Multi-Sensor RTK/PPP Module

ALL-IN-VIEW GNSS Satellite tracking: multi-constellation, multi-frequency for fast convergence time

Interfaces to GNSS, INS, Odometry, Camera, Lidar, LPS and Barometer data

Multi-Sensor fusion on a single board for autonomous Vehicles, Robots, UAVs and Vessels

High rate solution output
Accurate position and attitude
Overcomes signal outages

Breakthrough price
Easy System Integration
**SENSOR FUSION PERFORMANCE**

**Accurate RTK Positioning** * (1σ):
- Horizontal accuracy: 0.006 m + 1 ppm
- Vertical accuracy: 0.010 m + 1 ppm

**Accurate PPP Positioning** * (1σ):
- Horizontal accuracy: 0.20 m + 1 ppm
- Vertical accuracy: 0.40 m + 1 ppm

**Accurate Attitude** * (1σ):
- Accuracy: 0.25° (1m antenna spacing)

Velocity Accuracy: 0.03 m/s RMS
Time-Stamp Accuracy: 1 μs RMS
Solution Output-Rate: up to 120 Hz

RTK Initialization *:
- Initialization Time: < 7 sec

PPP Initialization *:
- Initialization Time: < 4 min

* Depends on Environment and used GNSS-Antenna

**GNSS FEATURES**

**GNSS Constellations:**
- Galileo, GPS, Glonass, Beidou, SBAS (Egnos, WAAS, GAGAN)

**GNSS Const. concurrent:** All

**GNSS-Bands:**
- GPS: L1C/A, L1C, L1PY, L2C, L2P, L5
- GLO: L1CA, L2CA, L2P, L3
- GAL: E1, E5a, E5b, E5 AltBoc, E6
- BDS: B1I, B1C, B2a, B2I, B3
- QZSS: L1C/A, L1C, L2C, L5, L6

Channels: 448
GNSS data rate: max 100 Hz
Jamming detection: Yes
Timepulse-Output: Yes

**PROCESSOR PERFORMANCE**

**CPU:** ARM 64Bit Quad-Core with 1.2 GHz
**RAM:** 1 to 4 Gbyte LPDDR2 RAM
**Flash:** 16 to 64 Gbyte
**OS:** Linux

**ELECTRICAL & INTERFACES**

**Power Connector:**
- USB-C 5V or
- Terminal connector up to 24V

**Power Consumption:**
- Peak: 17.5 W (3.5A @ 5V)
- Average: 10.5 W (2.1 A @ 5V)

**Communication Interfaces:**
- Ethernet, WLAN, CAN, USB, LTE

**Output format:**
- Standardized: NMEA format, ROS
- Proprietary: ANavS binary format

**STANDARD* IMU FEATURES**

**Linear acceleration meas. range:**
+/-16 g (configurable)

**Angular rate meas. range:**
+/- 4000 dps (configurable)

**Linear acceleration sensitivity:**
0.061 mg/LSB with +/-2 g range

**Angular rate sensitivity:**
4.37 mdps/LSB bei +/- 125 dps range

**Angular random walk (T=25°C):** 0.21 deg/√h

**Bias stability:**
3 degree/ hour (typical)

* more powerful IMUs can be chosen.

**ODOMETRY FEATURES**

**Performance:**
Depends on resolution and quality of user-based wheel/steering measurements

**Input/Output:**
Configurable with DBC-files or according to customer specification

**Communication Interfaces:**
- CAN, Ethernet, USB
PRINTED CASING

Dimension: 128 x 119 x 55 mm
Weight: 250 g
Operating Temperature: -25°C to +75°C
Display: Yes

INDUSTRIAL CASING

Dimension: 294 x 195 x 95 mm
Weight: 1200 g
Operating Temperature: -25°C to +75°C
Display: Yes