

UM220-IV NV

Automotive Grade Multi-GNSS
Navigation and Positioning Module



12.2 × 16.0 × 2.4 mm



Product Characteristics

- » Automotive grade, GNSS SoC conforming to AEC-Q100 standard and production in line with IATF16949 standard
- » Excellent navigation and positioning performance, supports single-system standalone positioning and multi-system joint positioning
- » Anti-jamming design, which enables the module to work stably under complex electromagnetic environments
- » Low power consumption design
- » Supports A-GNSS, DGNSS
- » Compatible with mainstream GPS modules, cost saving
- » Raw observation output (optional)
- » SMD, easy for users to produce

Applications



Vehicle
Navigation



T-BOX

Brief Introduction

UM220-IV NV is a multi-system positioning module developed by Unicore Communications for the vehicle navigation market. It is the fourth generation automotive grade GNSS module based on Unicore's proprietary GNSS SoC-UC6226, with high integration, low power consumption, and anti-jamming design. UM220-IV NV is suitable for large-scale GNSS applications that require high performance, high reliability, and high quality.

13	GND	GND	12
14	SPL_SDO	RF_IN	11
15	SPL_SDI	GND	10
16	SPL_SCK	VCC_RF	9
17	SPL_CS1	RSV	8
UM220-IV NV			
18	SDA	RXD2	7
19	SCL	TXD2	6
20	TXD1	GPIO2	5
21	RXD1	EXTINT0	4
22	V_BCKP	TIME PULSE	3
23	VCC	GPIO3	2
24	GND	nRESET	1

Ordering Information

Supply at multiples of 500 pieces

Physical Specifications

Dimensions	12.2 x 16.0 x 2.4 mm
Package	24 pin SMD
Weight	0.8 g
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

2 x UART
1 x 1PPS (LVTTL)

Functional Characteristics

Passive Antenna, Active Antenna,
A-GNSS*, raw observation output

NOTE: The parts marked with * are supported by specific firmware.

- 1 Concurrent operation of three systems at most, using corresponding command to switch between BDS and GLONASS; 2 Open sky; 3 Typical value, < 30m/s open sky; 4 Open sky, continuous tracking

Performance Specifications

Channel	64 channels, based on UFirebird		
Frequency ¹	GPS L1 BDS B1 Galileo E1 GLONASS G1 QZSS SBAS		
Modes	Single-system standalone positioning or multi-system joint positioning		
Time to First Fix (TTFF) ²	Cold Start: < 28 s	Positioning Accuracy (CEP) ³	Horizontal: 2.0 m Vertical: 3.5 m
	Hot Start: < 1 s	Velocity Accuracy(RMS) ³	0.1 m/s
	Reacquisition: < 1 s A-GNSS: < 4 s		
Data Update Rate	1 Hz / 5 Hz	1PPS	Support
Sensitivity	GNSS		
	Tracking	-161 dBm	
	Cold Start	-147 dBm	
	Hot Start	-154 dBm	
	Reacquisition	-157 dBm	
Data Format	NMEA 0183, Unicore		