



## ABOUT HARXON:

Founded in 2008 and located in Shenzhen, China, Harxon is a customer focused company carrying out innovative research, development and manufacturing in the fields of high performance and high precision GNSS antennas and ultra-reliable wireless data transmission radio modems.

Harxon antennas and radio modems are widely used in UAVs, surveying and precision agriculture where reliable and real-time GNSS data is needed.

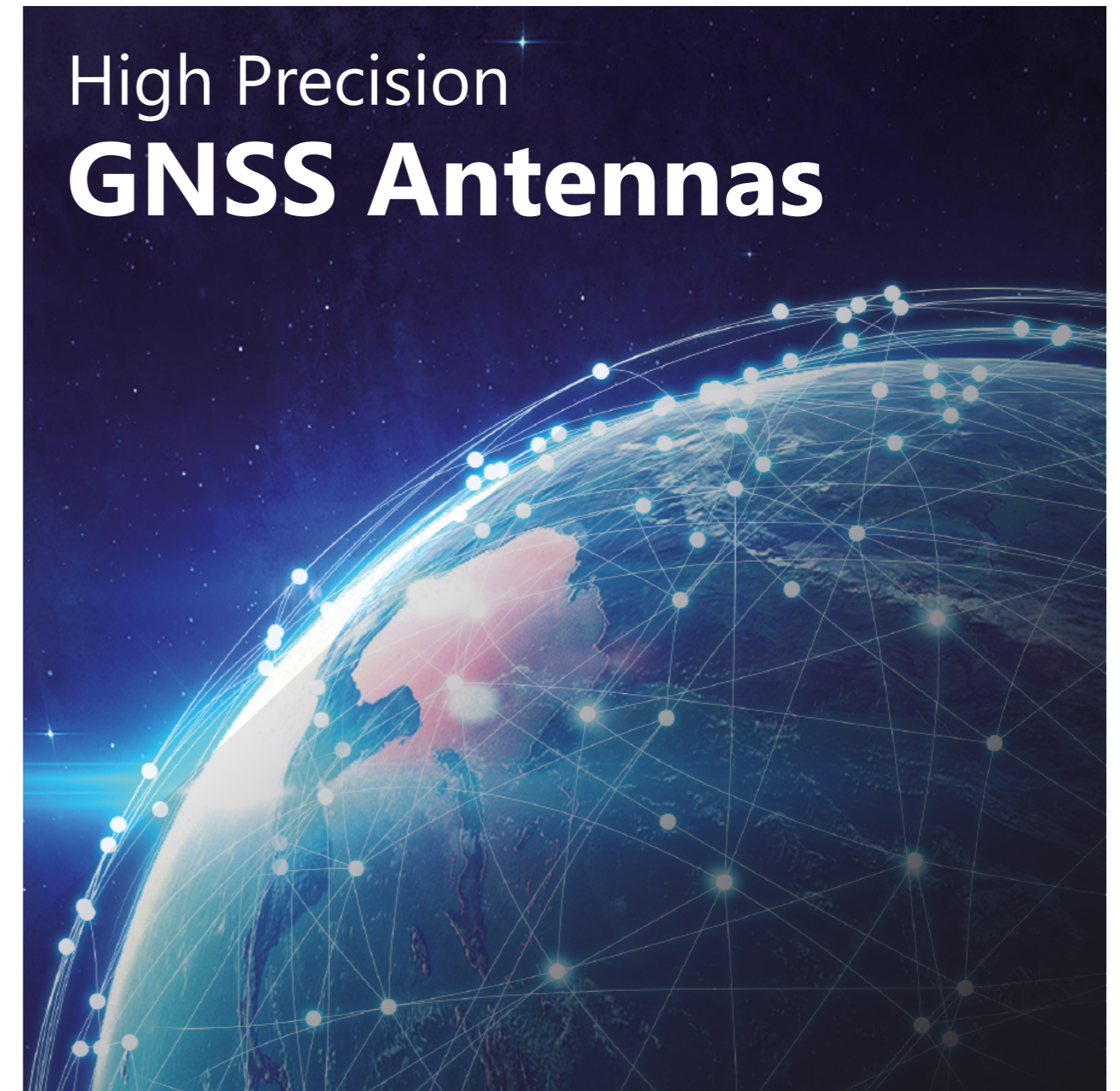
Harxon OEM products come in different designs for applications that require ease of integration and robustness in challenging environments. System integrators benefit from our technology that is customizable to fit their specific business requirements and shorten the development cycle. Whatever the application, great Harxon products empower our customers to develop their unparalleled solutions.

