OEM GNSS Antenna HX-CSX089A

Harxon' s 4in1 multifunctional X-Survey™ OEM antenna HX-CSX089A is an embedded multi-constellation multi-frequency GNSS antenna that integrates GNSS antenna, dual 4G antennas, BT, and WIFI in one compact enclosure. It' s a highly integrated antenna that delivery high performance positioning accuracy while ensuring great anti-electromagnetic interference effect. Its compact integration and robust performance make it ideal to be adopted into applications as geodetic surveying, oceanic surveying, geologic surveying and geological disasters monitoring, smart port operations and etc.

STABLE PHASE CENTER FOR ROBUST POSITIONING

HX-CSX089A supports multi-constellation full frequency satellite signal tracking, including GPS, GLONASS, Galileo, BeiDou, QZSS, IRNSS and L-band correction service. It features Harxon X-Survey™ technology that support multi-point feeding capability, guaranteeing a reliable phase center for millimeter positioning accuracy.

INTEGRATED LAYOUT FOR EASY INTEGRATION

HX-CSX089A integrates GNSS antenna, 4G, WIFI, and BT into one compact enclosure. Adopting multiple antennas in one solution greatly simplify the complexity of different types antennas integration for applications. Harxon employs self-developed microwave material for isolating interrelated effect among these antennas for reliable signal receptions.

Key Features

- Support GPS, GLONASS, Galileo, BeiDou, QZSS, IRNSS and L-band correction service
- Support 4G, Wi-Fi, Bluetooth
- Stable phase center guarantees the accuracy of positioning within millimeter-level
- Strong anti-interference performance to endure harsh environments
- Powerful system compatibility, easy for integration

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.

EASY INTEGRATION DESIGN FOR PRECISION APPLICATIONS

The unique structure design simplifies the RTK integration, and minimizes the overall machine dimension, aiming to bring system integrators high efficiency performance of navigation and communication in surveying and precision agriculture applications.

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.

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PERFORMANCE	
Signal Received	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 L1/L5 L-Band BT、WiFi、4G
Nominal Impedance	50Ω
Polarization	RHCP
Axial Ratio	≤3dB
Azimuth Coverage	360°
Output VSWR	≤2.0
Peak Gain	1.0dBi for BT/WIFI
Phase Center Error	±2mm
Phase Center Height	L1：13.2mm L2：14.8mm
LNA	
LNA Gain	40±2dB
Noise Figure	≤2dB
Output VSWR	≤2.0
Passband Ripple	±2dB
Operation Voltage	+3.3～+12VDC
Operation Current	≤45mA
Group Delay Ripple	≤5ns
MECHANICAL	
Dimensions	φ140.5*24.8mm
Weight	≤280g
Connector	GNSS: MCX-C-JW1.5 BT: IPEX Male Wi-Fi: IPEX Male 4G: IPEX Male
Mounting	4*M3 Screws
ENVIRONMENTAL	
Operating Temperature	-40℃～+85℃
Storage Temperature	-55℃～+85℃
Humidity	95% Non-condensing

BT/WIFI Antenna Performance

Frequency (MHz)	2410	2420	2430	2440	2450	2460	2470	2480
Peak Gain (dBi)	0.80	0.83	0.93	0.78	1.00	0.94	0.84	0.52

