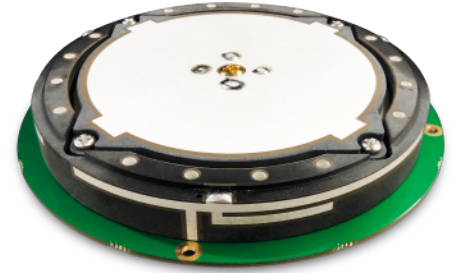


X-Survey™ OEM Antenna HX-CSX137A

Harxon
a *BDStar* company

Mini 4in1 X-Survey™ Multifunctional OEM Antenna for Geodetic Surveying

The Harxon X-Survey™ OEM Antenna HX-CSX137A is multi-constellation multi-frequency embedded high precision surveying antenna. It's a highly integrated GNSS antenna that embeds dual 4G antennas, WI-FI antenna as well as Bluetooth Antenna in an extremely mini compact enclosure. This versatile antenna could be adopted into applications as geodetic surveying, oceanic surveying, geologic surveying and geological disasters monitoring, and smart port operations.



STABLE PHASE CENTER FOR REMARKABLE PERFORMANCE

The HX-CSX137A antenna offers full support for reliable and consistent satellite signals tracking, including GPS, GLONASS, Galileo and Beidou, as well as L-Band correction services. It also exhibits a very stable phase center by adopting multipoint feeding technology, and realizes the repeatability of phase center and geometric center and minimizes deviation, which ensuring millimeter-level positioning accuracy.

GREAT COMPATIBILITY FOR SOLID RELIABILITY

This versatile antenna adopts a compact design that combines GNSS antenna, 4G antennas, WI-FI antenna 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.

The 4G antennas adopt a balancing distribution around the GNSS antenna, with a metallized circular holes fence that made by Harxon self-developed microwave material between the 4G antennas and the GNSS antenna, with the WIFI/BT antenna placing on top of them, maximumly miniaturizing the dimension of this antenna and making it an optimal option 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 a 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.

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.

COMPACT DESIGN WITH LOW CONSUMPTION

This antenna is highly integrated by combining GNSS antenna and communication antenna using self-developed microwave material, with its diameter of 111mm only. The whole layout ensures optimization in power consumption, weight and dimensions while guarantees positioning accuracy, reliability and better electrical properties.

Benefits/Key Features

- Comprehensive GNSS support: GPS, GLONASS, Galileo, BeiDou as well as L-Band correction service
- Highly integrated design with GNSS antenna, dual 4G antennas, WI-FI, Bluetooth antenna embedded
- Reliable phase center, low elevation signal tracking, and high signal gain offer millimeter positioning accuracy
- Superior out-of-band rejection and filtering, excellent multi-path reduction capacity
- Great electromagnetic compatibility, easy for integration

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PERFORMANCE

Signal Received

| | |
|---------|---------------|
| GPS | L1/L2/L5 |
| GLONASS | L1/L2/L3 |
| GALILEO | E1/E5a/E5b/E6 |
| BDS | B1/B2/B3 |
| QZSS | L1/L2/L5 |
| IRNSS | L5 |
| SBAS | L1/L5 |
| L-Band | |
| WIFI | 2.4G/5.8G |

Nominal Impedance 50Ω

Polarization RHCP

Axial Ratio ≤3dB

Azimuth Coverage 360°(omni-directional)

Output VSWR ≤2.0

Peak Gain

| | | |
|---------|-----------------|--------|
| GNSS | 1164MHz-1300MHz | 4.0dBi |
| | 1525MHz-1612MHz | 4.5dBi |
| BT/WiFi | 2.4-2.5GHz | 0.5dBi |
| Dual 4G | 790-960MHz | 0.5dBi |
| | 1710-2690MHz | 0.5dBi |

Phase Center Deviation ±2mm

LOW NOISE AMPLIFIER

LNA Gain L2: 40±2dB

L1: 38±2dB

Noise Figure ≤2dB

Output VSWR ≤2.0

Passband Ripple ±2dB

Operation Voltage +3.3 to +12VDC

Operation Current ≤45mA

Group Delay Ripple ≤5ns

MECHANICAL

Dimensions Ø111×23.8mm

Weight ≤150g

Connector

GNSS MCX-C-JW1.5

BT/WiFi MCX-C-JW1.5

Dual 4G MCX-C-JW1.5

Mounting 4x M3.0 screws fixed installation

ENVIRONMENTAL

Temperature

Operating -45°C~+85°C

Storage -55°C~+85°C

Humidity 95% non-condensing

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Version 1 Specifications subject to change without notice.

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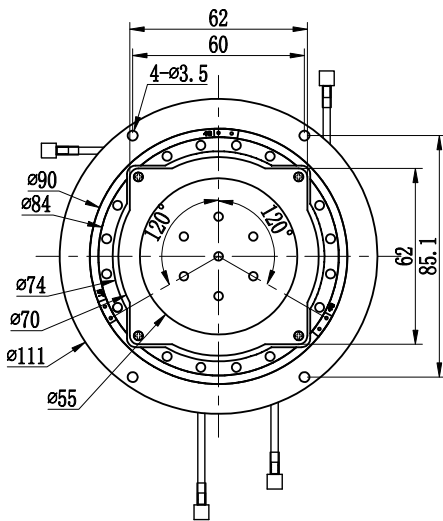
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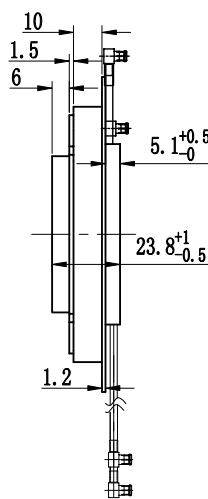
①.4G bands: can be customized according to different countries and regions

②.Dimension: typical value, without connector, can be customized

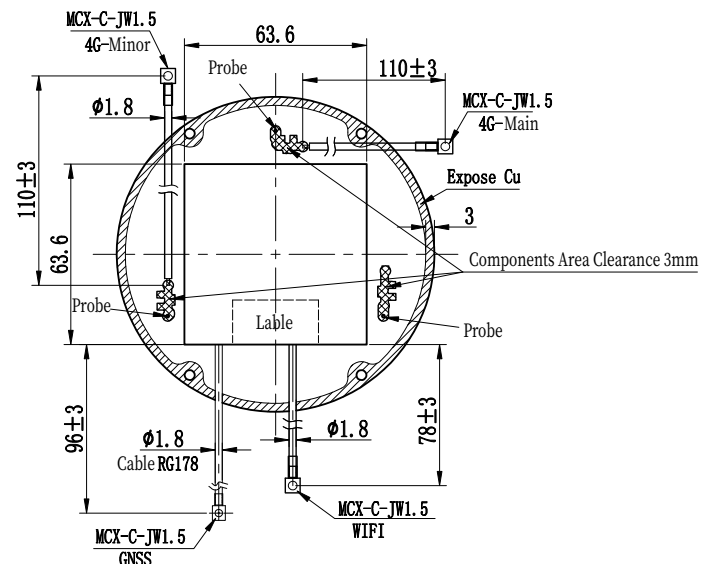
Structure & Phase Center Drawing (mm)



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Undeclared Tolerance: ±0.3mm