M.2 MOSAIC GNSS RECEIVER CARD

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

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

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

High rate RTK solution output
Accurate position and attitude
Small form factor

Breakthrough price
Easy System Integration
PERFORMANCE

Accurate RTK Positioning\(^1\) (1\(\sigma\)):
Horizontal accuracy: 0.006 m + 1 ppm
Vertical accuracy: 0.010 m + 1 ppm

Accurate Attitude\(^1,2\) (1\(\sigma\)):
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\(^3\): 50 Hz
RTK + attitude\(^2\): 20 Hz
Latency: < 10 ms

\(^1\) Depends on Environment and used GNSS-Antenna
\(^2\) Only available with MOSAIC-H

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

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:

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

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