

# D-Helix™ Antenna HX-CHX600A

Harxon Patented D-QHA<sup>1</sup> Technology Inside

**Harxon**  
a *BDStar* company

## INNOVATIVE PATENTED D-QHA TECHNOLOGY WITH SUPERIOR TRACKING PERFORMANCE



### MULTI-CONSTELLATION WITH L-BAND SIGNALS RECEPTION

The Harxon D-Helix™ Antenna is a patented D-QHA multi-constellation antenna, it ensures excellent reception of GPS, Galileo, Beidou, GLONASS as well as L-Band signals in one antenna.

### ADVANCED D-QHA TECHNOLOGY

Harxon's D-QHA technology ensures more stable performance of wide-angle circular polarization (WACP), and smaller antenna phase center deviation (PCV), which ensures a more precise positioning accuracy. The innovative technology significantly enhances the low-elevation angle tracking capabilities, extending operation to the entire GNSS constellation.

### TRACKING IN CHALLENGING ENVIRONMENTS

The D-Helix™ Antenna is able to track any visible satellites under challenging conditions, providing the positioning solutions with higher precision and reliable data.

The ability to track low elevation satellites while maintaining high gain makes D-Helix™ Antenna an excellent choice for any applications where the sky is partially visible, such as plant protection, tree lines, or for UAV power patrol, GIS surveying where high precision is needed.

### STRONG ANTI-INTERFERENCE PERFORMANCE

The antenna LNA features an excellent out-of-band rejection performance, which can suppress the electromagnetic interference, providing the stability and reliability of GNSS signals. Also it effectively avoids disconnection dangerous when UAVs are operated under tower and electric power lines.

### HARXON'S TOUGHEST PRECISION ANTENNA

The D-Helix™ Antenna is the toughest precision antenna Harxon has designed to date, which features the latest low-wind resistance design. Moreover, the D-Helix™ Antenna features an ultra-durable watertight enclosure, its IP67 ruggedized design can protect it from dust and water.

### KEY FEATURES

- Support GPS, Glonass, Galileo, Beidou, QZSS, IRNSS, L-Band and SBAS signal reception
- D-QHA technology ensures exceptional low elevation satellite tracking
- Stable phase center guarantees the accuracy of positioning within millimeter-level
- Strong anti-interference ability to endure the harshest operating environments
- 45g light weight

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## PERFORMANCE

### Signal Received

GPS	L1/L2/L5/L-Band
GLONASS	L1/L2/L3
GALILEO	E1/E5a/E5b/E6
BDS	B1/B2/B3
QZSS	L1/L2/L5/L6
IRNSS	L5
SBAS	L1/L5

**Nominal Impedance** 50Ω

**Polarization** RHCP

**Axial Ratio** ≤3dB

### Gain RHCP (maximum)

1166-1278MHz	4.2dBi (@ Zenith)
	2.0dBi (@45° elevation)
	0.2dBi (@30° elevation)
1520-1610MHz	3.8dBi (@ Zenith)
	1.8dBi (@60° elevation)
	0.7dBi (@45° elevation)

L-Band	2.5dBi (@ Zenith)
	0.4dBi (@60° elevation)
	-0.5dBi (@45° elevation)
<b>LNA Gain</b>	33dB (typical)
<b>Noise Figure</b>	≤1.5dB
<b>Output/Input VSWR</b>	≤2.0
<b>Out of band rejection (±100MHz)</b>	>30dB
<b>Operation Voltage</b>	+3.3 to +12VDC
<b>Operation Current</b>	55mA (maximum)
<b>Group Delay Ripple</b>	<15ns

## MECHANICAL

<b>Dimensions</b>	φ40*82.6mm
<b>Connector</b>	SMA male
<b>Weight</b>	≤45g
<b>Mounting</b>	3*3/32" -48*DP6mm (UNC)

## ENVIRONMENTAL

### Temperature

Operating	-40°C to +70°C
Storage	-40°C to +70°C

**Humidity** 95% non-condensing

**Water/Dust Resistance** IP67

**Regulatory Compliance** FCC CE RoHS REACH

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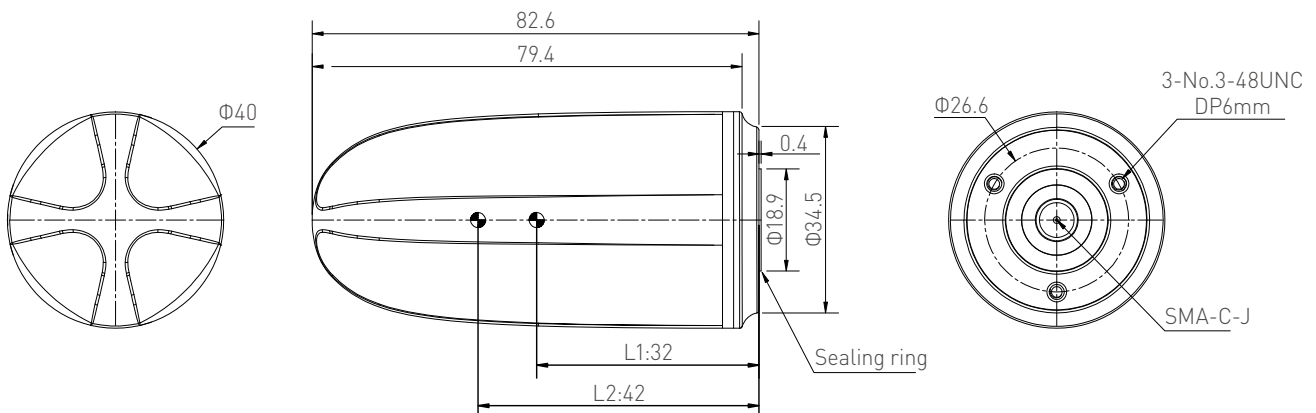
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1.D-QHA: Dual Quadrifilar Helix Antenna

## Structure & Phase Center Drawing (mm)



TOP VIEW

SIDE VIEW

BOTTOM VIEW

Undeclared tolerance: ±0.3mm