

OEM GNSS Antenna HX-CSX329A



HX-CSX329A is an embedded multi-constellation multi-frequency GNSS antenna that covers GPS, GLONASS, BDS, and GALILEO and is also compatible with Bluetooth. It can be widely used in geodetic surveying, marine surveying, channel surveying, dredging surveying, seismic monitoring, bridge deformation monitoring, landslide monitoring, port container operations, and other occasions.

GREAT COMPATIBILITY FOR SOLID RELIABILITY

This versatile antenna adopts a compact design that combines GNSS antenna, WiFi antennas and Bluetooth antenna, delivering great compatibility to be integrated into RTK applications. The layout of this multifunction antenna is specifically designed for realizing a perfect isolation effect among the different antennas embedded and ensuring outstanding reduction of interrelated influence.

STABLE PHASE CENTER FOR REMARKABLE PERFORMANCE

It features multi-point feeding capability, guaranteeing a reliable phase center for millimeter positioning accuracy. The BT antenna is placed around the GNSS, ensuring good structural symmetry, and ensuring the consistency of the positioning antenna's phase center.

TRACKING IN COMPLEX ENVIRONMENTS

This antenna exhibits superior high gain performance with ultralow signal loss, ensuring reliable satellite signal tracking. It also delivers wide beam width that covers wide frequencies with high marginal gain. These features in turn ensure the antenna a robust signal availability even in low elevation, making the antenna a perfect option in complex environments that have blockage, such as tree canopy and buildings.

RELIABLE AND ROBUST STRUCTURE

Utilizing self-developed air-spaced technology and low consumption microwave materials, GNSS antenna substrate is molded integrally through a mold, resulting in lower loss, lighter weight, smaller antenna dimensions, higher precision, good consistency, and more stable and reliable electrical performance.

STRONG ANTI-INTERFERENCE PERFORMANCE

The advanced LNA (Low Noise Amplifier) excels in improved signal filtering and out-of-band rejection and restrains unwanted electromagnetic interferences, plus strong multi-path reduction capacity over all GNSS frequency bands, providing strong anti-interference performance for consistent and reliable GNSS signals, even under complicated environments such as power grids, communication base stations, and broadcast stations.

KEY FEATURES

- Supports GPS, GLONASS, Galileo, BeiDou, QZSS, IRNSS and L-band correction service
- Supports Bluetooth
- Strong anti-Interference performance
- Powerful system compatibility, easy for machine integration

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Specifications

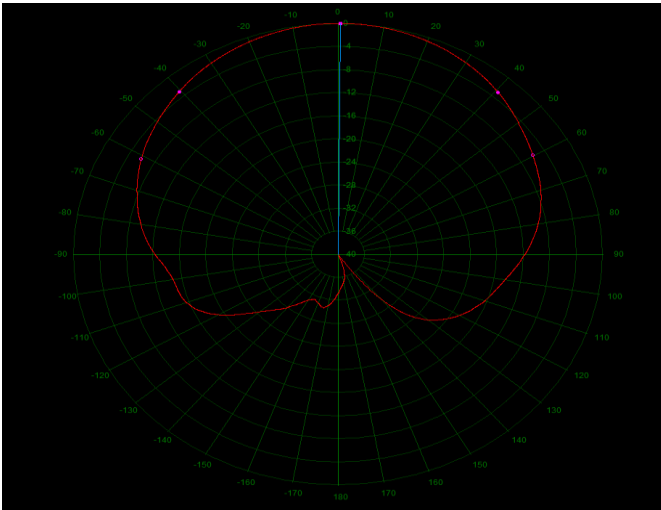
PERFORMANCE	
Frequency	GPS L1/L2/L5 BDS B1I/B2I/B3I/B1C/B2a/B2b GLONASS L1/L2/L3 GALILEO E1/E5a/E5b/E6 QZSS L1、L2、L5、L6 IRNSS L5 L-Band BT
Nominal Impedance	50 Ω
Polarization	RHCP
Axial Ratio	$\leq 3\text{dB}$
Azimuth Coverage	360°
Azimuth Coverage	≤ 2.0
Peak Gain	GNSS:4.7dBi
Phase Center Deviation	$\pm 2\text{mm}$
Phase Center	L1 : 2.3mm
	L2 : 4.3mm
LOW NOISE AMPLIFIER	

