UFirebird
UC6226

Multi-GNSS Positioning SoC

Automotive Grade

Industrial Grade

REACH

RoHS

Product Advantages

- Ultra-low power consumption
- Supports GPS, BDS, GLONASS, Galileo single-system standalone positioning and multi-system joint positioning
- Built-in anti-jamming module, adaptable to various environments
- High integration, simple peripheral devices, cost-effective
- Compatible with mainstream package

Applications

- Tracker
- Smart Phone
- IoT
- Vehicle Navigation
- Wearables

Brief Introduction

With the 28nm process and ingenious PMU design, UFirebird UC6226 features ultra-low power consumption and ultimate miniaturization, significantly improving the battery life of users' devices.

UC6226 is developed for global applications, supporting GPS, BDS, GLONASS, Galileo multi-system joint positioning. The high integration design reduces the use of peripheral devices and the board area. UC6226 adopts QFN40 package and complies with the AEC-Q100 reliability standard.

Ordering Information

Supply in multiples of 3000 pieces.

Performance Specifications

Channel	64 channels	
Frequency	GPS L1, BDS B1, GLONASS G1, Galileo L1 (Concurrent reception of 2 or 3 GNSS signals)	
Positioning Accuracy (RMS)	Horizontal： < 2.0 m	
Velocity Accuracy	0.1 m/s	
Time To First Fix (TTFF)[1]	Cold Start < 28 s	
	AGNSS[2] < 4 s	
	Hot Start < 1 s	
	Reacquisition < 1 s	
Sensitivity	GNSS	
	Tracking	-160 dBm
	Cold Start	-147 dBm
	Hot Start	-154 dBm
	Reacquisition	-158 dBm

Power Consumption @ 3.3 V	Acquisition 24 mA (dual-GNSS joint positioning)
	Tracking 12 mA (dual-GNSS joint positioning)
Interfaces	UART× 2
Data Format	NMEA0183, Unicore
Data Update Rate	1 Hz
Firmware	Flash
Operating Temperature	-40 °C ~ +85 °C
Other Functions	Anti-jamming: Built-in, active detection and removal
	LNA: Built-in
	RTC input: 32.768 kHz
	DC/DC: Built-in, optional

Product	Package	Flash	Grade	Main Supply	IO Supply
UC6226NIS-E310E1	QFN40 5.0 × 5.0 × 0.75 mm	Yes	Industrial	3.0 ~ 3.6 V	3.0 ~ 3.6 V
UC6226NIS-E310E2	QFN40 5.0 × 5.0 × 0.75 mm	Yes	Industrial	1.2 ~ 1.98 V	1.7 ~ 1.9 V
UC6226NAS	QFN40 5.0 × 5.0 × 0.75 mm	Yes	Automotive	3.0 ~ 3.6 V	3.0 ~ 3.6 V

Note: 1. Satellite signal strength reaching -130 dBm
2. Timely input of assisted data