

TAU2102

GNSS Dead Reckoning Module

Standard

PRODUCT DESCRIPTION

TAU2102 is a GNSS module with dead reckoning, which is based on the Allystar CYNOSURE III SoC chips. It supports GPS, BDS, and QZSS satellite signals. Combining GNSS positioning and inertial navigation technology makes TAU2102 output positioning data in the environments where GNSS signal quality is poor or even lost (such as tunnels, underground parking, etc.), and provide continuous and accurate positioning for navigation applications.



HIGHLIGHTS

- Support GNSS and INS navigation technology
- Support BDS-3 signals
- Output raw data with built-in 6D IMU
- Support ADR/UDR adaptive switching
- Support A-GNSS
- Support free installation

APPLICATIONS



Automotive Navigation



E-bikes



UAVs



Asset Tracking Terminals

Product Selector:

Product	Type	GNSS							Feature					Interface		Accuracy		Grade				
	DR Module	Band (S/D/T)	GPS	BDS	GLONASS	Galileo	NavIC	QZSS	Built-in SAW	Built-in LNA	Data Logging	D-GNSS	Oscillator	Built-in inductor	IMU Raw data	UART	USB	Meter	Sub-meter	Centimeter	Industrial	Automotive
TAU2102-1216A00	•	S	•	•				•	•	•		•	T		•	•		•			•	

T = TCXO

GENERAL SPECIFICATIONS

GNSS Reception

GPS/QZSS: L1C/A
BDS: B1I, B1C

Update Rate

Position update 1 Hz
Sensor output 50 Hz

Position Accuracy

GNSS 1.0m CEP

Velocity & Time Accuracy

GNSS 0.1 m/s CEP
1PPS 20 ns

Time to First Fix (TTFF)

Hot start 1s
Cold start 30s

Sensitivity

Cold start -147 dBm
Hot start -155 dBm
Reacquisition -155 dBm
Tracking & Navigation -160 dBm

Interfaces

UART 2

Antenna

Active antenna
Passive antenna

Position Error*

UDR: 5% of distance travelled
ADR: 3% of distance travelled

* Under the condition of 120s continuous GNSS signal loss.

Operation Limit

Velocity 515 m/s
Altitude 18,000m

Safety Supervision

Antenna short circuit and open circuit detection
Antenna short circuit protection

Operating Condition

Main voltage 3.0-3.6 V
Digital I/O voltage 3.0-3.6 V
Backup voltage 1.8-3.6 V

Power Consumption

Acquisition 40 mA @ 3.3V
Tracking 38 mA @ 3.3V
Standby mode 12 uA

ENVIRONMENT DATA

Operation temperature -40°C to +85°C
Storage temperature -40°C to +90°C
Certification RoHS & REACH

PACKAGE

Packaging 24 PIN LCC
Dimensions 16.0*12.2*2.4 mm

