

OEM GNSS Antenna HX-CSX202A



HX-CSX202A is an embedded multi-constellation multi-frequency GNSS antenna that covers GPS, GLONASS, BDS, and GALILEO and is also compatible with 4G and 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, 4G 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 restraints 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 Dual 4G, Bluetooth/WIFI
- Strong anti-Interference performance
- Powerful system compatibility, easy for machine integration

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Specifications

PERFORMANCE		LOW NOISE AMPLIFIER	
Frequency	GPS L1/L2/L5	LNA Gain	30±2dB
	BDS B1/B2/B3	Noise Figure	≤2dB
	GLONASS L1/L2/L3	VSWR	≤2.0
	GALILEO E1/E5a/E5b/E6	Passband Ripple	±1dB
	QZSS L1/L2/L5	Passband Ripple	+3.3 ~ +12VDC
	IRNSS L5	Operation Current	≤45mA
	SBAS L1/L5	Group Delay Ripple	≤5ns
	L-Band	MECHANICAL	
	4G	Dimensions	Φ126*18.5mm
WIFI/BT:2.4GHz/5.8GHz		Connector	SMP(DFI625IAI-003-AT3G-50)4G
Nominal Impedance	50 Ω	ENVIRONMENT	
		Operating Temperature	-40°C ~ +85°C
Polarization	RHCP	Storage Temperature	-55°C ~ +85°C
Axial Ratio	≤3dB	Humidity	95% non-condensing
Azimuth Coverage	360°		
Azimuth Coverage	GNSS: ≤2.0		
	WIFI/BT: <2 (@2.42GHz-2.46GHz, @5.2GHz-5.85GHz)		
Peak Gain	GNSS:5.8dBi		
	4G:3.27dBi		
	WIFI: 2.24dBi		
Phase Center Deviation	±2mm		

Manufacturer: Shanghai Huace Navigation Technology Ltd.

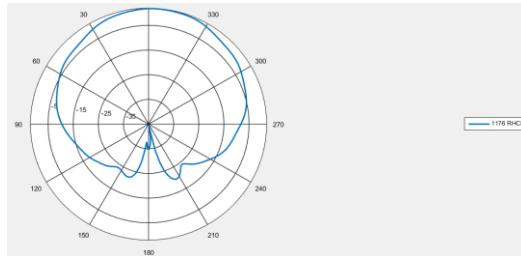
Manufacturer address: 577 Songying Road, Qingpu District, 201706 Shanghai, China

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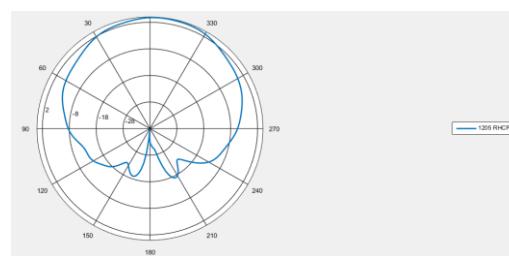
Harxon
a *BDS*Star company

GNSS Antenna Performance

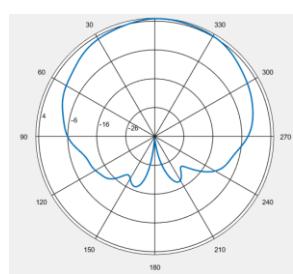
Frequency (MHz)	1176	1205	1227	1268	1542	1559	1575	1606
Gain (dBi)	3.1	4.1	4.8	3.4	4.4	5.6	5.8	4.8



