Helix Antenna HX-CUX012A



Harxon HX-CUX012A embedded helix antenna is designed for high precision positioning of UAV and offers superior satellite signal tracking, including GPS, GLONASS, GALILEO, Beidou, QZSS, SBAS,IRNSS as well as L-Band correction service. It provides excellent axial ratios, enables excellent multipath mitigation and a very precise phase center. As the helix antenna with the lowest profile ever, it is easy to be integrated, ideal for various UAV applications such as aerial photography, remote sensing, infrastructure inspection, traffic control and public security.

LOW PROFILE, EASY TO BE INTEGRATED

HX-CUX012A is designed with extremely low profile (21.9mm) and weighs only 10g with a compact dimension of ¢46*21.9mm, making it ideal to be integrated into UAVs, surveying and monitoring devices. It reduces the overall weight of applications and meets the strict demands of low profile.

HIGH PHASE CENTER STABILITY AND CONSISTENT PERFORMANCE

The HX-CUX012A antenna features a multi-point feeding technology that ensures a high phase center stability with centimeter level accuracy. It has a high peak gain of 3.0 dBi and excellent axial ratios, enabling excellent multipath mitigation and a very precise phase center.

STRONG ANTI-INTERFERENCE PERFORMANCE

HX-CUX012A optimizes circuit layout and equips a robust pre-filtered LNA that features an excellent out-of-band interference rejection performance and restraints possible unwanted electromagnetic interference, providing reliable GNSS signals for easy integration into positioning solutions.

ADVANCED PATENTED D-QHA TECHNOLOGY

The HX-CUX012A antenna adopts patented D-QHA technology for stable performance of wide-angle circular polarization (WACP), which ensures exceptional low elevation satellite tracking while maintaining high gain and providing reliable signal tracking. This consistent performance makes it ideal option for UAVs even under challenging environments.



KEY FEATURES

- Comprehensive GNSS support: GPS, GLONASS, Galileo, Beidou, QZSS, SBAS as well as L-Band correction service
- Excellent RHCP signal reception and signal-to-noise ratio
- Centimeter phase center repeatability, high gain at low elevation
- Improved signal filtering and excellent multipath rejection
- Extremely low profile (21.9mm) and light (10g)

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PERFORMANCE

| L1/L2/L5 |
|----------------|
| B1/B2/B3 |
| L1/L2/L3 |
| E1/ E5a/E5b/E6 |
| L1/L2/L5/L6 |
| L1/L5 |
| L5 |
| |
| ≤2 |
| RHCP |
| |
| |
| |
| |
| 50Ω |
| 110°(typical) |
| |

| Axial Ratio | ≤3dB |
|--------------------------|-------------|
| LNA Gain | 33±2dB |
| Noise Figure | ≤2dB |
| Phase Centre Variation | ±3mm |
| Operation Voltage | +3.3~+12VDC |
| Operation Current | ≼40mA |
| Group Delay Ripple | ≤15ns |
| | |

MECHANICAL

| Dimensions | ¢46*21.9mm |
|------------|---------------------|
| Weight | 8g |
| Connector | IPEX I |
| Mounting | 3 M1.6 screws fixed |

ENVIRONMENTAL

| Operating Temperature | -40°C~+70°C |
|-----------------------|----------------------|
| Storage Temperature | -55°C~+70°C |
| Humidity | 95% non-condensing |
| Regulatory Compliance | FCC, CE, RoHS, REACH |

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Structure& Phase Center Drawing (mm)



Undeclared tolerance:±0.3mm