

# VDB-810G

## Embedded u-blox M8 GPS with G-Sensor Mini PCIe Card



### Receiver Type

|                  |  |
|------------------|--|
| <b>Chipset</b>   | u-blox M8  |
| <b>Frequency</b> | GPS L1 C/A, SBAS L1 C/A, QZSS L1 C/A,<br>GLONASS L1OF, BeiDou B1 |
| <b>Channels</b>  | Supports 72 Channels   |

### Sensitivity

|                                  |         |
|----------------------------------|---------|
| <b>Tracking &amp; Navigation</b> | -167dBm |
| <b>Acquisition</b>               | -160dBm |
| <b>Cold Start(Autonomous)</b>    | -148dBm |

### Time to First Fix (TTFF)

|                    |        |
|--------------------|--------|
| <b>Cold Start</b>  | 26 sec |
| <b>Warm Start</b>  | 26 sec |
| <b>Hot Start</b>   | 1 sec  |
| <b>Aided Start</b> | 2 sec  |

### Accuracy

|                            |  |
|----------------------------|--|
| <b>Horizontal Position</b> | Autonomous : <2.5m CEP, SBAS : <2.0m CEP |
| <b>Accuracy of</b>         |  |
| <b>Timepulse Signal</b>    | RMS 30ns                                 |
| <b>Max Navigation</b>      | 99% <60ns                                |
| <b>Update Rate</b>         | 10Hz (GPS&GLONASS), 18Hz (GPS)           |

### Output Message Format

|                     |                              |
|---------------------|------------------------------|
| <b>GPS Protocol</b> | NMEA 0183 V4.0, UBX, RTCM2.3 |
|---------------------|------------------------------|

### Dynamic Conditions

|                     |                      |
|---------------------|----------------------|
| <b>Velocity</b>     | <500 m/s (972 knots) |
| <b>Acceleration</b> | <= 4g                |

### Features

- Concurrent Reception of GPS/QZSS, GLONASS, BeiDou
- 72-channel u-blox M8 Engine w/ Over 2 Million Effective Correlators
- -167dBm SuperSense® Acquisition & Tracking Sensitivity
- 10 Hz Position Update Rate
- Standard Mini PCIe V1.2 Full-Mini Card(USB2.0 Interface)
- Time To First Fix (TTFF) : <1 sec
- Operating Temp. : -40°C to 85°C

### Multipath Suppression

Intelligent Multipath Detection and Suppression

### A-GPS

Supports AssistNow® Online and Offline, OMA SUPL Compliant

### G-Sensor

3-axis accelerometer

### Environmental Characteristics

|                            |                                    |
|----------------------------|------------------------------------|
| <b>Operating Temp.</b>     | -40°C to +85°C                     |
| <b>Storage Temp.</b>       | -40°C to +85°C                     |
| <b>Peak Supply Current</b> | Max=150mA                          |
| <b>Max Performance</b>     | Acquisition <sup>note1</sup> =74mA |
| <b>Eco Mode</b>            | Tracking <sup>note2</sup> = 43mA   |
| <b>Power Input</b>         | 3.3V +-10% VDC input               |
| <b>Dimensions</b>          | 51 x 30 (mm)                       |

### Ordering Information

|                    |   |
|--------------------|---|
| <b>Part Number</b> | VDB-810G  |
| <b>Description</b> | Embedded u-blox M8 GPS with G-Sensor Mini PCIe Card |