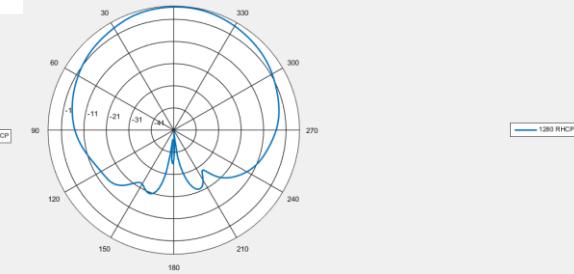
1176MHz



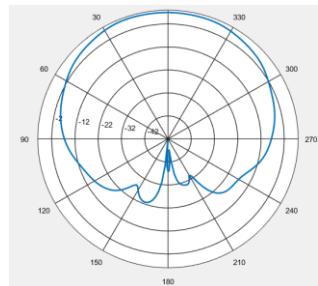
1205MHz



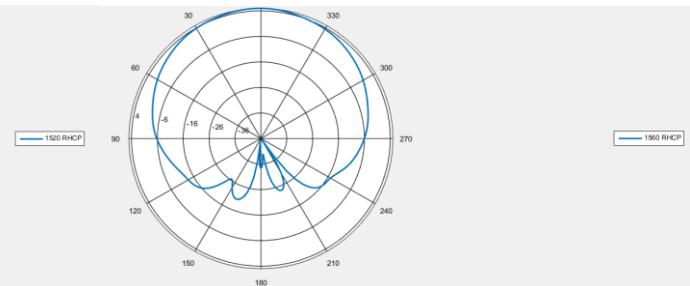
1230MHz



1280MHz



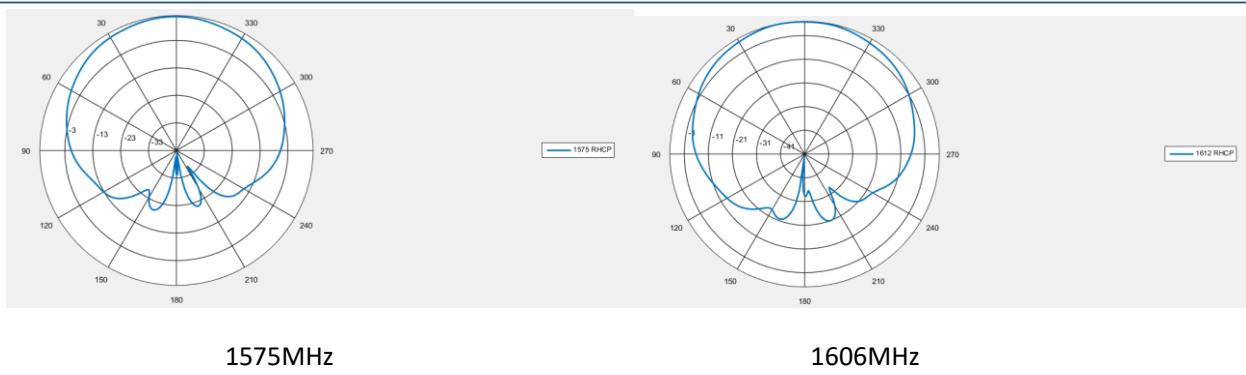
1520MHz



1560MHz

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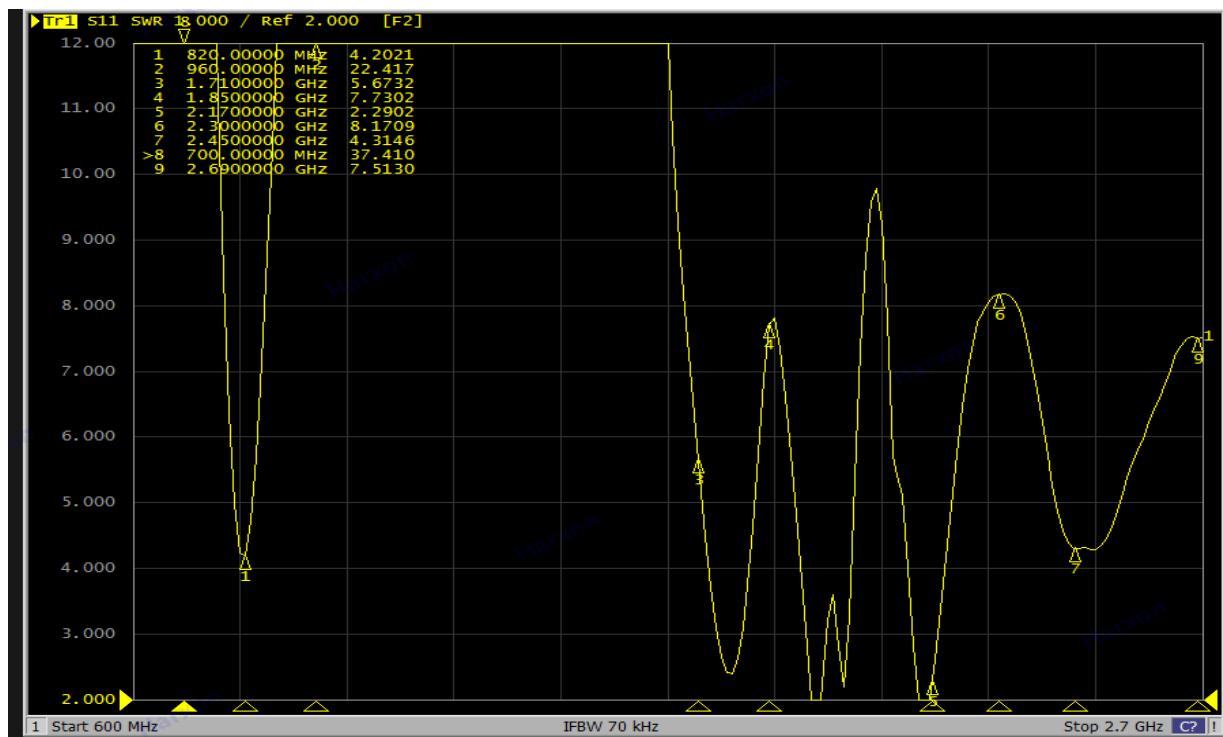
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4G Antenna Performance