### HARXON CORPORATION [en.harxon.com](http://en.harxon.com)

9/F, Block B, Building D3,  
TCL International E City,  
NO.1001 Zhongshanyuan Road,  
Nanshan District, Shenzhen, China

### Contact

Tel: +86 -755-26989948  
Fax: +86 -755-26989994  
E-mail: [sales@harxon.com](mailto:sales@harxon.com)



# Harxon High Precision GNSS Antennas

	D-Helix™ HX-CHX600A	D-Helix™ HX-CH7603A	HX-CH6601A	HX-CH4601A	HX-CH3602A	HX-CSX601A	GPS1000	GPS600	HX-CS3607A	HX-CAX601A	HX-CA7607A	HX-CA3603A	HX-CG7601A	HX-CGX606A	HX-CGX601A	HX-CGX611A
																
<b>GPS</b>	L1, L2, L5	L1, L2	L1, L2	L1, L2	L1	L1, L2, L5	L1, L2, L5	L1, L2	L1	L1, L2, L5	L1, L2	L1	L1, L2	L1, L2, L5	L1, L2, L5	L1, L2, L5
<b>Glonass</b>	L1, L2, L3	L1, L2	L1, L2	L1, L2	L1	L1, L2, L3	L1, L2, L3	L1, L2	L1	L1, L2, L3	L1, L2	L1	L1, L2	L1, L2, L3	L1, L2, L3	L1, L2, L3
<b>Galileo</b>	E1, E5a, E5b, E6	—	—	—	—	E1, E5a, E5b, E6	E1, E5a, E5b, E6	—	—	E1, E5a, E5b, E6	—	—	—	E1, E5a, E5b, E6	E1, E5a, E5b, E6	E1, E5a, E5b, E6
<b>BeiDou</b>	B1, B2, B3	B1, B2, B3	B1, B2	—	B1	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1	B1, B2, B3	B1, B2, B3	B1	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3
<b>L-Band</b>	✓	—	—	—	—	✓	✓	✓	—	✓	—	—	—	✓	✓	✓
<b>Peak Gain</b>	>4dBi	>4dBi	>2.5dBi	>2.5dBi	>2.5dBi	>6dBi	>5.5dBi	>5.5dBi	>5.5dBi	>3dBi	>3dBi	>3dBi	>6dBi	>6dBi	>7dBi	>6dBi
<b>LNA Gain(typical)</b>	33dB	33dB	33dB	33dB	33dB	40dB	40dB	40dB	40dB	36dB	36dB	36dB	50dB	50dB	50dB	50dB
<b>Phase Center Variation</b>	<3mm	<3mm	<3mm	<3mm	<3mm	<2mm	<2mm	<2mm	<2mm	<3mm	<3mm	<3mm	<1mm	<1mm	<1mm	<1mm
<b>Connector</b>	SMA male	SMA male	SMA male	SMA male	SMA male	TNC female	TNC female	TNC female	TNC female	TNC female/ SMA female	TNC female/ SMA female	TNC female/ SMA female	TNC female	TNC female	TNC female	TNC female
<b>Operation Voltage</b>	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V
<b>Operation Current</b>	<55mA	<55mA	<55mA	<55mA	<35mA	<45mA	<45mA	<45mA	<35mA	<45mA	<45mA	<45mA	<60mA	<60mA	<60mA	<60mA
<b>Dimension(mm)</b>	Φ40 × 82.6	Φ40 × 75.2	Φ27.5 × 59	Φ27.5 × 59	Φ27.5 × 59	Φ173.4 × 62.6	Φ152 × 62.2	Φ152 × 62.2	Φ152 × 62.2	Φ90 × 27.5/ 115x71.8x27.5	Φ90 × 27.5/ 115x71.8x27.5	Φ90 × 27.5/ 115x71.8x27.5	Φ322 × 261	Φ322 × 261	Φ379 × 312	Φ185 × 132
<b>Weight</b>	<45g	<38g	<25g	<25g	<25g	<500g	<500g	<500g	<500g	<150g	<150g	<150g	<5.6kg	<5.6kg	<10.5kg	<2.0kg
<b>Compliance</b>	CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	NGS, CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	NGS, CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	CE, FCC, RoHS, REACH	NGS, CE, FCC, RoHS, REACH	NGS, CE, FCC, RoHS, REACH	IGS, NGS, CE, FCC, RoHS, REACH	NGS, CE, FCC, RoHS, REACH