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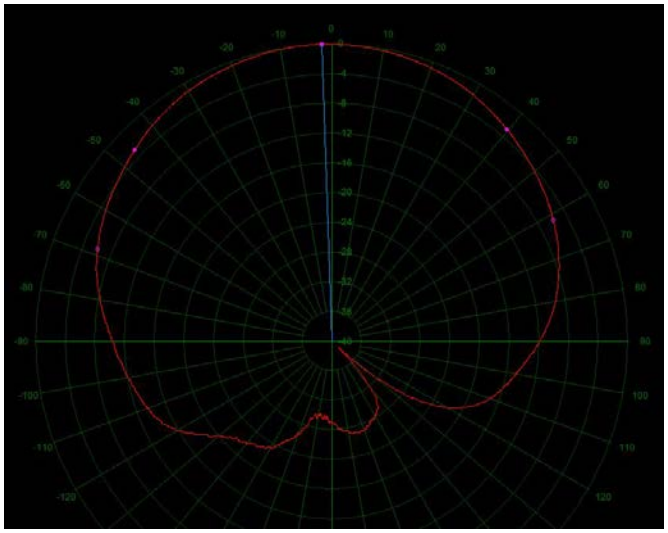
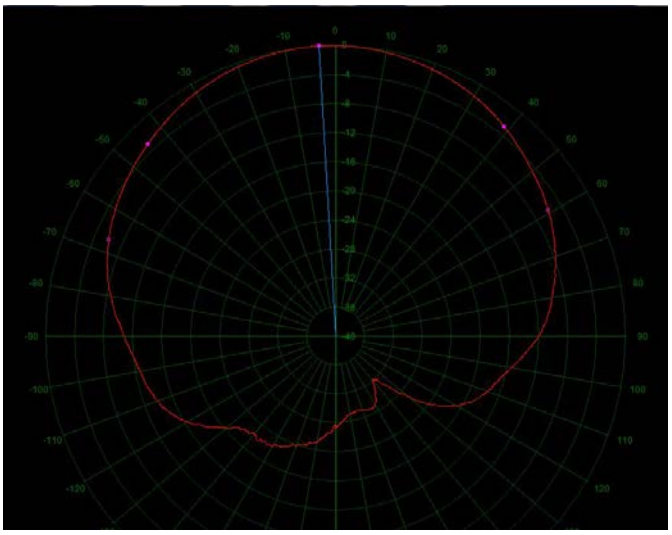
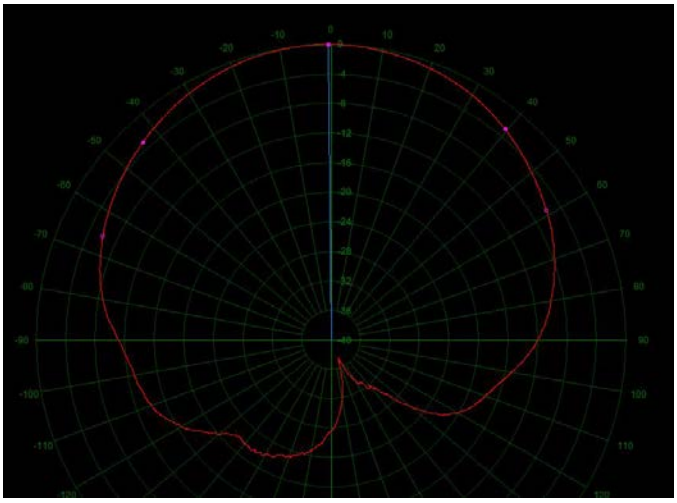