4G Antenna Performance

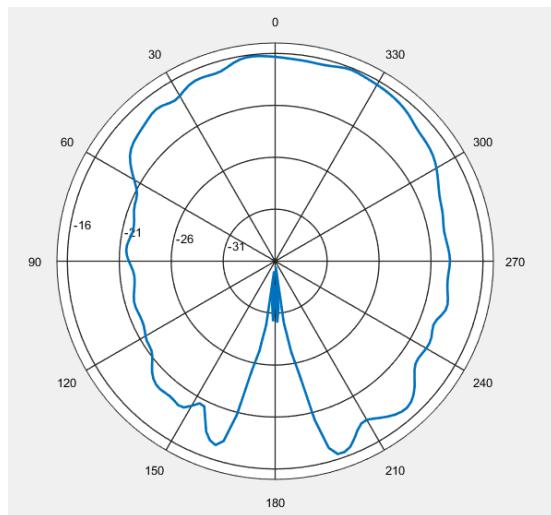
Frequency (MHz)	680	750	820	890	960	1710	1810	1910	2010	2110	2210	2310	2410	2510	2610	2690
Gain (dBi)	-16.27	-9.42	-1.34	3.27	-1.33	-2.57	2.12	2.52	2.41	2.49	0.14	-3.44	1.44	-0.16	-4.11	-3.84



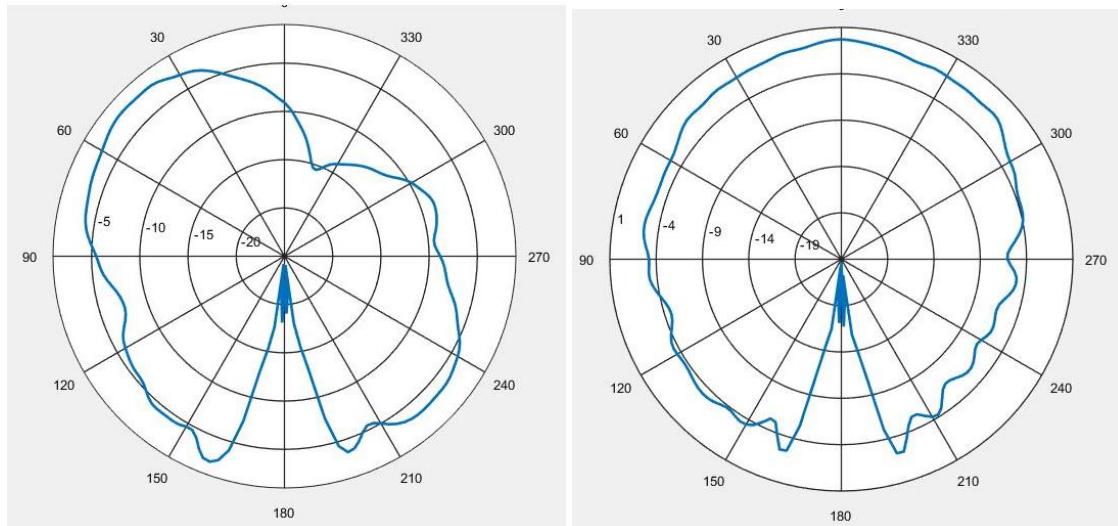
4G Antenna VSWR

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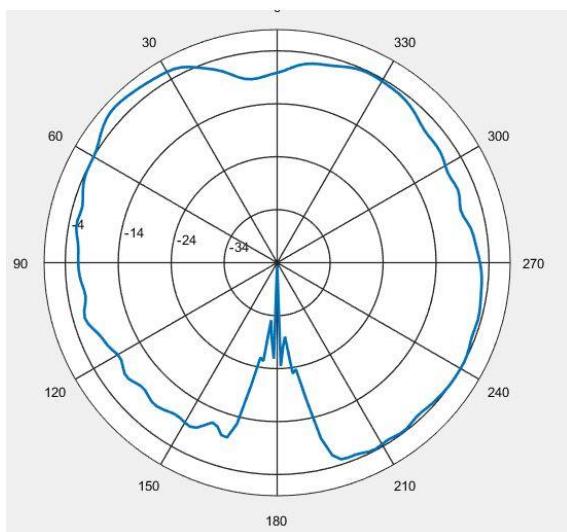