## HIGH PERFORMANCE

Harxon antennas are designed to support high accuracy air and land applications, offering a multiple constellation GNSS signals of GPS, GLONASS, Galileo and BeiDou, that can receive high precision GNSS signals almost all over the world.

## STRONG ANTI-INTERFERENCE

Harxon antennas are designed to resist unnecessary signal interference which can cause inaccurate positioning. The antenna's out-of-band rejection ensures a stable signal receiving, moreover, the excellent electromagnetic compatibility can effectively suppress the EMI, providing the stability and reliability of GNSS signals.

## EXCELLENT TRACKING PERFORMANCE

Harxon antennas ensure an excellent multipath reduction performance across all GNSS frequency bands. The strong ability to receive low elevation signals with high gain and wide beam width makes our antennas excellent choices for tracking visible satellites and provide stable and precision GNSS data under challenging environment.

## FLEXIBLE, CUSTOMIZED

Harxon antennas come in different designs for applications that require installation both outside and internal to vehicles. The OEM antennas are designed specifically for ease of integration and dependability. System integrators benefit from our technology that is customizable to fit their specific business requirements and reduce development cycle.



## ABOUT HARXON:

Harxon Corporation is an Original Equipment Manufacturer (OEM) that designs, manufactures and sells high precision GNSS positioning technology. Our OEM products come in different designs for applications that require efficient and rapid integration. Some of these applications include surveying, agriculture, construction and machine control, unmanned vehicles for air, land. Our state-of-the-art, lean manufacturing facilities in Asia headquarter, manufacture the extensive line of antennas and other OEM systems. All of our products are supported by high-skilled technical support and design engineers in Harxon.

Whatever your applications are, Harxon's field-proven precision GNSS technology could be integrated by OEMs and System Integrators and gain the competitive edge in the marketplace.

