TAU2202

GNSS Module with Dead Reckoning

Industrial

PRODUCT DESCRIPTION

TAU2202 is a GNSS module with dead reckoning, which is based on Allystar CYNOSURE III SoC chip. It supports GPS, BDS, Galileo, and QZSS satellite signals. Combining GNSS positioning and inertial navigation technology makes TAU2202 output positioining data in the environments where GNSS signal quality is poor or even loss (such as tunnels, underground parking, etc.), and provide continuous and accurate positioning for navigation applications.
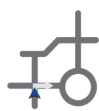
HIGHLIGHTS

- 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   Lane-level Navigation   Fleet Management   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
TAU2202-1216A00	•	D	•	•		o		•	•	•		•	T			•	•		•		•	

T = TCXO   o = Supported upon request with special firmware.

GENERAL SPECIFICATIONS

GNSS Reception

GPS/QZSS: L1C/A, L5

BDS: B1I, B1C, B2a

Galileo[1]: E1, E5a

* [1] Supported upon request with special firmware.

Position Accuracy

GNSS	1.0m CEP

Update rate

Position update	1 Hz
Sensor output	50 Hz

Time to First Fix (TTFF)

Hot start	1s
Cold start	30s

Sensitivity[2]

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

* [2] Demonstrated with a good external LNA.

Velocity & Time Accuracy

GNSS	0.1 m/s CEP
1PPS	20 ns

Interface

UART	2

Position Error[3]

UDR: 5% of distance travelled

ADR: 3% of distance travelled

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

Operation Limit

Velocity	515 m/s
Altitude	18,000m

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	54 mA @ 3.3V
Tracking	50 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

ALLYSTAR