700MHz

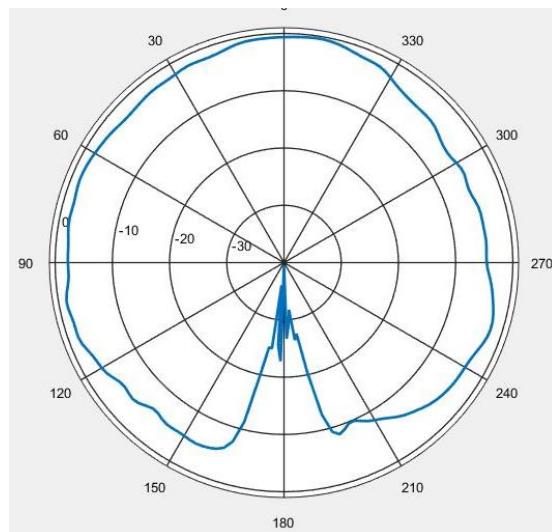


820MHz

960MHz



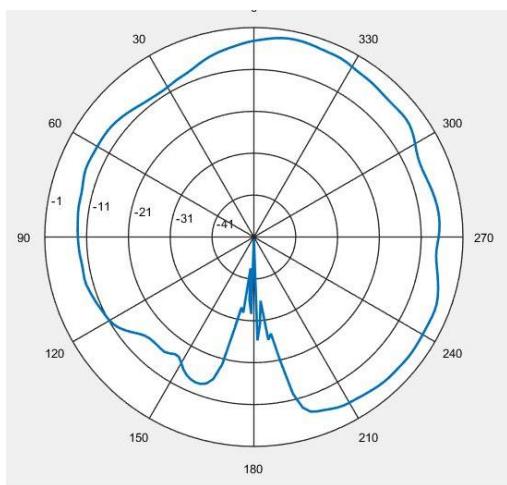
1710MHz



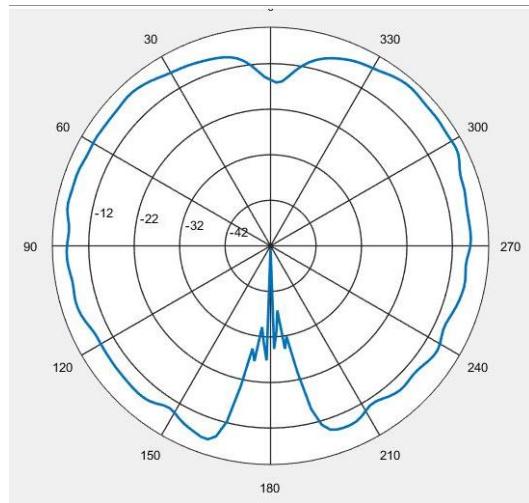
1910MHz

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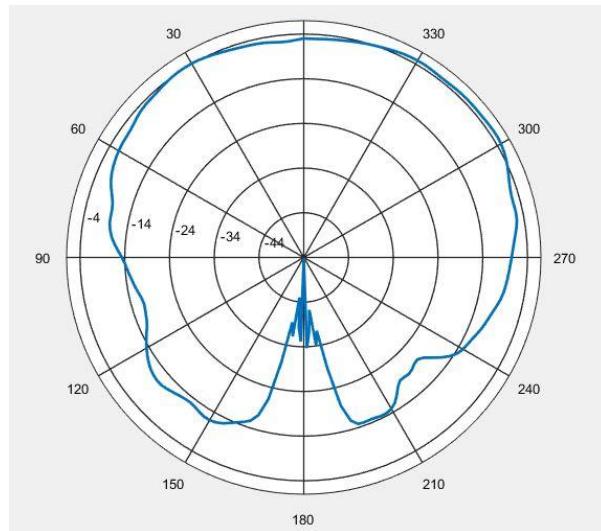
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2110MHz



