D-Helix™ Antenna HX-CU7603A

Harxon Patented D-QHA Technology Inside

Harxon
a BDStar company



High Performance Helix Antenna with Advanced D-QHA Technology

The Harxon HX-CU7603A is a high performance GNSS antenna designed for high precision positioning service and offers superior satellite signal tracking, including GPS, GLONASS, GALILEO, BeiDou, as well as L-Band correction service. Its RTK level positioning accuracy makes it ideal to be integrated into application 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-CU7603A 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.

HIGH PHASE CENTER STABILITY AND CONSISTENT PERFORMANCE

The HX-CU7603A antenna features a multi-point feeding technology that ensures a high phase center stability with centimeter level accuracy. Its high gain with ultralow signal loss, wide beam width for exceptional low elevation satellite tracking with symmetric radiation patterns effectively improve positioning accuracy.

SMALL FORM FACTOR, LIGHT WEIGHT, LOW POWER CONSUMPTION

Weighting only 20g, the lightweight HX-CU7603A helix antenna has a compact dimension, with Φ32.2*H45.8mm only. It's also a low power consumption antenna that could prolongs fly endurance of the UAVs. The antenna is built into a rugged IP65 waterproof housing to withstand exposure against dust and water. It equips rugged SMA connector for easy installation. All these advantages significantly improve the overall reliability of the UAVs and could be easily integrated into flying solutions.

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
- Improved signal filtering and excellent multipath rejection
- Low power consumption, lightweight, small form factor facilitates easier integration
- Rugged housing, complying with IP65 standards, SMA connector

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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
Gain RHCP(maximum)	
1166-1278MHz 2.4dBi (@ Zenith)	
1559-1612MHz 2.5dBi (@ Zenith)	
L-Band 1.0dBi (@ Zenith)	
Azimuth Coverage	360°(Omni-directional)
Output VSWR	⩽2.0

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 +12V DC
Operation Current	⩽55mA
Differential Propagation Delay	⩽5ns

MECHANICAL

Dimensions	¢32.2*45.8mm
Connector	SMA Male
Weight	⩽20g
Mounting	Refer to installation guidance

ENVIRONMENTAL

Temperature	
Operating	-40°C to +70°C
Storage	-55°C to +70°C
Humidity	95% non-condensing
Water/Dust Resistance	IP65

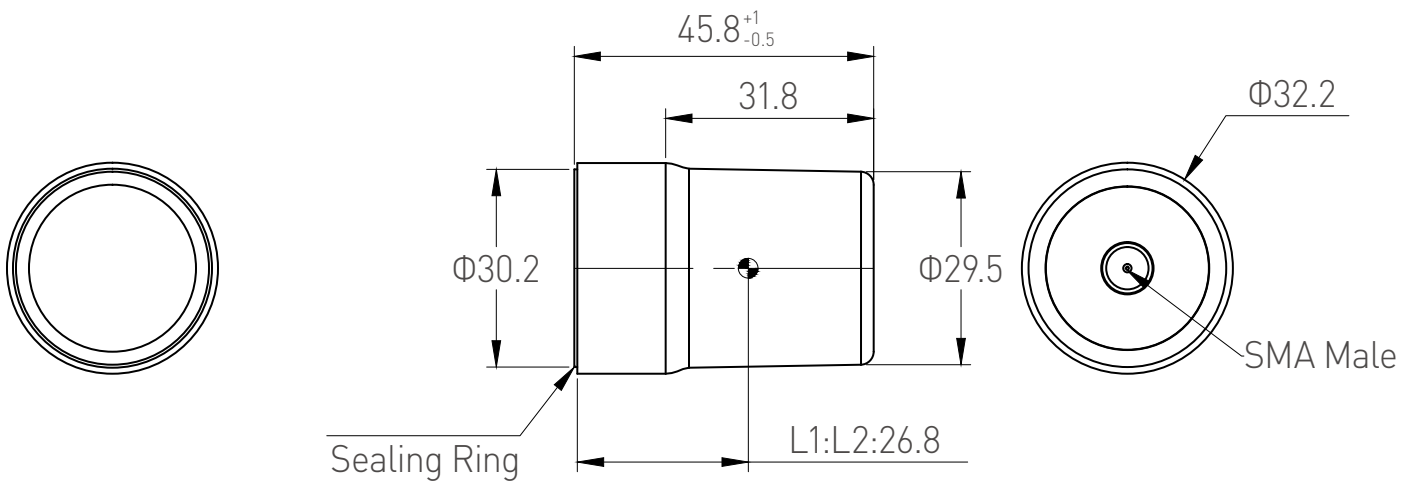
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Version 1 Specifications subject to change without notice.

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Structure& Phase Center Drawing (mm)



TOP VIEW SIDE VIEW BOTTOM VIEW

Undeclared Tolerance:±0.3mm