

UM220-IV NL

Industrial Grade Multi-GNSS
Navigation and Positioning Module



16.0 x 12.2 x 2.4 mm

Product Characteristics

- › Excellent navigation and positioning performance, supporting single-system standalone positioning and multi-system joint positioning
- › Anti-interference design, which enables the module to work stably under complex electromagnetic environments
- › Low power consumption design
- › Firmware compatible with previous generation products and mainstream GPS modules, easy to replace
- › Supports NMEA V4.1 protocol
- › Surface Mount Technology which facilitates users to produce
- › Raw observation data output (optional)

Applications



Vehicle
Navigation



Vehicle
Monitoring

Brief Introduction

UM220-IV NL is a multi-system GNSS module based on Unicore's proprietary low power consumption high performance SoC - UFirebird. It supports GPS L1+BDS B1 multi-system or single system raw observation data output and supports AGNSS function, which improves the positioning speed with the help of assisted data transmitted through network. The module also supports high precision solution on the user's hardware platform, improving positioning accuracy. UM220-IV NL is of compact size and adopts SMT pad, supporting standard pick-and-place and fully automated integration of reflow soldering, particularly suitable for low cost and low power consumption applications.

Ordering Information

Supply at multiples of 500 pieces

13	GND	GND	12
14	NC	RF_IN	11
15	NC	GND	10
16	NC	VCC_RF	9
17	NC	NC	8
UM220-IV NL			
18	NC	RXD2	7
19	NC	TXD2	6
20	TXD1	GPIO2	5
21	RXD1	NC	4
22	V_BCKP	TIME PULSE	3
23	VCC	AADET_N	2
24	GND	nRESET	1

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 ~ 3.6V DC
LNA	3.0 V ~ 3.3V, < 100 mA
Power Consumption ²	90 mW

Functional Ports

2 x UART	1 x 1PPS
Data Format: NMEA 0183	
Unicore	

Functional Characteristics

AGNSS *	
Raw observation output	

NOTE: * Supported by specific firmware
1 Open sky, using TruePoint RTK algorithm
2 Open sky, continuous tracking

Performance Specifications

Channel	Based on 64-Channel SoC - UFirebird
Frequency ¹	GPS L1 BDS B1 Galileo E1 QZSS
Modes	Single-system or multi-system
Time to First Fix (TTFF) ²	Cold Start < 29 s Hot Start < 1 s Re-acquisition < 1 s AGNSS 5 s
Update Rate	1 Hz
1PPS	Support
Sensitivity	GNSS
Tracking	-161 dBm
Acquisition	-146 dBm
Hot Start	-151 dBm
Reacquisition	-158 dBm