

Multiband Automotive Antenna HX-AUST002

Harxon HX-AUST002 is a highly integrated high performance multiband automotive antenna solution that provide swift, reliable connectivity to meet the increasing demands of seamless communication experience for Intelligent Transportation System (ITS) applications. This integrated antenna solution supports dedicated short range (DSRC) and Cellular vehicle-to-everything (C-V2X) communication. It equips multiple 5G antennas for multiple input and output of data to achieve swift internet download speed in 5G networks.

HX-AUST002 also embeds a premium GNSS antenna with high gain for consistent and reliable precise positioning service. This versatile antenna provides the ability to connect vehicles as various types of unmanned passenger vehicles to networks, clouds, other vehicles, roadside infrastructure, and road users of ITS and makes itself an ideal option for OBU, RSU, chipset integrator and Tier-1 manufacturers of the modern automotive industry.



RELIABLE AND CONSISTENT PERFORMANCE

HX-AUST002 antenna seamlessly integrates multi-constellation multi-band GNSS antenna for reliable precise positioning as well as consistent V2X communication with uniform radiation element. Plus embedding 4 units of 5G antennas ensures smooth internet access makes the antenna a catch in the application of ITS market.

SEAMLESS INTEGRATION

HX-AUST002 employs a Harxon patented modular structure layout to seamlessly integrate 7 units of broadband antennas into one compact enclosure with effective constrain of fusion noise that arises from antennas integration by effectively managing the balance of space and distance among antennas and ensures great isolation performance among different frequencies. The antenna also takes expandable possibility into consideration by saving space for firmware upgrade.

RUGGED HOUSING FOR HASH ENVIRONMENTS

The antenna adopts a pleasing low profile shark fin design to minimize the damage from the overhead objects on the road and reduce wind resistance for moving vehicles. The rugged and robust housing ensures the durability and long life while used in tough environment as vibration, harsh weather and high speed travel.

CUSTOMIZABLE OPTIONS AVAILABLE

To seamlessly deliver versatile antenna solution for integrators of automotive industry, Harxon HX-AUST002 is open for flexible customizable requests as hardware connector, LNA and function expandable options as DSRC, C-V2X, UWB, AM/FM, WIFI dual-frequency.

KEY FEATURES

- Highly integrated automotive antenna for reliable connectivity
- Pleasing low profile shark fin design minimizes damage from overhead objects
- Modular design for easy integration for various requirements
- Multiple input multiple output(MIMO) design for fast data transmit
- Rugged housing ensures durability in tough environment as vibration, harsh weather, and high speed travel
- Customizable V2X LNA and connector available
- UWB, AM/FM, WIFI dual-frequency antennas available upon customizable request

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Performance

Frequency Range

1x GNSS Antenna	L1/L2/ L5/B1/B2 /G1/G2
5G 1/2 Antenna	824-960M & 1710-2690M 3.3-3.6G & 4.8-5G
5G 3/4 Antenna	1710-2690M 3.3-3.6G & 4.8-5G
2x V2X	5.85-5.925G

Impedance

50 Ohms

Polarization

GNSS	RHCP
5G/ V2X	linear polarization

Azimuth Coverage

360°

VSWR

GNSS	≤2.0
5G	≤4
V2X	≤2.0

Gain/Efficiency (typical/average)

GNSS	3.5dBic
5G 1/2	824M-960M ≥35%
	1710M-2170M ≥40%
	2300M-2690M ≥40%
	3.3-3.6&4.8-5G ≥35%

5G 3/4	1710M-2170M ≥35%
	2300M-2690M ≥35%
	3.3-3.6&4.8-5G ≥35%
V2X Average Gain	-1.5dBi
GNSS Phase Center Variation	≤2.5mm
Isolation	interelement ≤-10dB
	intersystem ≤-15dB

LNA

LNA Gain	38±2dB
Noise Figure	≤2dB
Output/Input VSWR	≤2.0
Passband Ripple	±2dB
Operation Voltage	+3.3~+12VDC
Operation Current	≤100mA
Differential Propagation Delay	≤5ns
V2X Vice LNA	customizable
V2X Vice LNA Operation Voltage	3.3~12V
V2X Main LNA	customizable
V2X Main LNA Operation Voltage	3.3~12V

Mechanical

Dimensions

L160*W80*H68mm

(rubber mat/fixed frame not included)

Connector

FAKRA universal connector,
customizable

Installation

screws fixed

Environmental

Operation Temperature -40°C~+85°C

Storage Temperature -55°C~+105°C

Humidity 95% no condensation

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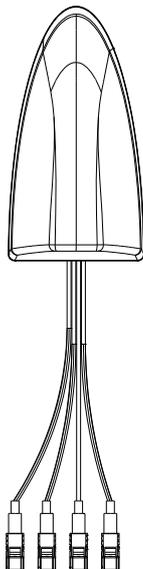
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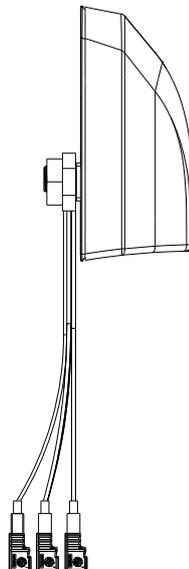
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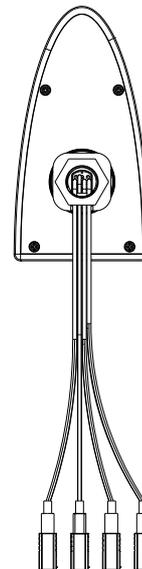
Structure Diagram(mm)



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Undeclared Tolerance:±0.3mm