2450MHz



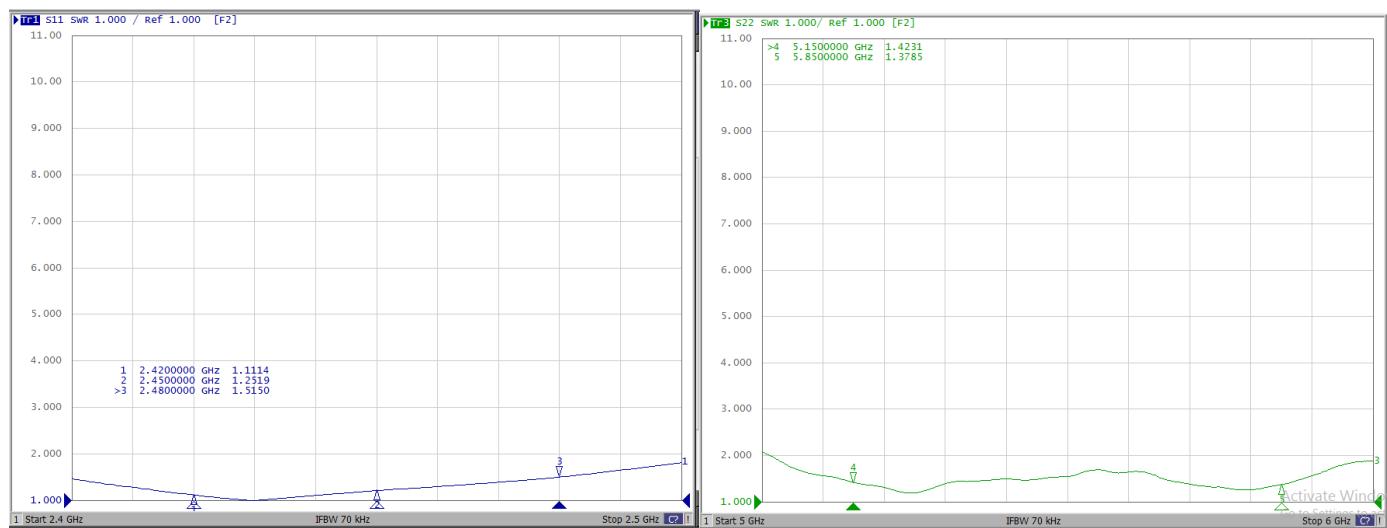
2690MHz

BT Antenna Performance

Frequency (MHz)	2420	2440	2460	5200	5400	5600	5800	5850
Gain (dBi)	1.27	2.24	1.46	2.48	4.37	0.21	-2.24	-0.9

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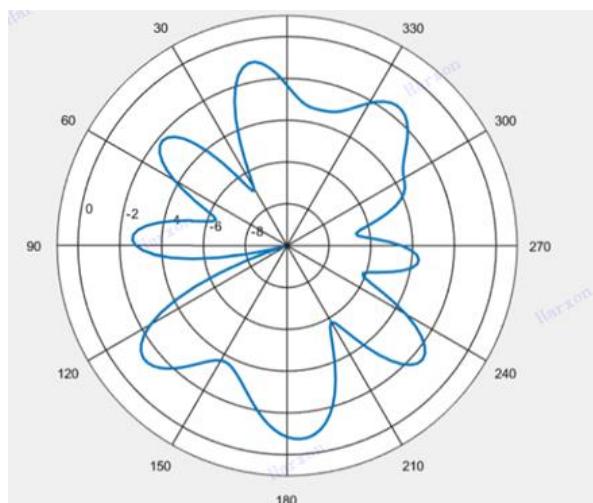
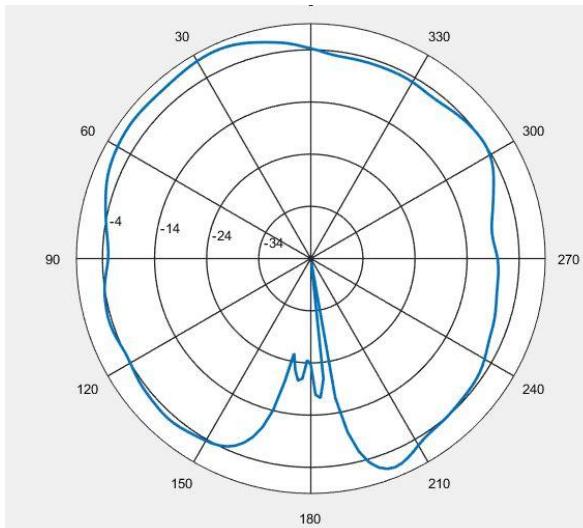
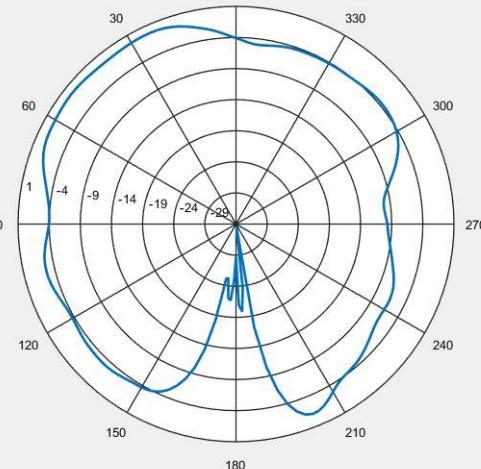
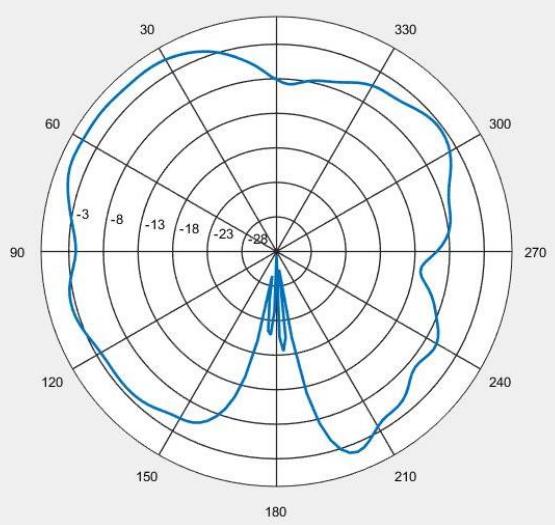


