

M.2 MOSAIC GNSS RECEIVER CARD



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

Positioning module compatible with M.2 form factor for the use in industrial PCs and development boards (e.g. Nvidia jetson)

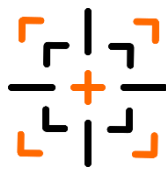
Advanced Septentrio technology inside: AIM+, LOCK+, APME+, IONO+



SCAN ME



High rate RTK solution output



Accurate position and attitude



Small form factor



Breakthrough price



Easy System Integration

PERFORMANCE

Accurate RTK Positioning ¹ (1 σ):

Horizontal accuracy: 0.006 m + 1 ppm
Vertical accuracy: 0.010 m + 1 ppm

Accurate Attitude ^{1,2} (1 σ):

| Antenna separation | Heading | Pitch/Roll |
|--------------------|---------|------------|
| 1 m | 0.15° | 0.25° |
| 5 m | 0.03° | 0.05° |

Velocity Accuracy: 0.03 m/s RMS

Maximum update rate:

| | |
|--|--------|
| Measurements only: | 100 Hz |
| Standalone, SBAS, DGPS + attitude ² : | 50 Hz |
| RTK + attitude ² : | 20 Hz |
| Latency: | < 10ms |

¹ Depends on Environment and used GNSS-Antenna

² Only available with MOSAIC-H

GNSS FEATURES

GNSS Constellations:

Galileo, GPS, Glonass,
Beidou, SBAS (Egnos, WAAS, GAGAN)

GNSS Const. concurrent:

All

GNSS-Bands³:

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

³ With MOSAIC-X5 Chip

Physical and Environmental

Package: Compatible with M.2 Key E
Size: 31 x 42.8 mm
Clearance: 4.17 mm top, 1.20 mm bottom

Antenna connector type: MMCX socket
Antenna pre-amplification range: 15-50 dB
Antenna bias voltage: 5 V
Build-in current limit (150 mA)

Input voltage: 3.3 VDC +/-5%
Power consumption: 0.6 W typ., 1.1 W max
Environmental Operating temp.: -40 to 85° C
Storage temp.: -55 to 85° C
Humidity: 5% 95% (non-condensing)
Certification: RoHS, WEEE
Driver: from Septentrio

Protocols

Septentrio Binary Format (SBF)
NMEA 0183, v2.3, v3.03, V4.0
RINEX v2.x, v3.x
RTCM v2.x, v3.x (MSM included)
CMR v2.0 (out/in), CMR+ (input only)

M.2 to USB-C Adapter

- M.2 key E to USB-C adapter
- Flat bottom side for easy mounting on different surfaces
- Dimension: 66 x 22.5 x 7 mm
- Compatible with all standard M.2 key E card sizes
- Screw mount for 42 mm card length. Additional mounting point for 30 mm cards
- USB Type C connector for communication via USB 2.0 and power supply

Pin header for additional signals:

| Pin | Signal name |
|-----|--|
| 1 | SDIO wake (output, 1.8 V level) |
| 2 | UART_TXD (input, 1.8 V level) |
| 3 | GLOBAL_RESET/SDIO_RESET (input, 1.8 V signaling, weak pull-up) |
| 4 | UART_RXD (output, 1.8 V signaling) |
| 5 | +3.3 V power output |
| 6 | TP_TO_MOD/UART_RTS (input, 1.8 V signaling) |
| 7 | +5.0 V power output |
| 8 | TP_FROM_MOD/UART_CTS (output, 3.3 V signaling) |
| 9 | Ground |
| 10 | PM_WAKEUP_N/UART_WAKE_N (output, 3.3 V signaling) |



ANAVS GmbH
Gotthardstraße 40, 80686 Munich
Phone: +49 (0) 89 89056721
Fax: +49 (0) 89 89056720
Email: info@anavs.de
Web: <http://www.anavs.com>

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