

TAU951M-P2 Series

GNSS Dual-band High-precision RTK Module



PRODUCT DESCRIPTION

The TAU951M-P2 series is a set of GNSS dual-band high-precision RTK navigation and positioning module which is based on the state of art CYNOSURE IV dual-core SoC chip. It is capable of tracking all global civil systems (BDS, GPS, GLONASS, Galileo, QZSS, NavIC, and SBAS), as well as BDS-3 signals.

The latest dual-core architecture CYNOSURE IV adopts 22 nm process, integrating multi-band multi-system GNSS RF and baseband, which makes this module achieve submeter-level position accuracy without correction data from ground-based augmentation station and higher sensitivity, greater for improved jam resistance and multipath, and provide a highly robust service in complicated environment. This series is suitable for various demands under different conditions, and can be widely used in smart driving, surveying and mapping, unmanned aerial vehicles (UAVs), intelligent agriculture, and other fields.

HIGHLIGHTS

- Concurrent reception of multi-system satellite signals
- Support BDS-3 signals: B1C, B2a
- Tracking 128 GNSS signal channels at the same time
- Update rate up to 10 Hz
- Support PPP-B2b/PPP/PPP-RTK (upon request)
- Internal PVT, RTD, and RTK Engine
- Support A-GNSS
- Smart jammer detection and suppression
- Support four kinds of low power mode

APPLICATIONS



Surveying & Mapping



Smart driving

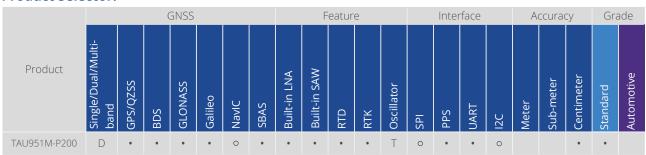


UAV



Intelligent agriculture

Product Selector:



T = TCXO

O = Supported upon request with special firmware

Copyright © ALLYSTAR V1.0

GENERAL SPECIFICATIONS

GNSS Reception

GPS/QZSS: L1C/A, L1C, L2C, L5

BDS: B1I, B1C, B2I, B2a GLONASS: G1, G2 Galileo: E1, E5a, E5b

NavIC: L5 SBAS: L1

Update Rate

GNSS 10 Hz Max.

Position Accuracy

GNSS 1.0m CEP

SBAS < 1.0m CEP

RTK 1.0 cm + 1 ppm (H)

2.0 cm + 1 ppm (V)

Velocity & Time Accuracy

GNSS 0.05 m/s CEP 1PPS 20 ns RMS

Time to First Fix (TTFF)

Hot start 1s Cold start 27s

Sensitivity^[1]

Cold start -148 dBm
Hot start -155 dBm
Reacquision -158 dBm
Tracking & Navigation -165 dBm

Interfaces

UART 2 SPI^[2] 1 I2C^[2] 1

Operating Limit

Velocity 515 m/s Altitude 18,000m

Operating Condition

Main voltage 1.75V to 3.63V
Digital I/O voltage 1.75V to 3.63V
Backup voltage 1.62V to 3.63V

Power Consumption

Tracking GNSS 30 mA @ 3.3V
Single system 18 mA @ 3.3V
Standby Data backup 16 uA
RTC mode 1.4 uA

ENVIRONMENT DATA

Operation temperature -40°C to $+85^{\circ}\text{C}$ Storage temperature -40°C to $+90^{\circ}\text{C}$

PACKAGE

Packaging 24 PIN LCC
Dimensions 16.0×12.2×2.4 mm



^{*[1]:} Demonstrated with a good external LNA

^{*[2]:} Supported upon request with special firmware