UM620A

Automotive-grade Multi-GNSS Dual-frequency Positioning Module

Automotive Grade

16.0 x 12.2 x 2.4 mm

Product Characteristics

- Automotive-grade dual-frequency navigation and positioning module
- Supports GPS L1 C/A, L5; BDS B1I, B1C*, B2a; GLONASS G1; Galileo E1, E5a; NavIC L5*; QZSS and SBAS
- Supports multi-system dual-frequency positioning, multi-system single-frequency positioning, or single-system standalone positioning
- GNSS chip qualified according to AEC-Q100 and productition process conforms to IATF16949
- Anti-jamming design to ensure the module working stably in complex electromagnetic environments

Applications

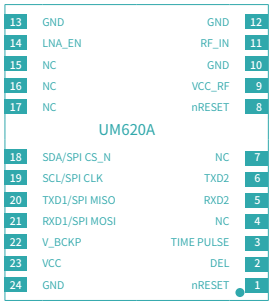
- Vehicle Navigation
- T-BOX
- Intelligent Cockpit

Ordering Information

Supply at multiples of 500 pieces

Brief Introduction

UM620A is an automotive-grade GNSS dual-frequency navigation module developed by Unicore Communications for the automotive market. Based on the proprietary multi-system dual-frequency high-performance SoC-UC6580A, the module supports multi-system dual-frequency positioning, multi-system single-frequency positioning, or single-system standalone positioning, ensuring high positioning accuracy even in complex environments such as multi-path surroundings.



Physical Specifications

Dimensions	12.2 x 16.0 x 2.4 mm
Package	24 pin, SMD
Temperature	Operating -40 °C ~ +85 °C
	Storage -40 °C ~ +85 °C

Electrical Specifications

Voltage	2.7V ~ 3.6 V DC
LNA	2.7V ~ 3.3 V, <100 mA
Power Consumption[3]	300 mW

Interfaces

2 × UART (LVTTL)
1 × I²C*
1 × SPI*
1 × 1PPS (LVTTL)

Functional Characteristics

Passive Antenna, Active Antenna,
AGNSS*

Note: * Supported by specific firmware.
1 Open sky
2 68% at 30 m/s for dynamic operation,open sky
3 Open sky, continuous tracking

Performance Specifications

Channel	96 channels, based on UFirebird II	
Frequency	GPS L1C/A, L5	
	BDS B1I, B1C*, B2a	
	GLONASS G1	
	Galileo E1, E5a	
	NavIC L5*	
	QZSS L1, L5	
	SBAS L1C/A	
Modes	Single-System Standalone Positioning	
	Multi-System Joint Positioning	
Time to First Fix (TTFF)[1]	Cold Start : < 26 s	
	Hot Start : < 2 s	
	Reacquisition : < 2 s	
Positioning Accuracy(CEP)[1]	Horizontal: 1.5 m (Dual-frequency quad-system)	
Velocity Accuracy(RMS)[2]	0.05 m/s	
1PPS	20 ns	
Sensitivity	GNSS	
	Tracking	-162 dBm
	Cold Start	-148 dBm
	Hot Start	-158 dBm
	Reacquisition	-160 dBm
Data Update Rate	1 Hz / 5 Hz* / 10 Hz*	
Data Format	NMEA 0183, Unicore	