

IN-VEHICLE Computing

# VDB-810 Series

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

## 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



## Specifications

### Receiver Type

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

### Sensitivity

|                         |         |
|-------------------------|---------|
| Tracking & Navigation   | -167dBm |
| Acquisition             | -160dBm |
| Cold Start (Autonomous) | -148dBm |

### Time to First Fix (TTFF)

|             |        |
|-------------|--------|
| Cold Start  | 26 sec |
| Warm Start  | 26 sec |
| Hot Start   | 1 sec  |
| Aided Start | 2 sec  |

### Accuracy

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

### Output Message Format

|              |                              |
|--------------|------------------------------|
| GPS Protocol | NMEA 0183 V4.0, UBX, RTCM2.3 |
|--------------|------------------------------|

### Dynamic Conditions

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

### Multipath Suppression

Intelligent Multipath Detection and Suppression

### G-Sensor (VDB-810G)

3-axis accelerometer

### A-GPS

Supports AssistNow® Online and Offline, OMA SUPL Compliant

### Environmental

|                     |                                           |
|---------------------|-------------------------------------------|
| Operating Temp.     | -40°C to +85°C, ambient w/ 0.6m/s airflow |
| Storage Temp.       | -40°C to +85°C                            |
| Peak Supply Current | Max=150mA                                 |
| Max Performance     | Acquisitionnote2=74mA                     |
| Eco Mode            | Trackingnote2= 43mA                       |
| Power Input         | 3.3V +-10% VDC input                      |
| Dimensions          | 51 x 30 (mm)                              |

### Ordering Information

|                 |                                                     |
|-----------------|-----------------------------------------------------|
| Part Number     | VDB-810-000                                         |
| Description     | Embedded u-blox M8 GPS Mini PCIe Card               |
| Part Number     | VDB-810G-000                                        |
| Description     | Embedded u-blox M8 GPS with G-Sensor Mini PCIe Card |
| State of Origin | Made in Taiwan                                      |



Please Scan The QR Code For More Information

All specifications are subject to change without notice.

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

### US

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave  
Ste 1200  
Sheridan  
WY 82801  
USA

### EMEA

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park  
Stone Business Park  
Stone  
ST15 0YJ  
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660