

# HX-CU7006A Embedded Helix Antenna

Harxon Patented D-QHA Technology Inside

**Harxon**

a *BDStar* company

## HX-CU7006A Embedded Helix Antenna for UAVs

The Harxon HX-CU7006A embedded helix antenna is designed for high precision positioning services and offers superior satellite signal tracking, including GPS, GLONASS, GALILEO, and Beidou as well as L-Band correction service. Its RTK positioning accuracy makes it ideal to be integrated into applications as surveying and mapping, and various UAVs operations as aerial photography, remote sensing, infrastructure inspection, traffic control, and public security.

### ADVANCED PATENTED D-QHA TECHNOLOGY FOR EXCEPTIONAL LOW ELEVATION TRACKING

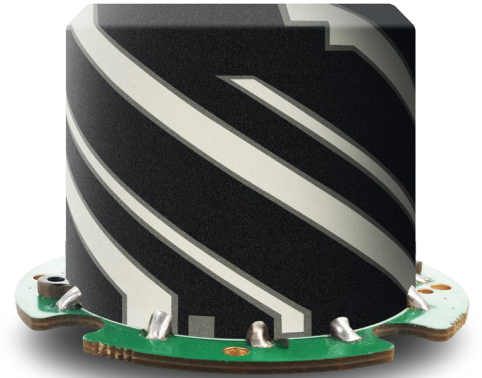
The HX-CU7006A antenna adopts patented D-QHA technology for stable performance of wide-angle circular polarization (WACP), which ensures exceptional low elevation satellite tracking while maintaining high gain and providing reliable signal tracking. This consistent performance makes it ideal option for UAVs even under challenging environments.

### UNIQUE MICROWAVE MATERIAL FOR STABLE STRUCTURE AND BETTER GAIN

The HX-CU7006A has an integral formation structure and uses laser engraving technology to print radiant surface, ensuring high consistency for mass production. It also adopts unique low dielectric constant, low loss microwave material for a stable formation as well as good space utilization. The adoption for new material and structure delivers better radiation efficiency and a higher sideband gain.

### COMPACT DESIGN FOR EASY INTEGRATION

The HX-CU7006A embedded helix antenna has a compact dimension. The antenna plus active circuit only have a  $\Phi 44 \times H 31.7$ mm dimensions. The microwave material that the antenna used is extremely lightweight, easy to be integrated into flying solutions while prolongs fly endurance of the UAVs.



### KEY FEATURES

- Comprehensive GNSS support: GPS, GLONASS, Galileo, BeiDou, as well as L-Band correction service
- Patented D-QHA technology ensures reliable signal tracking
- Centimeter phase center repeatability, high gain at low elevation
  - High gain at L range of frequency
  - Lightweight material with good tenacity, stable structure and compact design for easy integration

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## PERFORMANCE

### Signal Received

GPS	L1/L2/L5
GLONASS	L1/L2
GALILEO	E1/E5a/E5b
BDS	B1/B2/B3
QZSS	L1/L2/L5/L6
IRNSS	L5
SBAS	L1/L5
L-Band	

**Nominal Impedance** 50Ω

**Polarization** RHCP

**Axial Ratio** ≤3dB

**Azimuth Coverage** 360°[Omni-directional]

**Output VSWR** ≤2.0

### Gain RHCP(maximum)

1166-1278MHz	2.5dBi (@ Zenith)
1559-1612MHz	2.8dBi (@ Zenith)
L-Band	1.3dBi (@ Zenith)

## LOW NOISE AMPLIFIER

**LNA Gain** 33±2dB

**Noise Figure** ≤2dB

**Output VSWR** ≤2.0

### Out of Band Rejection

Upper Band:	<1400MHz>30dB
	<1450MHz>33dB
	>1700MHz>30dB
Lower Band:	<1000MHz>41dB
	<1100MHz>40dB
	<1130MHz>28dB

**Passband Ripple** ±2dB

**Operation Voltage** +3.3V to +5V DC

**Operation Current** ≤55mA

**Differential Propagation Delay** ≤5ns

## MECHANICAL

**Dimensions** φ44\*31.7mm

**Connector** MCX-50KE

**Weight** ≤15g

**Mounting** screws

## ENVIRONMENTAL

### Temperature

Operating -40°C to +70°C

Storage -55°C to +70°C

**Humidity** 95% No-condensing

### en.harxon.com

sales@harxon.com

9/F, Block B, Building D3, TCL International

E City, NO.1001 Zhongshanyuan Road,

Nanshan District, Shenzhen, China

Tel: +86-755-26989948

Fax: +86-755-26989994

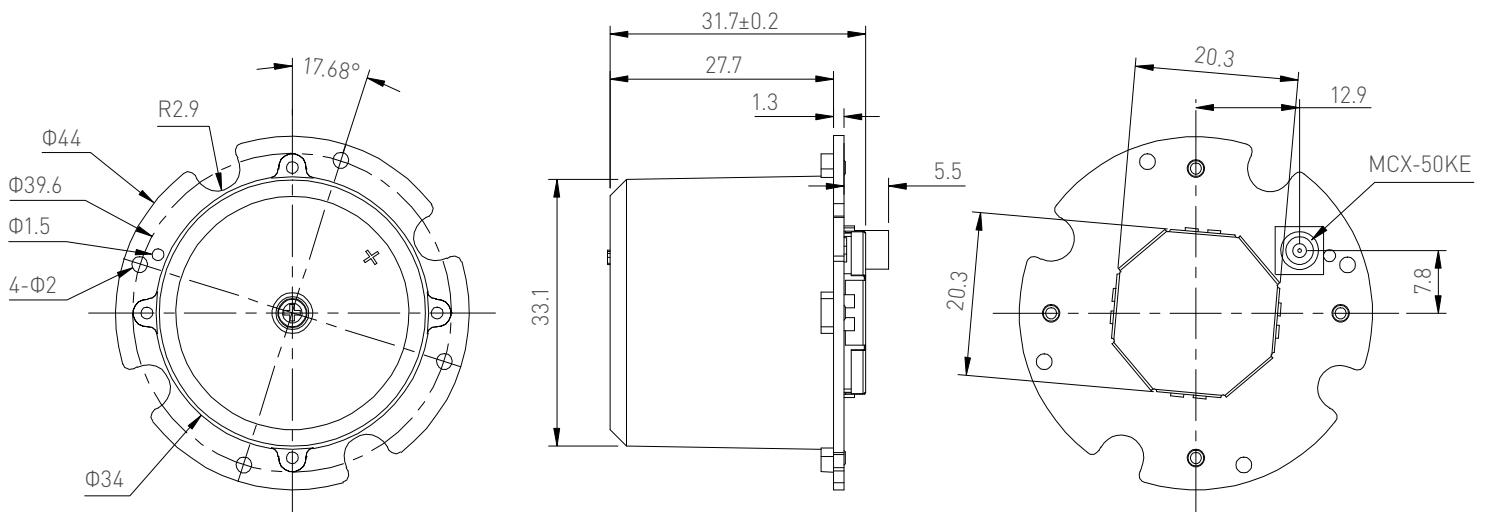
**Version 2** Specifications subject to change without notice.

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## Structure & Phase Center Drawing (mm)



TOP VIEW

SIDE VIEW

BOTTOM VIEW

Undeclared Tolerance: ±0.3mm