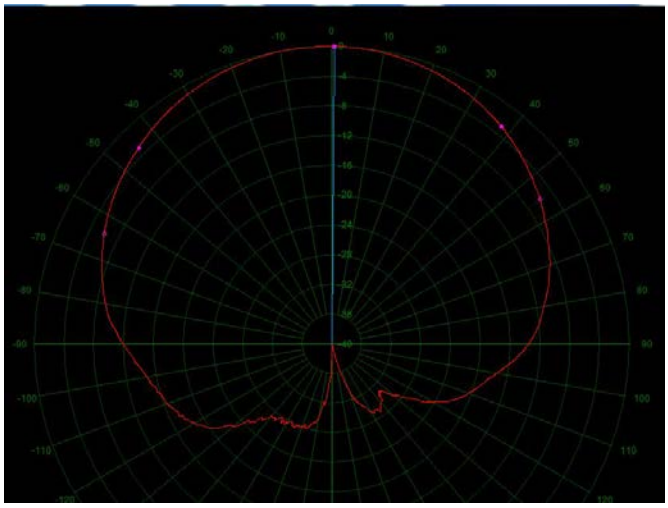
1176MHz Pattern



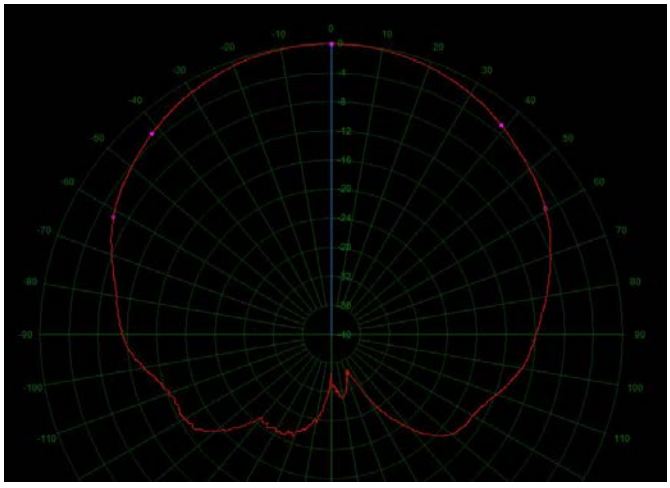
1206MHz Pattern



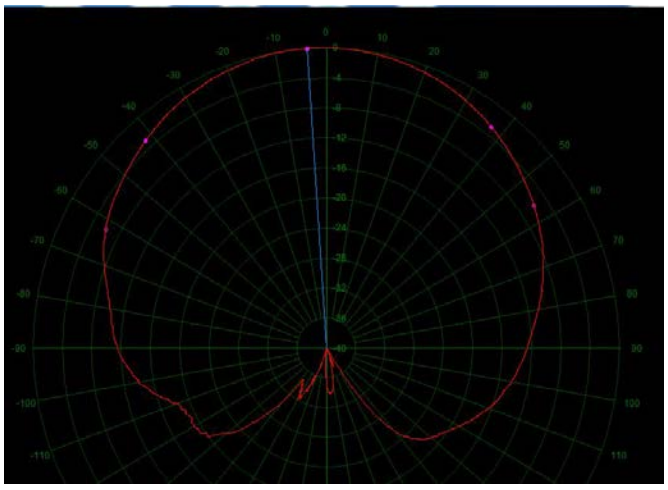
1227MHz Pattern



1268MHz Pattern

