OEMV-3

Multi-Frequency GNSS Receiver Provides Expandable Functionality Without Compromising Performance

Benefits

Proven OEMV® technology

Integrated L-band supports OmniSTAR and CDGPS correction services

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

Features

High random vibration performance for demanding applicaitons

L1, L2, L2C and L5 signal tracking

Increased satellite availability with GLONASS tracking

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

Designed With Future in Mind

The OEMV-3 is designed to track the GPS L1, L2, L2C, and the upcoming L5 signals, as well as GLONASS L1 and L2. With integrated L-band onboard and multi-frequency tracking loadable through firmware upgrades, the OEMV-3 receiver eliminates the need for future hardware changes.

Enhanced, Flexible Firmware Features

The OEMV-3 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.

Superior Hardware Design

L-band capability is onboard the OEMV-3, eliminating the need for additional hardware. OEMV-3 hardware is designed to be flexible for a wide range of applications. It supports a higher input voltage range, and its high-vibe TCXO design allows for better shock and acceleration performance.

Customization With The API

The Application Programming Interface (API) functionality is available on the OEMV-3. 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/receivers.htm

novatel.com
sales@novatel.com
1-800-NOVATEL (U.S. and Canada)
or 403-295-4900
Europe 44-1993-85-24-36
SE Asia and Australia 61-400-833-601

OEMV-3

Performance[1]

Channel Configuration
14 GPS L1, 14 GPS L2, 6 GPS L5
12 GLONASS L1, 12 GLONASS L2
2 SBAS
1 L-band

Horizontal Position Accuracy (RMS)

Single Point L1	1.5 m
Single Point L1/L2	1.2 m
SBAS[2]	0.6 m
CDGPS[2]	0.6 m
DGPS	0.4 m
OmniSTAR[2]	
VBS	0.6 m
XP	0.15 m
HP	0.1 m
RT-20[3]	0.2 m
RT-2	1 cm+1 ppm

Measurement Precision (RMS)

	GPS	GLO
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	1.0 mm	1.5 mm

Data Rate

Measurements	20 Hz
Position	20 Hz

Time to First Fix

Cold Start[4]	60 s
Hot Start[5]	35 s

Signal Reacquisition

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

Time Accuracy[6] **20 ns RMS**

Velocity Accuracy **0.03 m/s RMS**

Velocity[7] **515 m/s**

Physical and Electrical

Dimensions **85 x 125 x 13 mm**

Weight **75 g**

Power

Input Voltage	+4.5 to 18 VDC
Power Consumption	2.1 W (GPS only)
	2.8 W (GPS & GLONASS)

Antenna LNA Power Output

Output Voltage	5 V nominal
Maximum Current	100 mA

Communication Ports

- 1 RS-232 or RS-422 capable of 300 to 921,600 bps
- 1 RS-232 or LV-TTL capable of 300 to 921,600 bps
- 1 LVTTL capable of 300 to 230,400 bps
- 2 CAN Bus[8] serial ports capable of 1 Mbps
- 1 USB port capable of 5 Mbps

Input/Output Connectors

Main	40-pin dual row male header
Antenna Input	MMCX female
External Oscillator Input	MMCX female
CAN	14-pin dual row male header

Environmental

Temperature	
Operating	-40°C to +85°C
Storage	-45°C to +95°C
Humidity	95% non-condensing
Random Vibe	MIL-STD 810F (7.7 g RMS)[9]
	MIL-STD 810F tailored (20 g RMS)
Sine Vibe	SAEJ1211 (4 g)
Bump/Shock	IEC 68-2-27 (30 g)

Options and Accessories

- ProPak-V3
- DL-V3
- 50 Hz output rate[10]
- GPS-700 series antennas
- ANT-500 series antennas
- RF Cables–5, 10 and 30 m lengths
- 20g random vibe variant

Additional Firmware Features

- RT-20
- ALIGN
- GL1DE
- OmniSTAR HP, XP, VBS
- L5 signal tracking
- Pseudo Range/Delta-Phase (PDP) Positioning

Additional Features

- Common, field-upgradeable software for all OEMV family receivers with OEM4 compatible commands and logs
- Auxiliary strobe signals, including a configurable PPS output for time synchronization and mark inputs
- Outputs to drive external LEDs
- External oscillator input

NovAtel

Version 4 -Specifications subject to change without notice

Printed in Canada. D09557

OEMV-3 May 2009

For the most recent details of this product:
novatel.com/Documents/Papers/OEMV-3.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] Typical value. No almanac or ephemerides and no approximate position or time.
[5] Typical value. Almanac and recent ephemerides saved and approximate position and time entered.
[6] Time accuracy does not include biases due to RF or antenna delay.
[7] Export licensing restricts operation to a maximum of 515 metres per second.
[8] User application software required.
[9] Minimum integrity test.
[10] OmniSTAR and GLONASS not supported at 50 Hz.

RoHS COMPLIANT