

UM220-IV M0

Industrial Grade Multi-GNSS
Navigation and Positioning Module



9.7 x 10.1 x 1.9 mm



Product Characteristics

- » Ultra-small packaging
- » Compact design, small size
- » Excellent performance, supporting single-system standalone positioning and multi-system joint positioning
- » Anti-jamming technology, which enables the module to work stably in complex electromagnetic environments
- » Low power consumption
- » Suitable for large-scale applications that require high performance, small size and low cost

Applications



Tracker



Vehicle
Navigation

Ordering Information

Supply at multiples of 1000 pieces

Brief Introduction

UM220-IV M0 is a multi-system compact navigation module designed for the automotive market. As the fourth generation of GNSS navigation and positioning module, UM220-IV M0 is based on Unicore's proprietary GNSS SoC UC6226. It is highly integrated, with low power consumption, anti-jamming design, compact size, and is suitable for applications requiring low cost.

10	GND	nRESET	9
11	RF_IN	VCC	8
12	GND	UM220-IV M0 VCC_IO	7
13	ANTON	V_BCKP	6
14	VCC_RF	GPIO1	5
15	GPIO2	TIME PULSE	4
16	SDA	RXD	3
17	SCL	TXD	2
18	RSV	GND	1

Physical Specifications

Dimensions	9.7 x 10.1 x 1.9 mm
Package	18 pin SMD
Temperature	Operating -40 °C ~ +85 °C Storage -45 °C ~ +90 °C

Electrical Specifications

Voltage	3.0 V ~ 3.6 V DC
LNA	3.0 V ~ 3.3 V, <100 mA
Power Consumption ⁴	90 mW

Interfaces

1 x UART (LVTTL)
1 x 1PPS (LVTTL)

Functional Characteristics

Passive Antenna, Active Antenna,
AGNSS *

- NOTE:** Supported by specific firmware
- 1 Simultaneously running three systems at most. Using command to switch between BDS and GLONASS.
 - 2 Open sky.
 - 3 Typical value < 30 m/s open sky.
 - 4 Open sky, continuous tracking.

Performance Specifications

Channel	64 channels, based on UFirebird
Frequency ¹	GPS L1 GLONASS G1 BDS B1 Galileo E1 QZSS SBAS
Modes	Single-System Standalone Positioning Multi-System Joint Positioning Cold Start < 28 s
Time to First Fix (TTFF) ²	Hot Start < 1 s Reacquisition < 1 s AGNSS < 4 s
Data Update Rate	1 Hz
Positioning Accuracy (CEP) ³	Horizontal: 2.0 m Vertical: 3.5 m
Velocity Accuracy ³ (RMS)	0.1 m/s (GNSS)
1PPS	Support
Sensitivity	GNSS Tracking -161 dBm Cold Start -147 dBm Hot Start -155 dBm Reacquisition -158 dBm
Data Format	NMEA 0183, Unicore