

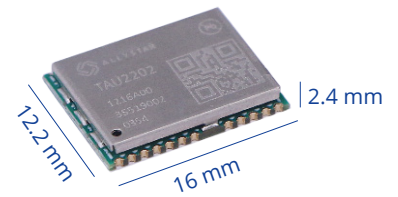
# TAU2202

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 has two variants, TAU2202-AFX (L1) and TAU2202-1216A00 (L1+L5), both of which support GPS, BDS, and QZSS satellite signals. Combining GNSS positioning and inertial navigation technology makes TAU2202 output positioning 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.



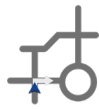
## HIGHLIGHTS

- Supports GNSS and INS navigation technology
- Supports BDS-3 signals
- Built-in 6D IMU, 3-axis gyroscope and 3-axis accelerometer
- Supports other sensors access for multi-source information fusion
- Supports A-GNSS
- Supports 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	Raw data	UART	I2C	USB	SPI	Meter	Sub-meter	Centimeter	Industrial	Automotive
TAU2202-1216A00	• D	•	•				•	•	•		•	T			•	o		o		•			•	
TAU2202-1216AFX	• S	•	•				•	•	•		•	T			•	o		o	•				•	

T = TCXO

o = Supported upon request with special firmware.

## GENERAL SPECIFICATIONS

### GNSS Reception

TAU2202-1216AFX	GPS/QZSS: L1 BDS: B1I, B1C <sup>[1]</sup>
TAU2202-1216A00	GPS/QZSS: L1, L5 BDS: B1I, B1C <sup>[1]</sup> , B2a

\* [1] Supported upon request with special firmware.

### Position Accuracy

GNSS	1.0m CEP
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### Update rate

Position update	1 Hz
Sensor output	50 Hz

### Time to First Fix (TTFF)

Hot start	1s
Cold start	30s

### Sensitivity<sup>[2]</sup>

Cold start	-148 dBm
Hot start	-155 dBm
Reacquisition	-158 dBm
Tracking & Navigation	-160 dBm

\* [2] Demonstrated with a good external LNA.

### Velocity & Time Accuracy

GNSS	0.1 m/s CEP
1PPS	20 ns

### Interfaces

UART	1
I2C <sup>[3]</sup>	1
SPI <sup>[3]</sup>	1

\* [3] Supported upon request with special firmware.

### Position Error<sup>[4]</sup>

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

\* [4] 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

TAU2202-1216AFX	Acquisition	40 mA @ 3.3V
	Tracking	38 mA @ 3.3V
TAU2202-1216A00	Acquisition	54 mA @ 3.3V
	Tracking	50 mA @ 3.3V
Standby		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	12.2*16.0*2.4 mm

## ORDERING INFO

Ordering code	Product info
TAU2202-1216A00	Concurrent GNSS LCC Module, TCXO, Flash, L1+L5, 12.2*16 mm, 1000 pcs/reel
TAU2202-1216AFX	Concurrent GNSS LCC Module, TCXO, Flash, L1, 12.2*16 mm, 1000 pcs/reel



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