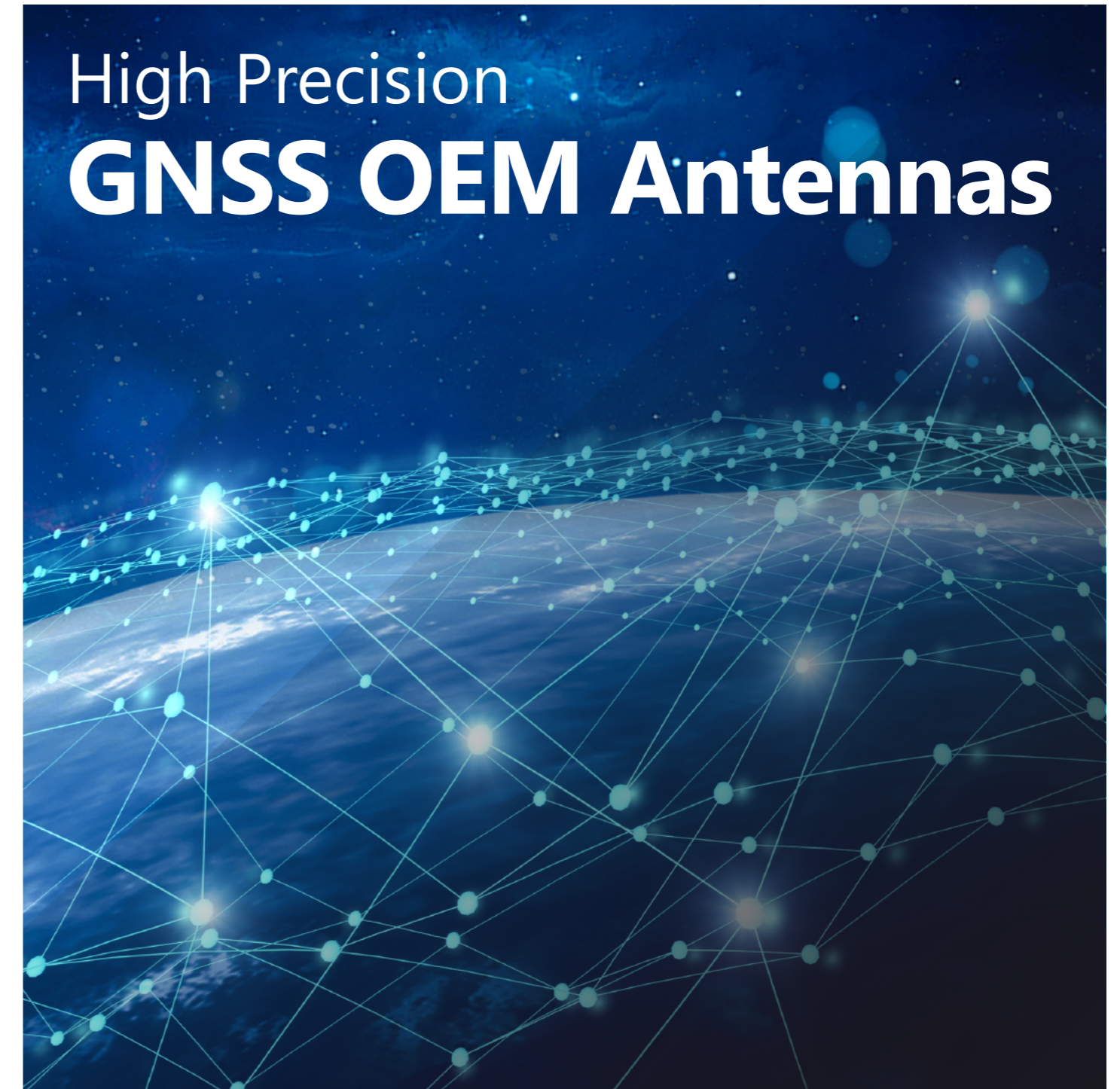
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9/F, Block B, Building D3,  
TCL International E City,  
NO.1001 Zhongshanyuan Road,  
Nanshan District, Shenzhen, China

### Contact

Tel: +86 -755-26989948  
Fax: +86 -755-26989994  
E-mail: [sales@harxon.com](mailto:sales@harxon.com)



# Harxon High Precision GNSS OEM Antennas

	X-Survey™ HX-CSX053A	HX-CSX045A	HX-CSX048A	HX-CSX078A	HX-CS7017A	HX-CU7001A	HX-CH4021A	HX-CH7005A	HX-CH4013A	HX-CH2007A	HX-CH6017A
											
