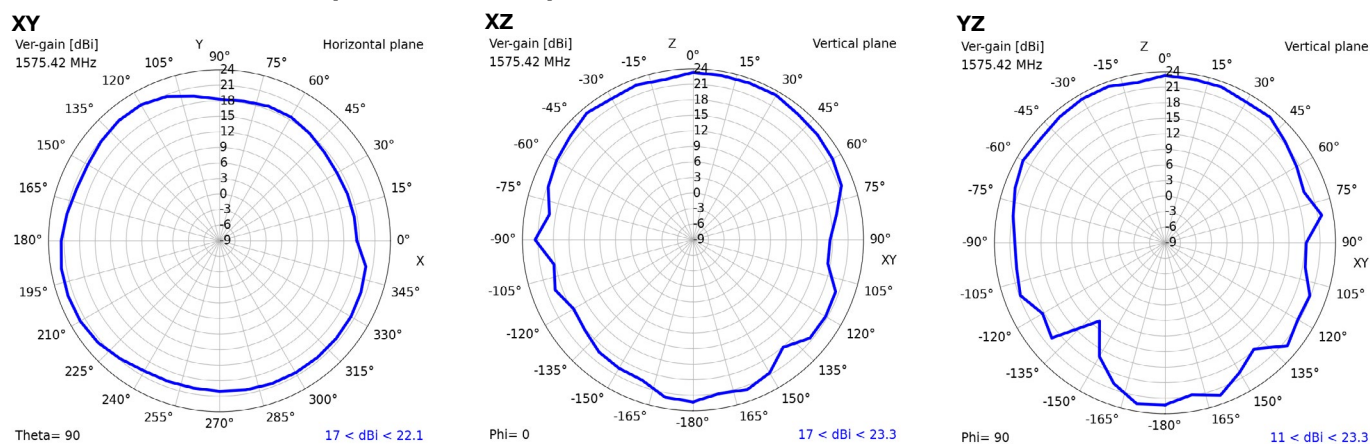
Test Setup (in 100 x 100 mm Ground Plane)



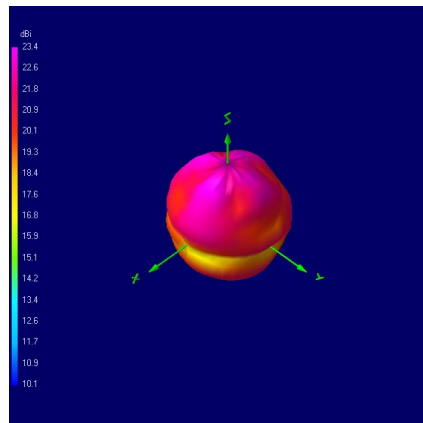
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2D Radiation Plots (1575.42 MHz)



3D Radiation Plot (1575.42 MHz)



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

Ordering Details:

Part Number	Description
ECHO26A/0.1M/IPEX/S/S/15	GPS 19 x 19 mm Ceramic Patch Antenna, 100 mm Cable, IPEX Connector

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