LNA Gain	L2 : $34\pm 2\text{dB}$ L1 : $32\pm 2\text{dB}$
Noise Figure	$\leq 2\text{dB}$
VSWR	≤ 2.0
Passband Ripple	$\pm 2\text{dB}$
Passband Ripple	+3.3 ~ +12VDC
Operation Current	$\leq 45\text{mA}$
Group Delay Ripple	$\leq 5\text{ns}$
MECHANICAL	
Dimensions	$\Phi 92.4 \times H13.4\text{mm}$
Connector	GNSS&BT: SMP
ENVIRONMENT	
Operating Temperature	-40°C ~ +85°C
Storage Temperature	-55°C ~ +85°C
Humidity	95% non-condensing

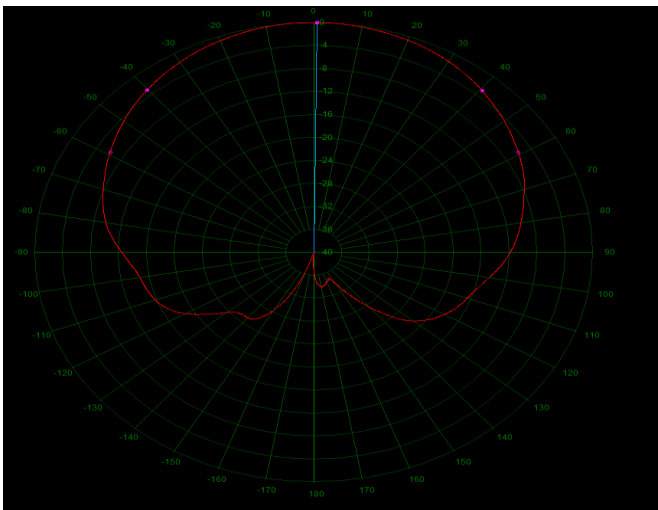
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GNSS Antenna Performance

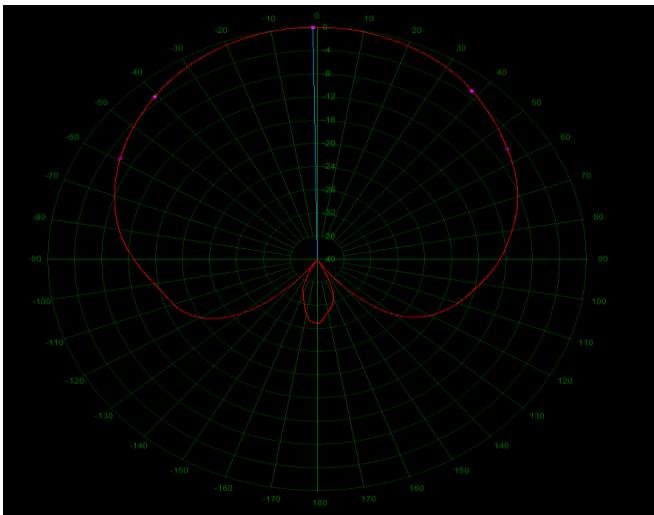
Frequency (MHz)	1176	1227	1268	1559	1575	1607
Gain (dBi)	1.9	4.1	2.4	3.5	4.7	3.4