<b>GPS</b>	L1, L2, L5	L1, L2, L5	L1, L2, L5	L1, L2, L5	L1, L2	L1, L2	L1	L1, L2	L1, L2	L1	L1, L2
<b>Glonass</b>	L1, L2, L3	L1, L2, L3	L1, L2, L3	L1, L2, L3	L1, L2	L1, L2	L1	L1, L2	L1, L2	L1	L1, L2
<b>Galileo</b>	E1, E5a, E5b, E6	E1, E5a, E5b, E6	E1, E5a, E5b, E6	E1, E5a, E5b, E6	—	—	—	—	—	—	—
<b>BeiDou</b>	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1, B2, B3	B1	B1, B2, B3	—	—	B1, B2
<b>L-Band</b>	✓ (BT/WI-FI/4G)	✓	✓	✓	—	—	✓	—	—	—	—
<b>Peak Gain</b>	≥6dBi	≥5.5dBi	≥5.5dBi	≥5.5dBi	≥5.5dBi	≥2dBi	≥2dBi	≥3dBi	≥3dBi	≥3dBi	≥2.5dBi
<b>LNA Gain(typical)</b>	40dB	28dB	40dB	40dB	40dB	36dB	28dB	36dB	40dB	18dB	33dB
<b>Phase Center Variation</b>	≤2mm	≤2mm	≤2mm	≤2mm	≤2mm	≤3mm	≤3mm	≤3mm	≤3mm	≤3mm	≤3mm
<b>Connector</b>	MMCX male	MCX male	MCX male	MCX male	MCX male	MCX male	MCX male	MCX male	IPEX female	IPEX female	IPEX female
<b>Operation Voltage</b>	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3.3V-12V	3V-3.3V	3V-3.3V	3.3V-12V
<b>Operation Current</b>	≤45mA	≤45mA	≤45mA	≤45mA	≤45mA	≤45mA	≤35mA	≤55mA	≤35mA	≤25mA	≤55mA
<b>Dimension(mm)</b>	Φ130 × 22.3	Φ152 × 25	Φ152 × 25	Φ111 × 24.5	Φ122 × 17.5	Φ60 × 16.7	Φ58 × 9.5	65 × 59 × 15.6	75 × 70 × 13.3	75 × 70 × 8.8	Φ23.8 × 46.8
<b>Weight</b>	≤230g	≤220g	≤220g	≤220g	≤200g	≤60g	≤45g	≤115g	≤90g	≤45g	≤7g

## HIGH PERFORMANCE

Harxon antennas have been designed to support high accuracy air, land and marine applications. Multiple constellation support enables the number of satellites available for high precision positioning, especially in the most rugged of environments.

## ROBUST, LOW MULTIPATH

Harxon antennas incorporate the out of band rejection technology to virtually eliminate the effects of unwanted signal interference or multipath for high quality measurement. Multipath is caused by signals being reflected from surfaces such as the ground, surrounding trees, or city buildings.

## FLEXIBLE, CUSTOMIZED

All of our products are supported by high-skilled technical support and design engineers in Harxon, the Specific technical specifications, cables, connectors or dimensions could be designed to meet the needs of OEMs and system integrators.



