

# VDB-810DR

Embedded u-blox NEO-M8U GPS with Untethered Dead Reckoning UDR & G-Sensor Mini PCIe Card



## Features

- u-blox 72-channel NEO-M8U UDR module including 3D inertial sensors engine
- GNSS data is available in NMEA, UBX & RTCM protocols
- Max. 20Hz Navigation update rate
- Position accuracy 2m CEP
- Temperature range: -40 to +85°C
- Mini PCIe Signal Type USB2.0
- Standard Full/Half-size Mini PCIe Card connect to computer easily

### Receiver Type

<b>Chipset</b>	NEO-M8U
<b>Receiver Type</b>	GPS L1C/A, SBAS L1C/A, QZSS L1C/A, QZSS L1-SAIF, GLONASS L1OF, BeiDou B1I, Galileo E1B/C
<b>Channels</b>	Supports 72 Channels
<b>GNSS Center</b>	BeiDou : 1561.098 MHz, GPS : 1575.42 MHz,
<b>Frequency</b>	Glonass : 1602.5625

### Sensitivity

	GPS&GLONASS	GPS	GLONASS	Beidou	Galileo
<b>Tracking &amp; Navigation</b>	-160dBm	-160dBm	-160dBm	-160dBm	-154dBm
<b>Reacquisition</b>	-160dBm	-159dBm	-156dBm	-155dBm	-152dBm
<b>Cold Start</b>	-148dBm	-147dBm	-145dBm	-143dBm	-133dBm
<b>Hot Start</b>	-157dBm	-156dBm	-155dBm	-155dBm	-151dBm

### Time to First Fix (TTFF)

	GPS&GLONASS	GPS	GLONASS	Beidou	Galileo
<b>Cold Start</b>	26 Sec.	30 Sec.	31 Sec.	39 Sec.	57 Sec.
<b>Hot Start</b>	1 Sec.	1 Sec.	1 Sec.	1 Sec.	1 Sec.
<b>Aided Starts</b>	3 Sec.	3 Sec.	3 Sec.	7 Sec.	7 Sec.

### Accuracy

	GPS&GLONASS	GPS	GLONASS	Beidou	Galileo
<b>Horizontal Position</b>	2.5m	2.5m	4m	3m	TBC
<b>Velocity Accuracy</b>	0.5 m/s type				
<b>Heading Accuracy</b>	1 degrees type				
<b>I/O Port</b>	1 x Timepulse (connector type: 1 x 5pins pitch 1.27mm 90 degree) 1 x Battery Backup (connector type: 1 x 2pins pitch 1.27mm 180 degree)				
<b>Max Navigation</b>	99% <60ns				
<b>Update Rate</b>	Typical : 1Hz Max. : 20Hz (Configurable)				

### Operational Limits

<b>Dynamics</b>	<= 4g
<b>Altitude</b>	50,000 m
<b>Velocity</b>	500 m/s

### Output Message Format

**GPS Protocol** NMEA, UBX Binary, GGA, GLL, GSA, GSV, RMC, VTG, TXT

### Multipath Suppression

Intelligent Multipath Detection and Suppression

### G-Sensor

3-axis accelerometer

### A-GPS

Supports AssistNow® Online and Offline, OMA SUPL Compliant

### 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 = 67mA
<b>Eco Mode</b>	Tracking = 29mA
<b>Power Input</b>	3.3V +/-10% VDC input
<b>Dimensions</b>	51 x 30 (mm)

### Ordering Information

<b>Part Number</b>	VDB-810DR-000
<b>Description</b>	Embedded u-blox NEO-M8U GPS with Untethered Dead Reckoning UDR & G-Sensor Mini PCIe Card