OEM4-G2L

The OEM4-G2L™ leverages NovAtel's advanced positioning technology to deliver centimeter-level accuracy and application hosting, all in a small footprint.

Features

Small size and weight with low power consumption

Application Programming Interface (API) option

RT-2® corrections combined with Pulse Aperture Correlator™ (PAC) tracking technology

Benefits

Offers superior performance with minimal integration effort

Reduces development and material costs and increases reliability by eliminating the need for an additional system processor and memory

Provides centimeter-level position data virtually unaffected by multipath

Compact and lightweight

Measuring 60 millimeters by 100 millimeters, the OEM4-G2L is designed to meet the increasing need for smaller systems. At just 56 grams, this receiver offers many advanced features, including two serial ports supporting speeds up to 230,400 bits per second, a USB port, and a configurable PPS output and event mark inputs. The OEM4-G2L is also ideal for power-conscious applications, consuming less than 1.6 Watts typically.

Exceptional positioning accuracy

The OEM4-G2L offers 24-channel "all-in-view" tracking and patented Pulse Aperture Correlator™ (PAC) technology, which virtually eliminates the effects of multipath. This high performance receiver is available in multiple models, including L1 and L1/L2, and features optional support for SBAS corrections, such as those generated by the WAAS and EGNOS systems. For demanding applications, RT-2® technology provides centimeter-level real-time kinematic (RTK) positioning.

API support for on-board custom applications

With NovAtel's Application Programming Interface (API) option, the OEM4-G2L acts as a host for custom applications. Using a standard C/C++ development environment and the API library, software tailored for your application can be developed to run from the receiver platform, often eliminating system hardware and reducing development costs and time to market. The API library includes such features as a virtual interface to the receiver, the ability to interface with external devices, and support for multiple tasks and priority levels.

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Precise thinking

OEM4-G2L

Performance[1]

Position Accuracy	
Single Point L1	1.8 m CEP
Single Point L1/L2	1.5 m CEP
WAAS L1	1.2 m CEP
WAAS L1/L2	0.8 m CEP
DGPS (L1, C/A)	0.45 m CEP
RT-20[2]	< 20 cm CEP
RT-2	1 cm + 1 ppm
Measurement Precision	
L1 C/A Code	6 cm RMS
L2 P(Y) Code	25 cm RMS (AS on)
L1 Carrier Phase	0.75 mm RMS (differential channel)
L2 Carrier Phase	2 mm RMS (differential channel)
Data Rate	
Measurements	20 Hz
Position	20 Hz
Time to First Fix	
Cold Start[3]	50 s
Warm Start[4]	40 s
Hot Start[5]	30 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**
Dynamics	
Velocity[7]	514 m/s
Vibration	4 G (sustained tracking)
Altitude[7]	**18,288 m**

Physical & Electrical

Size	**60 x 100 x 16 mm**
Weight	**56 g**
Power	
Input Voltage	+3.3 VDC
Power Consumption	1.6 W (typical)
Antenna LNA Power Output	
Output Voltage	+5 VDC
Maximum Current	100 mA

Communication Ports

- 1 RS-232 serial port capable of 300 to 230,400 bps
- 1 TTL serial port capable of 300 to 230,400 bps
- 1 USB port capable of 1.5 Mbps

Input/Output Connectors	
Main	24-pin dual-row male header
Antenna Input	MMCX female
External Oscillator Input	MMCX female
Environmental	
Temperature	
Operating	-40°C to +85°C
Storage	-45°C to +95°C
Humidity	95% non-condensing

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 Expected accuracy after static convergence.
3 Typical value. No almanac or ephemerides and no approximate position or time.
4 Typical value. Almanac saved and approximate position and time entered. No recent ephemerides.
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 18,288 meters and 514 meters per second.

Enclosure Options

FlexPak-G2L lightweight, waterproof enclosure with USB

Accessories

GPS-702 or **GPS-701** antenna (optional)

GPS-C006 5 m RF cable or **GPS-C016** 15 m RF cable (optional)

Additional Features

- USB port for high-speed communication
- Multiple software models, including L1 or L1/L2, and optional support for SBAS corrections (WAAS, EGNOS)
- Software fully compatible with other OEM4 family receivers
- Auxiliary strobe signals, including a configurable PPS output for time synchronization and two mark inputs
- Outputs to drive external LEDs
- External oscillator input
- Field-upgradeable firmware

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ISO 9001:2000 FM 92323

www.novatel.com 1-800-NOVATEL (U.S. & Canada) or 403-295-4900 | Europe +44 1993 852-436 | Fax 403-295-4901 | E-mail sales@novatel.com