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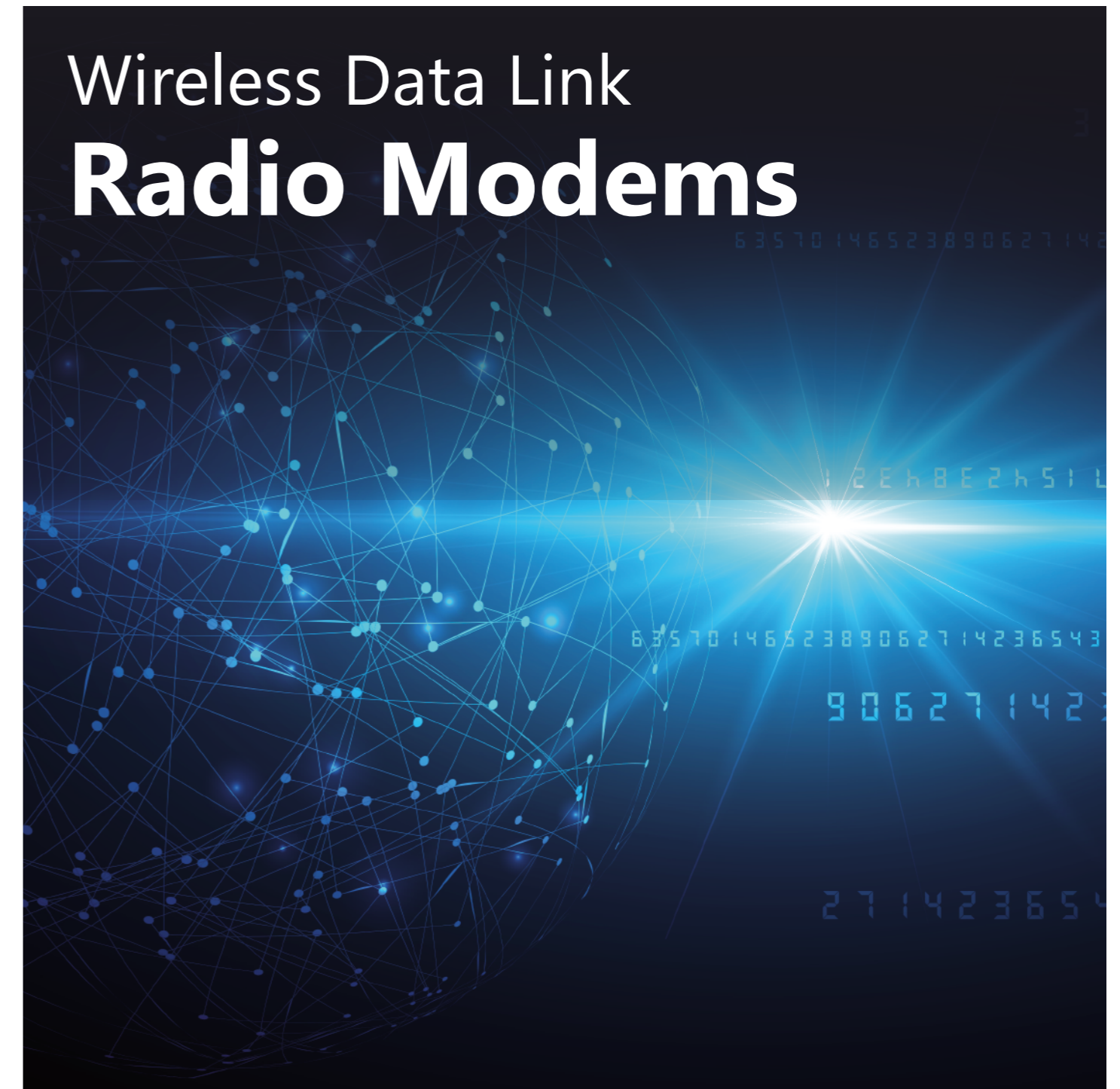
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### Contact

Tel: +86 -755-26989948  
Fax: +86 -755-26989994  
E-mail: [sales@harxon.com](mailto:sales@harxon.com)