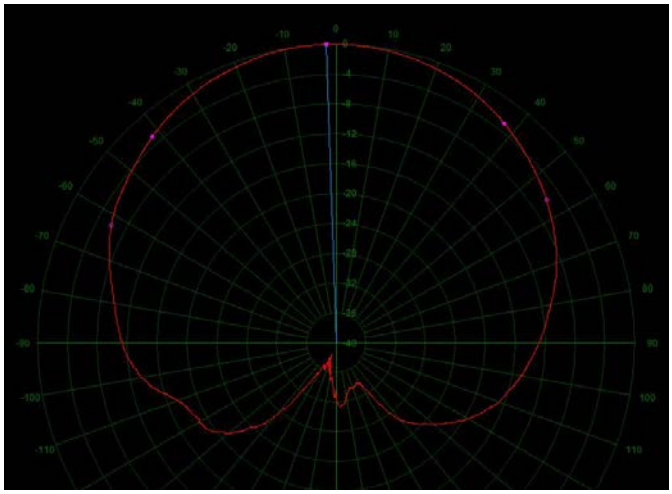


1542MHz Pattern

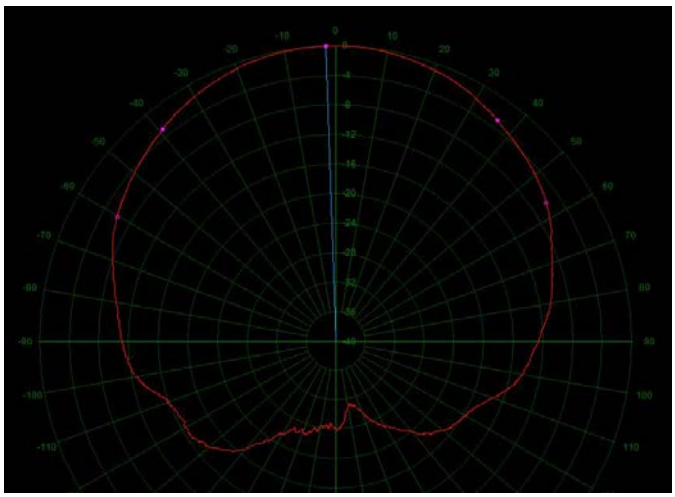


1565MHz Pattern

OEM GNSS Antenna HX-CSX089A

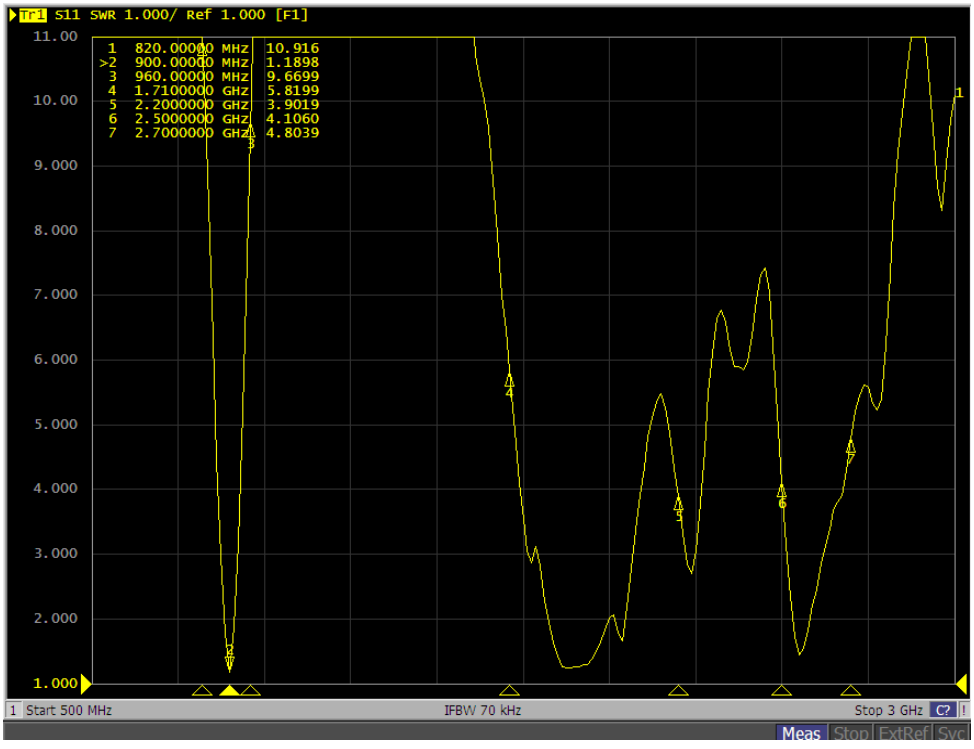


1575MHz Pattern



1607MHz Pattern

