



# UM220-IV N

## GPS/BDS Automotive Grade Navigation/Positioning Module

### Brief Introduction

UM220-IV N is a GPS/BDS dual-system module designed for automotive navigation and positioning. UM220-IV N is based on Unicore GNSS SoC (UFirebird™)<sup>1</sup>. With its compact features and reliable performance, UM220-IV N is most suitable for applications requiring high performance and high quality positioning.

### Application Fields

- In-Dash Vehicle Navigation
- Vehicle Monitoring
- .....

### Product Characteristics

- Automotive grade, with AEC-Q100 compliant GNSS SoC, produced with TS16949
- Support GPS/BDS dual-system and single system positioning
- Anti-interference and low power design
- Support A-GNSS, D-GNSS
- Compatible with Mainstream GPS Module, Cost saving
- SMD surface-mount technology makes it easy for users production
- Work in complex electromagnetic environment

<sup>1</sup>UFirebird™ (UC6226) is a low-power GNSS SoC developed by Unicore with its self-intellectual property, supporting BDS+GPS/GLONASS/GALILEO.



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### Technical Specifications

#### Performance Specifications

Channel	Based on 64-Channel	Positioning	2.0m CEP(Dual-System)	
	SoC - UFirebird		Accuracy	1.0m CEP(DGNSS*)
Frequency	BDS B1/GLONASS E1/SBAS	Velocity		GNSS/GPS: 0.1m/s 1sigma
	GPS L1/Galileo L1		Accuracy <sup>2</sup> (RMS)	BDS: 0.2m/s 1sigma
Modes	Single System Positioning	1PPS		Support
	Multi-System Positioning		Sensitivity	GPS
Time to First Fix (TTFF)	Cold Start : <29s	Cod Start		-147dBm
	Hot Start : 1s		Hot Start	-154dBm -153dBm
	Acquisition : <1s		Tracking	-161dBm -160dBm
	AGNSS < 5s		Reacquisition	-158dBm -157dBm
Update Rate	Up to 10Hz (Required customized version)			

#### Physical Specifications

Dimensions	16 x 12.2 x 2.4mm
Package	24 pin SMD
Temperature	Operating -40°C~+85°C
	Storage -45°C~+90°C

#### Electrical Specifications

Voltage	2.8V ~ 3.6 V DC
LNA	2.7V ~ 3.3 V, <100mA
Power	50mV
Consumption <sup>3</sup>	

#### Functional Ports

2 x UART, 1 x Event  
1 x 1PPS, 1 x SPI, 1xI<sup>2</sup>C

#### Functional Specification

Passive Antenna, Active Antenna,  
DGNSS \*, AGNSS \*

Note: Part marked with \* is customizable

<sup>2</sup> Typical conditions, <30m/s

<sup>3</sup> open sky, continuous tracking

## CONTACT US

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