



UM220-IV M

Compact GNSS Navigation Positioning Module

Brief Introduction

UM220-IV M is a multi-system compact navigation module designed for the automotive market. As the fourth generation GNSS navigation and positioning module, UM220 IV M is based on the proprietary GNSS SoC UC6226 Firebird. Due to the high integration, low power consumption, anti-interference and compact design, UM220-IV M is ideal for applications requiring excellent performance and accurate positioning.

Application Fields

- Tracker
- Vehicle Navigation

Product Characteristics

- Super small packaging
- GPS/BDS dual system and single system
- Eligible for large- scale applications that demand high performance, small size and low cost

Ordering Information

- Supply at multiples of 500 pieces

¹UFirebird™ (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 SoC - UFirebird	Positioning	2.0 m CEP(Dual-System)
Frequency ⁴	BDS B1 GPS L1	Accuracy ¹	
Modes	Single System Positioning Multi-System Positioning	Velocity	GNSS/GPS: 0.1 m/s
Time to First Fix ³	Cold Start: <29 s AGNSS <5s Hot Start: 1 s	Accuracy ¹ (RMS)	BDS: 0.2 m/s
(TTFF)	Reacquisition: <1 s	1PPS	Support
Update Rate	1 Hz	Sensitivity	BDS GPS
		Cold Start	-144 dBm -146 dBm
		Hot Start	-151 dBm -151 dBm
		Tracking	-160 dBm -160 dBm
		Reacquisition	-156 dBm -157 dBm

Physical Specifications

Dimensions	10.1 x 9.7 mm
Package	18 pin SMD
Temperature	Operating -40°C~+85°C Storage -40°C~+90°C

Functional Ports

1 x UART,
1 x 1PPS,

Electrical Specifications

Voltage	2.8 V ~ 3.6 V DC
LNA	2.7 V ~ 3.3 V, <100 mA
Power	63 mW
Consumption ³	

Functional Specification

Passive Antenna, Active Antenna,
DGNSS *、AGNSS *

Data ports NMEA 0183 (compatible with BEIDOU)
Unicore

Note: *Refers to the optional configuration
¹ Typical conditions, <30m/s open sky.
² open sky, continuous
³ open sky.
⁴ Running three systems at most simultaneously.

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