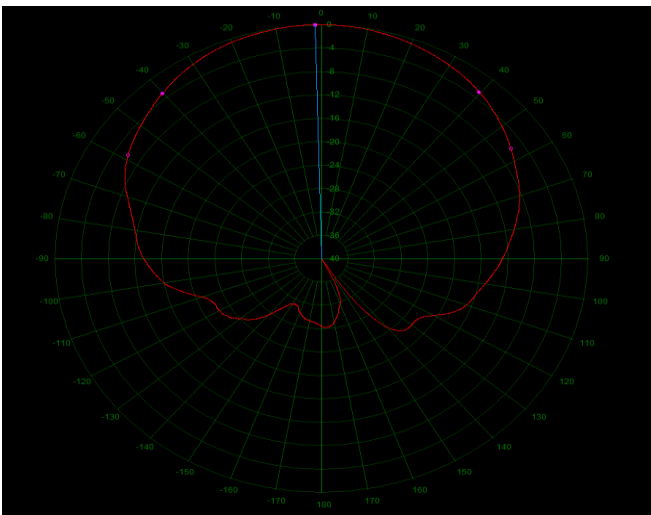
1176MHz



1227MHz

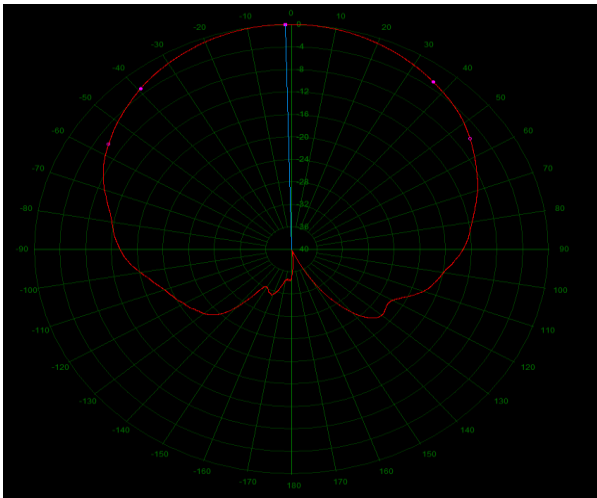


1268MHz

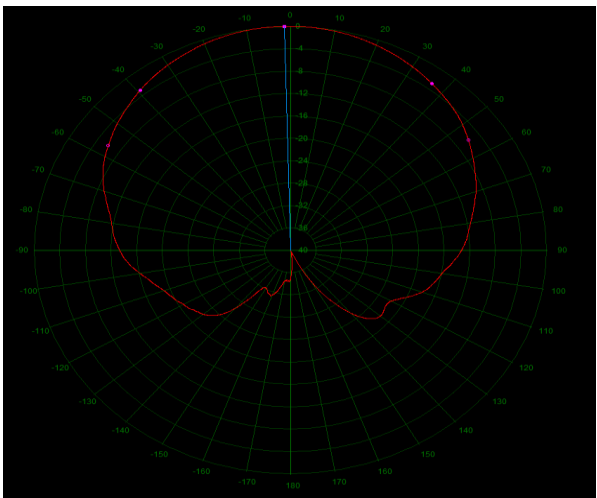


1559MHz

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