4G Antenna Performance



4G Antenna Voltage VSWR

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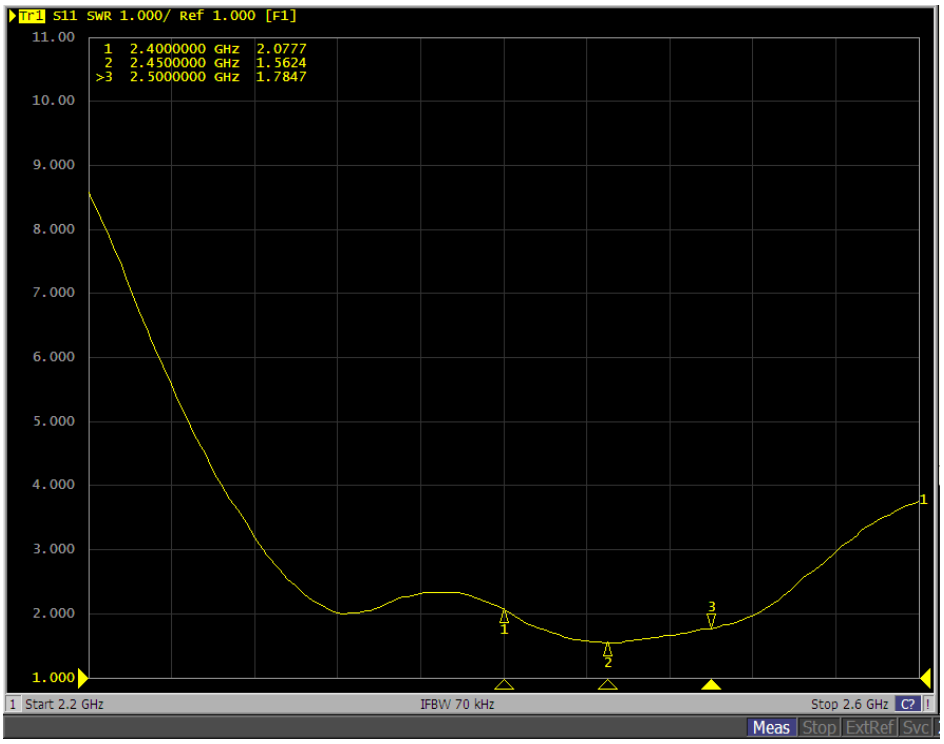
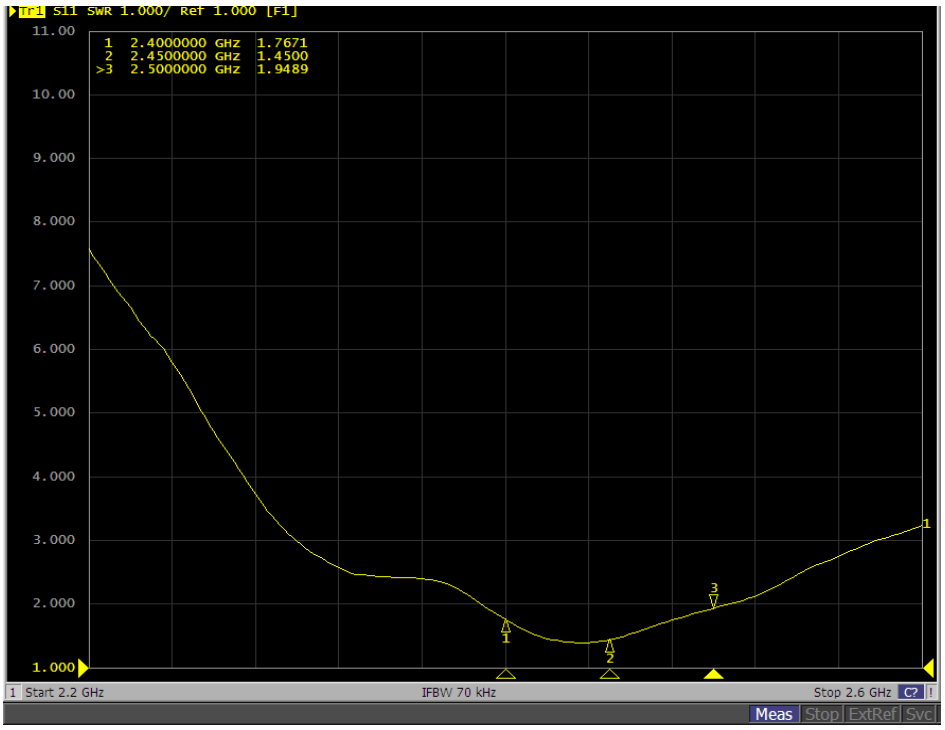
Bluetooth Antenna Performance



