

UM220-IV M0

Compact GNSS Navigation and Positioning Module



10.1 x 9.7 x 2.2 mm

Product Characteristics

- » Super small packaging
- » Support single-system standalone positioning and multi-system joint positioning
- » Suitable for large-scale applications that demand high performance, small size and low cost

Applications



Tracker



Vehicle Navigation

Brief Introduction

UM220-IV M0 is a multi-system compact navigation module designed for the automotive market. As the fourth generation GNSS navigation and positioning module, UM220 IV M0 is based on Unicore's proprietary GNSS SoC UC6226 Firebird. Due to the high integration, low power consumption, anti-interference design and compact size, UM220-IV M is ideal for applications requiring excellent performance, accurate positioning and low cost.

Ordering Information

Supply at multiples of 1000 pieces

UM220-IV M0			
10	GND	nRESET	9
11	RF_IN	VCC	8
12	GND	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

Functional Ports

1 x UART	1 x 1PPS
Data ports	NMEA 0183(compatible with BDS), Unicore

Physical Specifications

Dimensions	10.1 x 9.7 x 2.2 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	2.7 V ~ 3.3 V, <100 mA
Power Consumption ⁴	90 mW

Functional Characteristics

Passive Antenna, Active Antenna, DGNSS *, AGNSS *

- NOTE: *Refers to the optional configuration.
- 1 Simultaneously running three systems at most.
 - 2 Open sky.
 - 3 Typical conditions, <30m/s open sky.
 - 4 Open sky, continuous tracking

Performance Specifications

Channel	Based on 64-Channel SoC - UFirebird		
Frequency ¹	BDS B1 GPS L1 GLONASS E1*		
Modes	Single-System Positioning Multi-System Positioning		
Time to First Fix ² (TTFF)	Cold Start: <28 s AGNSS <4s Hot Start<1 s Reacquisition: <1 s		
Update Rate	1 Hz		
Positioning Accuracy ³	2.0 m CEP(Dual-System Horizontal)		
Velocity	GNSS/GPS: 0.1 m/s		
Accuracy ³ (RMS) 1PPS	BDS: 0.2 m/s Support		
Sensitivity	BDS	GPS	GLONASS
Tracking	-160 dBm	-161 dBm	-158dBm
Acquisition	-146dBm	-146dBm	-142dBm
Hot Start	-154 dBm	-151 dBm	-148dBm
Reacquisition	-157 dBm	-158 dBm	-153dBm