

TAU1312

Multi-Band GNSS RTK Module

Industrial

PRODUCT DESCRIPTION

TAU1312 is a high-performance dual-band RTK positioning module, which is based on the state of the art CYNOSURE III SoC architecture. It supports GPS, BeiDou, GLONASS, Galileo, and QZSS.

TAU1312 integrates efficient power management architecture, while providing high precision, high sensitivity and low power GNSS solutions which make it suitable for navigation applications on automotive, consumer electronics, as well as fleet management.



12.2*16.0*2.4 mm

HIGHLIGHTS

- Supports GPS, BDS, GLONASS, Galileo, and QZSS
- Compact size for high precision industry
- Integrated Real Time Kinematics (RTK)
- State-of-art low power consumption design
- Supports multi-band multi-system high-precision raw data output, easy for 3rd party integration
- Highly integrated module, the best cost-effective high precision GNSS solution

APPLICATIONS



Surveying and Mapping



UAV



Precision Agriculture



Smart Driving

Product selector:

Product	GNSS							Feature						Interface			Accuracy			Grade			
	Band (S/D/T)	GPS	BDS	GLONASS	Galileo	NavIC	QZSS	Built-in LNA	Programmable (flash)	Data logging	D-GNSS	Oscillator	Raw Data	RTK	UART	I ² C	USB	SPI	Meter	Sub-meter	Centimeter	Industrial	Automotive
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T = TCXO

○ = Supported upon request with special firmware

GENERAL SPECIFICATIONS

GNSS Reception

GPS/QZSS: L1C/A, L2C, L5
 BDS: B1I, B2I, B2a
 GLONASS: G1, G2
 Galileo: E1, E5a

GNSS Engine

Cynosure III GNSS Engine
 40 GNSS tracking channels

Update Rate

PVT 5 Hz max.
 RTK 5 Hz max.

Position Accuracy

GNSS 1m CEP
 D-GNSS <1.0 m CEP
 RTK 1.0 cm +1 ppm (H)
 3.0 cm +1 ppm (V)

Time to First Fix (TTFF)

Hot start 2s
 Cold start 24s
 RTK convergence <10s

Sensitivity

Cold Start -148 dBm
 Hot Start -158 dBm
 Reacquisition -160 dBm
 Tracking & Navigation -162 dBm

Velocity & Time Accuracy

GNSS 0.1 m/s CEP
 1PPS 20 ns

Interfaces

UART 1
 USB* 1
 SPI* 1
 I2C* 1

*: Supported upon request with special firmware

Antenna

Active antenna

Operating Condition

Main voltage 2.0-3.6 V
 Digital I/O voltage 1.8-3.6 V
 Backup voltage 1.8-3.6 V

Operation Limit

Velocity 515 m/s
 Altitude 18,000m

Antenna Supervision

Antenna short circuit protection and open circuit detection

Power Consumption

Operating	GPS/QZSS, L1	22 mA @ 3.3V
	GNSS, L1+L5	34 mA @ 3.3V
	GNSS, L1+L2	34 mA @ 3.3V
Standby	12 uA	

ENVIRONMENT DATA

Operation temperature -40°C to +85°C
 Storage temperature -40°C to +85°C
 Certification RoHS, REACH, FCC,
 CE-RED

PACKAGE

Package 24 PIN LCC
 Dimensions 12.2*16.0*2.4 mm