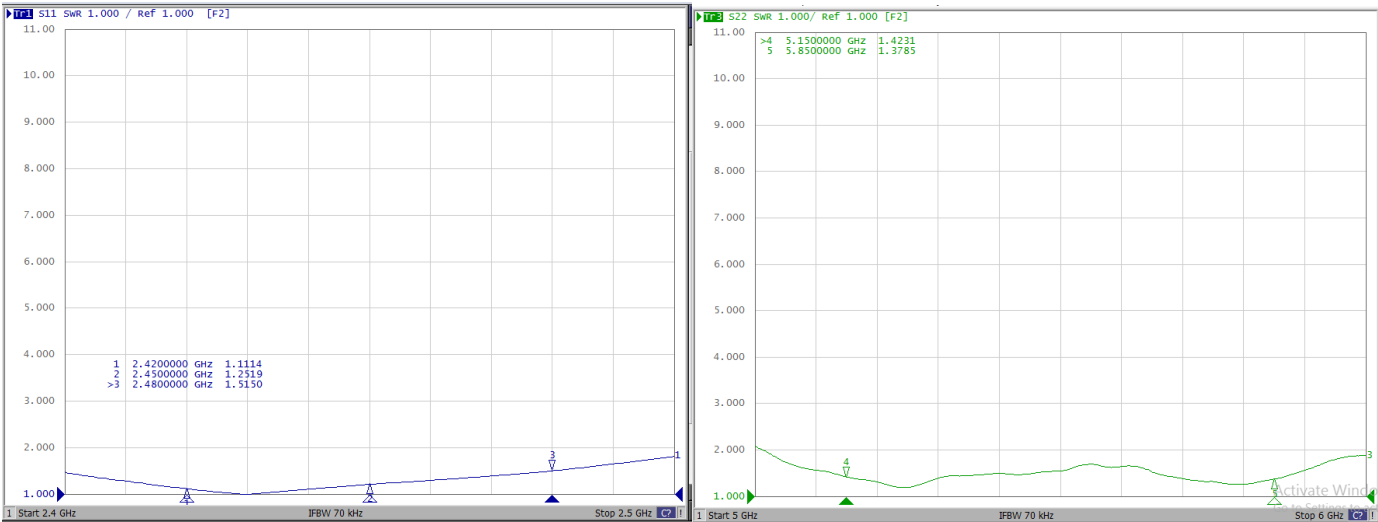
1557MHz



1607MHz

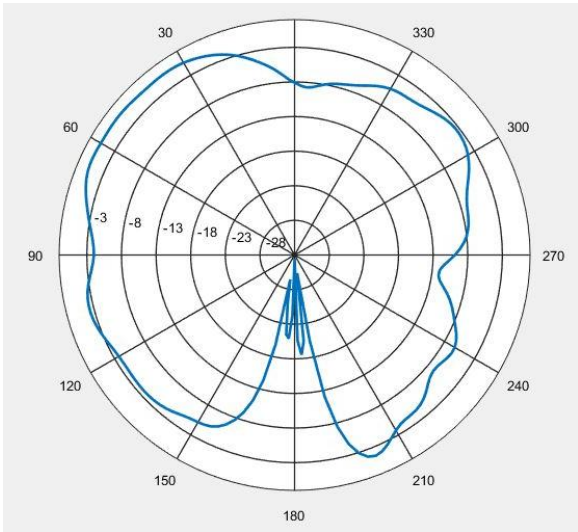
BT Antenna Performance

Frequency (MHz)	2400	2450	2500	5200	5400	5600	5800
Gain (dBi)	1.27	2.24	1.46	1.48	1.37	0.21	-2.24