Bluetooth Antenna Voltage VSWR

Wi-Fi Antenna Performance



WIFI Antenna Voltage VSWR

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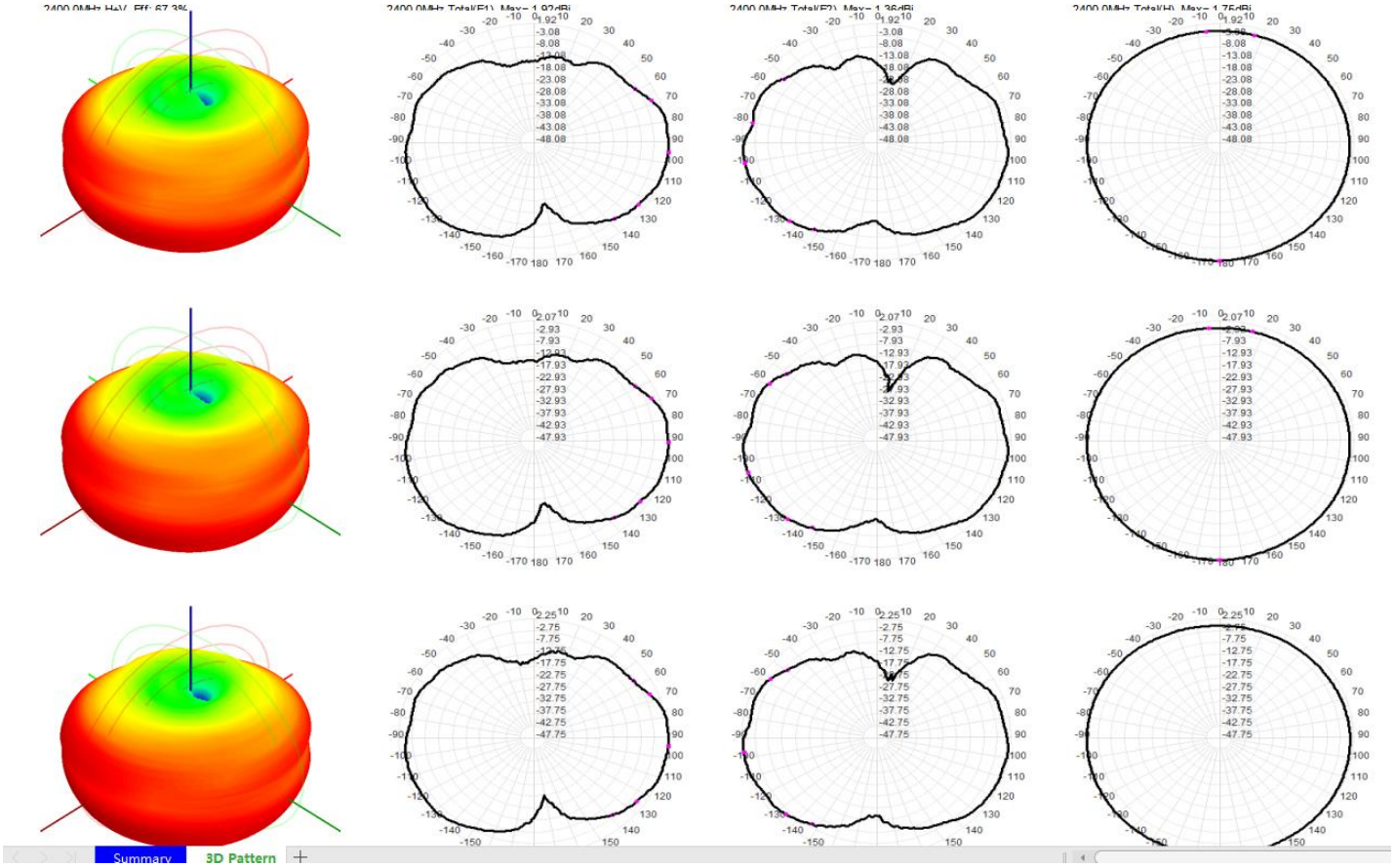
Three-dimensional for BT/WIFI



BT/WIFI Picture

Harxon Corporation

9F, Block B, D3 Building, TCL International E City,
No.1001 Zhongshanyuan Road, Nanshan District, ShenZhen,
CHINA