



Compact, Dual Frequency GNSS Receiver Delivers Robust RTK Functionality

Benefits

Proven OEMV® technology

Lowest power consumption in the market for a dual frequency receiver

Application Programming Interface (API) reduces hardware requirements and system complexity

Easy to integrate

Features

L1, L2 and L2C signal tracking

Increased satellite availability with GLONASS tracking

RT-2™, RT-20®, ALIGN® and GL1DE® firmware options

Designed for Efficiency

The OEMV-2 sports low power consumption and a small form factor for ease and efficiency in integration. The modular nature of OEMV-2 firmware allows the user the flexibility to configure the receiver from a basic GPS L1-only to a dual frequency receiver with RTK functionality.

Greater Performance with GNSS Functionality

The OEMV-2 is configurable with GPS or GPS+GLONASS real-time capabilities. The GPS+GLONASS option increases available positions in obstructed sky conditions and allows users to work more often.

Enhanced, Flexible Firmware Features

With L2C tracking capabilities, the OEMV-2 is ideal for low signal strength applications, providing stronger signal tracking and better cross correlation protection. The OEMV-2 provides decimetre-level pass-to-pass accuracy with NovAtel's GL1DE technology. NovAtel's optional AdVance® RTK technology is available for centimetre-level real-time position accuracy. ALIGN technology is available for heading and position outputs.

Customization with The API

The Application Programming Interface (API) functionality is available on the OEMV-2. Using a recommended compiler with the API library, an application can be developed in a standard C/C++ environment to run directly from the receiver platform; eliminating system hardware, reducing development time and resulting in faster time to market.

If you require more information about our receivers, visit novatel.com/products/gnss-receivers/oem-receiver-boards



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Performance¹

Channel Configuration

72 Channels
 14 GPS L1, 14 GPS L2
 12 GLONASS L1, 12 GLONASS L2
 2 SBAS

Horizontal Position Accuracy (RMS)

Single Point L1	1.5 m
Single Point L1/L2	1.2 m
SBAS ²	0.6 m
DGPS	0.4 m
RT-20 ³	0.2 m
RT-2	1 cm+1 ppm

Measurement Precision (RMS)

	GPS	GL0
L1 C/A Code	4 cm	15 cm
L1 Carrier Phase	0.5 mm	1.5 mm
L2 P(Y) Code	8 cm	8 cm
L2 Carrier Phase	1 mm	1.5 mm

Data Rate⁴

Measurements	up to 50 Hz
Position	up to 50 Hz

Time to First Fix

Cold Start ⁵	60 s
Hot Start ⁶	35 s

Signal Reacquisition

L1	0.5 s (typical)
L2	1.0 s (typical)

Time Accuracy⁷ 20 ns RMS

Velocity Accuracy 0.03 m/s RMS

Velocity⁸ 515 m/s

Physical and Electrical

Dimensions 60 x 100 x 13 mm

Weight 56 g

Power

Input Voltage +3.3 VDC [+5%/-3%]
 Power Consumption² 1.2 W

Antenna LNA Power Output

Output Voltage 5.1 VDC
 Maximum Current 100 mA

Connectors

Main 24-pin dual row male header
 Antenna Input MMCX female
 External Oscillator Input MMCX female

Communication Ports

1 RS-232	300 to 921,600 bps
2 LV-TTL	300 to 230,400 bps
1 CAN Bus ⁹	1 Mbps
1 USB	5 Mbps

Environmental

Temperature

Operating	-40°C to +85°C
Storage	-45°C to +95°C

Humidity

95% non-condensing

Vibration

Random Vibe	MIL-STD 810F (7.7 g RMS)
Sine Vibe	SAEJ1211 (4 g)

Bump/Shock

IEC 68-2-27 (30 g)

Features

- Common, field-upgradeable software for all OEMV family receivers
- Auxiliary strobe signals, including a configurable PPS output for time synchronization and mark inputs
- Outputs to drive external LEDs
- External oscillator input

Optional Accessories

- GPS-700 series antennas
- ANT series antennas
- RF Cables—5, 10 and 30 m lengths
- Right angle RF connector

Firmware Options

- RT-20
- RT-2
- ALIGN
- GL1DE
- Pseudo Range/Delta-Phase (PDP) Positioning



Version 6 - Specifications subject to change without notice

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For the most recent details of this product:

novatel.com/assets/Documents/Papers/OEMV-2.pdf

¹ Typical values. Performance specifications subject to GPS system characteristics, US DOD operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference sources.

² GPS only.

³ Expected accuracy after static convergence.

⁴ GLONASS is not supported at 50Hz.

⁵ Typical value. No almanac or ephemerides and no approximate position or time.

⁶ Typical value. Almanac and recent ephemerides saved and approximate position and time entered.

⁷ Time accuracy does not include biases due to RF or antenna delay.

⁸ Export licensing restricts operation to a maximum of 514 metres per second.

⁹ External CAN transceiver and user application software required. Replaces one LV-TTL serial port.