# Wireless Data Link Radio Modems



# Harxon Wireless Data Link Radio Modems

	HX-DU2017D	HX-DU2017D-800	HX-DU2017D-900	HX-DU1018D	HX-DU1006D	HX-DU2003D	HX-DU2004D	HX-DU2005D	eRadio™ HX-DU8616D	HX-DU8602T	HX-DU8608D	HX-DU1601D	HX-DU1603D	HX-DU2601D	
<b>Frequency</b>	902-928MHz (Hopping)	865-867MHz	907.5-915MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz	410-470MHz/902-928MHz
<b>Chanel Bandwidth</b>	180KHz/150KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	12.5KHz/25KHz	200KHz/12.5KHz/25KHz
<b>Operation Mode</b>	Duplex	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex	Simplex	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex	Half-Duplex/Duplex
<b>Channels</b>	—	64	64	64	1	1	1	1	200	8	8	8	36	—	
<b>Sensitivity</b>	< -110dBm@BER 10-4, 19200bps/ < -107dBm@BER 10-4, 115200bps	< -113dBm@BER 10-4, 9600bps	< -113dBm@BER 10-4, 9600bps	< -115dBm@BER 10-4, 9600bps	< -115dBm@BER 10-4, 9600bps	< -115dBm@BER 10-4, 9600bps	< -115dBm@BER 10-4, 9600bps	< -115dBm@BER 10-4, 9600bps	< -114dBm@BER 10-4, 9600bps	—	< -114dBm@BER 10-4, 9600bps	< -115dBm@BER 10-4, 9600bps	< -115dBm@BER 10-4, 9600bps	< -113dBm@BER 10-4, 9600bps/ < -107dBm@BER 10-4, 115200bps	
<b>Data Rate</b>	19200bps/38400bps/ 57600bps/115200bps/ 172800bps/230000bps	9600bps/19200bps	9600bps/19200bps	9600bps/19200bps	9600bps/19200bps	9600bps/19200bps	9600bps/19200bps	9600bps/19200bps	4800bps/9600bps/ 19200bps	9600bps/19200bps	9600bps/19200bps	9600bps/19200bps	4800bps/9600bps/ 19200bps	19200bps/38400bps/ 57600bps/115200bps/ 172800bps/230000bps	
<b>Serial Baud Rate</b>	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps	9600bps/19200bps/ 38400bps/57600bps/ 115200bps
<b>Interface Level</b>	TTL 3.3V	TTL 3.3V	TTL 3.3V	TTL 3.3V	TTL 3.3V	TTL 3.3V	RS-232/TTL 3.3V	TTL 3.3V	RS-232	RS-232	RS-232	RS-232	RS-232	RS-232	RS-232/TTL 3.3V
<b>Operating Voltage</b>	3.3V	3.3V	3.3V	3.3V	3.3V	5V	5V	5V	9-16V	9-16V	9-16V	9-16V	9V	6-25V	
<b>High Output Power</b>	1W@DC 3.3V	1W@DC 3.3V	1W@DC 3.3V	1W@DC 3.3V	1W@DC 3.3V	2W@DC 5V	2W@DC 5V	2W@DC 5V	35W@DC 12V	25W@DC 12V	35W@DC 12V	1W@ DC 12V	2W@ DC 7.5V	1W@DC 12V	
<b>Low Output Power</b>	0.5W@DC 3.3V	0.5W@DC 3.3V	0.5W@DC 3.3V	0.5W@DC 3.3V	0.5W@DC 3.3V	0.5W@DC 5V	0.5W@DC 5V	0.5W@DC 5V	5W@DC 12V	5W@DC 12V	5W@DC 12V	0.5W@DC 12V	0.5W@ DC 7.5V	0.5W@DC 12V	
<b>Dimension(mm)</b>	35×26.5×3.5	35×26.5×3.5	35×26.5×3.5	33×26.5×3.5	70×47×11	70×47×11	82.5×47×11	76×46×11	175×130×86.5	186×140×65	186×140×73	148×76×30	150×83×31	63×45×15	
<b>Weight</b>	≤7g	≤7g	≤7g	≤6g	≤40g	≤42g	≤50g	≤58g	≤2kg	≤1.5kg	≤1.7kg	≤350g	≤560g	≤50.5g	
<b>Operating Temperature</b>	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +65°C	-30°C to +60°C	-30°C to +60°C	-30°C to +60°C	-30°C to +60°C	-40°C to +70°C	
<b>Protocols</b>	—	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	ETALK/TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	TRIMTALK™/ TRIMMARK™3/ Transparent-EOT/SATEL®	
<b>Compliance</b>	CE, FCC	—	—	—	CE, FCC	—	—	—	CE, FCC	CE, FCC	CE, FCC	—	CE, FCC	CE, FCC	

## ROBUST, HIGH PERFORMANCE

Harxon radio modems offer compact and flexible solutions for different long-range applications. The industrial leading frequency hopping modems provide strong anti-jamming capability for secure data transmission. And the IP67 housing of external radio modems ensure the functionality even under extremely harsh environmental conditions.

## RELIABLE TECHNOLOGY

Harxon radio modems are easy and fast to implement and use with low power consumption. The solutions we offer are customizable, flexible and secure. The radio technology is typically for mission-critical applications where reliability and latency of the data transmission are required to operating systems.

## CUSTOMIZED

Harxon has provided a range of OEM radio modems for system manufacturers to integrate into their own solutions. They are widely compatible and support other key manufacturers' radio protocols.