BT/WIFI Antenna VSWR

C

HX-CSX202A

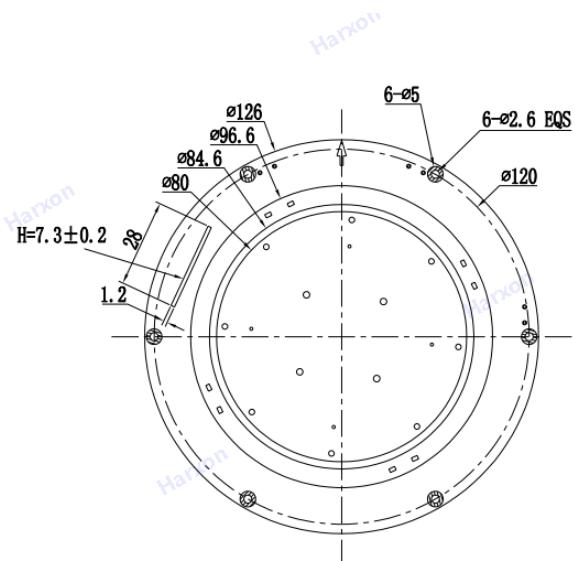
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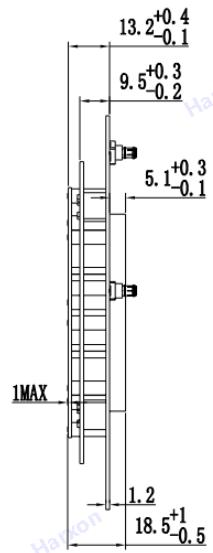
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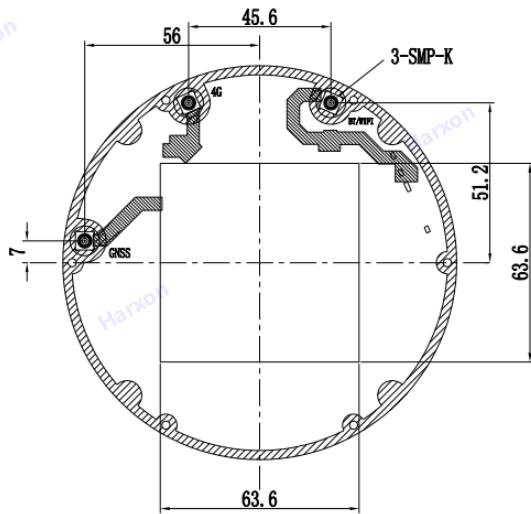
Structure & Phase Center Drawing (mm)



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Undeclared Tolerance: $\pm 0.3\text{mm}$

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