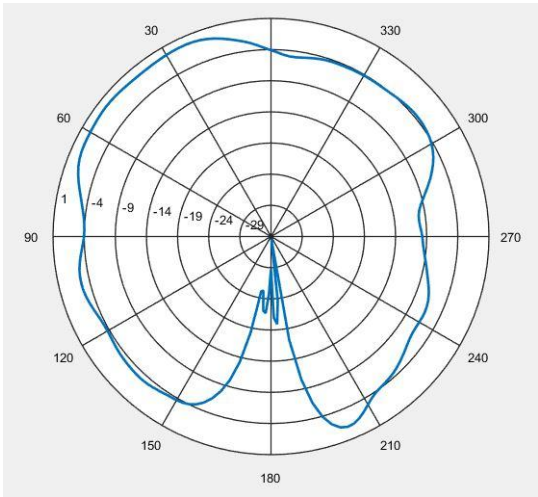


BT Antenna VSWR

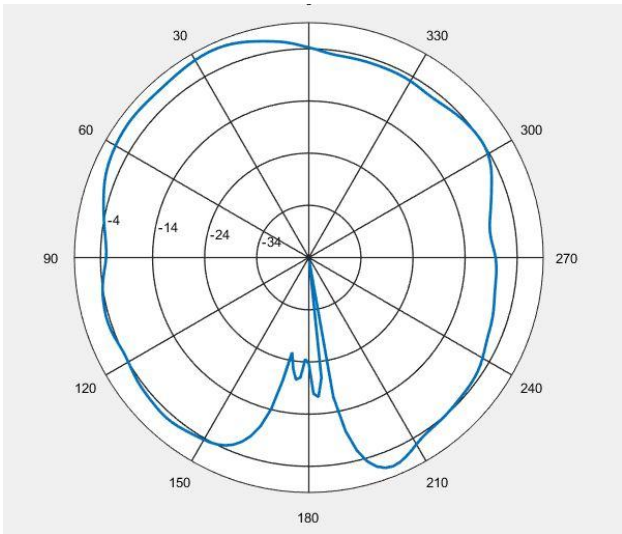
OEM GNSS Antenna HX-CSX329A



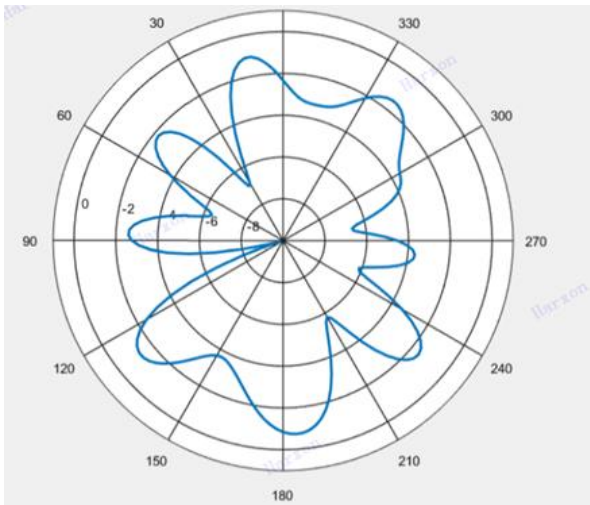
2400MHz



2450MH



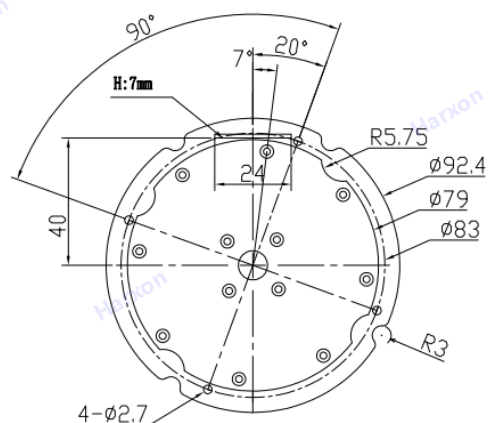
2500MHz



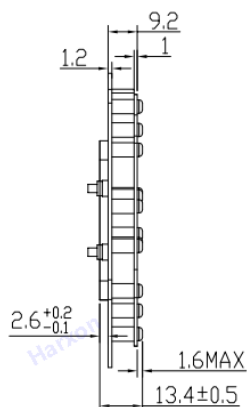
5600MH

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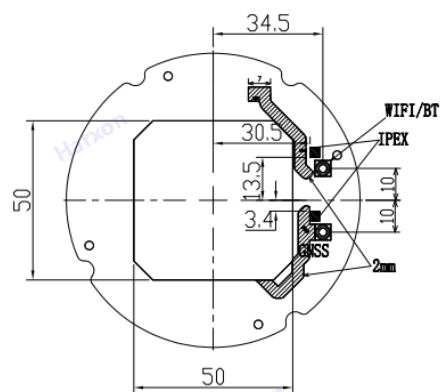
Structure & Phase Center Drawing (mm)



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Undeclared Tolerance: ± 0.3

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