



## Fully Integrated and Secure Multi-GNSS Module embedding 6-axis Gyrometer and Accelerometer



22,8 x 21,6 x 3,1 mm

### Highlights

- Mono-frequency L1 multi-constellation GNSS engine: GPS, GLONASS, QZSS, Galileo, Beidou
- SBAS (EGNOS, WAAS, MSAS, GAGAN)
- Advanced GNSS signal attacks detection and mitigation algorithms
- Secure Hardware & Firmware
- Secure interface to applications
- Compatible with Smart DT regulation

### ITS Applications

- Critical Fleet Management
- Dangerous Goods Transportation
- Smart Tachograph
- Pay As You Drive
- Road User Charging
- Smart Mobility
- Logistics and freight transport

### Product Description

DRACONAV is a fully integrated and secure multi-GNSS module designed to provide confidence and improve resilience in the position, velocity and time computed from satellite navigation systems.

The product is able to detect GNSS signal spoofing and jamming attempts and GNSS interference. It is protected against cyber-attack and delivers authenticated information to the application.

The module integrates in a single casing a multi-constellation GNSS chipset (TESEO III), a secure MCU (ST33) and motion sensors. It offers a set of interfaces, such as CAN bus, to take advantages of external information depending on application context.

The module implements algorithms monitoring GNSS signal and navigation parameters allowing to detect anomalies. When an inconsistency or anomaly is detected, the application is warned and the module enters into dead reckoning navigation providing an estimate of the true position.

Besides, the module provides ciphered or digitally signed information ensuring authenticity and integrity of the delivered information. All sensitive data are securely stored.

The product is fully compatible with Smart DT regulation and is RED, EMC type-approved (on-going).

CSPN security certification is on-going.



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### GNSS Features

- GNSS Chip Teseo III
- Frequency Bands:  
GPS L1, GLONASS L1, QZSS L1, Galileo E1, Beidou B1  
SBAS L1 (EGNOS, WAAS, MSAS, GAGAN)
- 48 tracking channels
- 2 fast acquisition channels
- Horizontal Accuracy < 1.2 m with SBAS
- PPS Accuracy 1  $\mu$ s Time 1PPS (RMS)  
7 ns in static mode (1 sigma)
- Dead Reckoning support
- Hot Start: 1s
- Cold Start: 35s

#### SENSITIVITY

- Tracking : - 161 dBm
- Acquisition: - 146 dBm
- Re-acquisition: - 156 dBm

### Interfaces

- Peripheral Ports I2C, USB, Odometer
- CAN Standard and extended (FMS)
- UART NMEA-0183 (9600-960000 bauds)
- Secure Port ISO7816-3
- Digital Output GNSS attack attempt detection
- Antenna Active / Passive
- Supply Voltage 3.3V Typical

### Security Features

- Secure chip ST33
- GNSS spoofing detection
- GNSS jamming/interference detection
- GNSS anti-replay protection
- Level of Confidence indicator (PVT)
- Firmware and hardware integrity control
- Secure memory for sensitive data
- Secure firmware upgrade and module configuration
- Secure interfaces compatible with Smart DT (ISO7816-4 protocol)

### Operating Conditions

- Acceleration range < 4.5 g
- Velocity range 555 m/s
- Altitude range 18000 m
- Storage temperature - 40°C to 85°C
- Operating temperature - 40°C to 85°C

### Firmware Customization

- Firmware fully configurable
- TCG TMP 2.0 automotive support upon request
- Customization according to your application needs and requirements



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