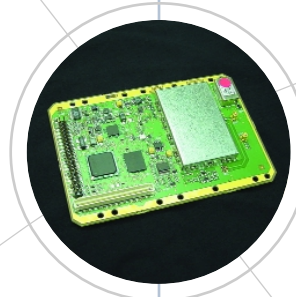


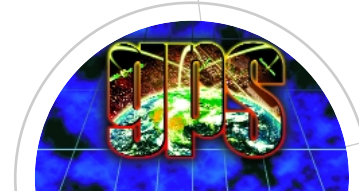
Look into NovAtel's OEM4-G2

NovAtel's newest GPSCard™, the OEM4-G2, is available with an API (Application Programming Interface) option. This enhancement allows system developers to write specialized application software to run directly on the OEM4-G2 hardware platform.

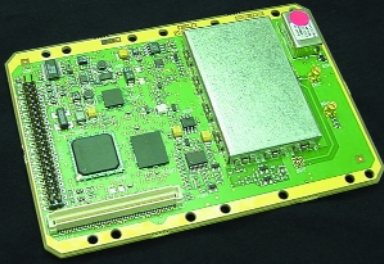


ADVANTAGES

- API (Application Programming Interface) option
- Memory: 1 MB of code space and 3 MB of data space available for users application
- 20% less power consumption than the OEM4



OEM4-G2



Features

- Hardware and software fully compatible with existing OEM4
- External oscillator input
- USB communications¹
- Intel PXA250 processor
- New SDRAM memory
- Com1 configurable RS-232 or RS-422 communications¹
- Tracking enhancements such as faster L2 reacquisition¹
- 2 Event inputs with polarity control¹
- Polarity control on PPS output¹
- Wider input voltage range
- Available in PowerPak, ProPak, ProPak-LB and DL-4 enclosure
- Firmware fully upgradeable to higher models
- 24 channel “all-in-view” parallel tracking
- Patented Pulse Aperture Correlator (PAC™) technology
- 20 Hz raw data output rates
- 20 Hz position output rates
- 3 serial ports at speeds up to 230 kbps
- Low power consumption
- Low EMI signature
- Several customizable status outputs
- Analog input to monitor an external voltage
- Voltage and temperature monitoring and reporting
- On-board power conversion eliminates the need for external power conditioning; saving space, cost and engineering time
- On-board voltage and temperature monitoring provide greater system reliability and confidence
- Ability to drive LED and status lines providing integrators with total control and flexibility in product design

- Application Program Interface option
 - Develop specialized C/C++ applications
 - Interface to GPS receiver through virtual Com ports
 - Interface with external devices
 - Multiple tasks, with varying priority levels
 - Message queuing functionality
 - Control many of the receiver’s GPIO lines
 - SoftLoad interface; field upgradeable

Performance

Position Accuracy²

Single Point L1	1.8 m CEP
Single Point L1L2	1.5 m CEP
WAAS L1	1.2 m CEP
WAAS L1L2	0.8 m CEP
DGPS (L1, C/A)	0.45 m CEP
RT20 ^{3,4}	< 20 cm CEP
RT2 ⁴	1 cm + 1 ppm

Measurement Precision

L1 C/A Code	6 cm RMS
L2 P Code	25 cm RMS (AS on)
L1 Carrier Phase	0.75 mm RMS (differential channel)
L2 Carrier Phase	2 mm RMS (differential channel)

Data Rates

Measurements	20 Hz
Position	20 Hz

Time to First Fix

Cold start ⁵	50 s
Warm start ⁶	40s
Hot start ⁷	30s

Signal Reacquisition

L1	0.5 s (typical)
L2	1.5 s (typical)

Time Accuracy^{2,8} 102 ns RMS

Velocity Accuracy² 0.03 m/s RMS

Dynamics

Acceleration	10 g
Vibration	4 g (sustained tracking)
Velocity ⁹	515 m/s max

1. Available in Q1 firmware release.
2. Typical values. Performance specifications are subject to GPS system characteristics, U.S. DOD operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length and multipath effects. Assumes SA Off.
3. Expected accuracy after three minute static convergence over short baseline.
4. See Typical Performance charts below. Subject to convergence time and baseline length.
5. Typical value. No almanac or ephemeris, no approximate position or time.
6. Typical value. Almanac saved, approximate position & time entered. No recent ephemeris.
7. Typical value. Almanac & recent ephemeris saved, approximate position & time entered.
8. Time accuracy does not include biases due to RF or antenna delay.
9. Export licensing restricts operation to 60,000 feet maximum and 1,000 nautical miles/hour maximum.

Hardware Specifications

OEM4-G2 Card:

- Size 85 mm x 125 mm x 16.4 mm
- Weight 85 g
- Input Voltage 4.5 - 18.0 VDC
- Power Consumption
 - L1L2: 2.2 W typical, 2.7 W max
 - L1: 2.0 W typical, 2.5 W max
- Operating Temperature -40°C to 85°C
- Storage Temperature -45°C to 95°C
- Humidity 95% non-condensing
- Interfaces¹
 - Com1 RS-232/RS-422: 300 to 230,400 bps
 - Com2 RS-232: 300 to 230,400 bps
 - Com3 LV-TTL: 300 to 230,400 bps
 - Strobes: 1PPS, mark in, measure out, error, position valid, green LED, red LED, analog input, variable frequency output
- Connectors
 - Edge 40 pin double row male header
 - Antenna MMX male

* Note: Specifications subject to change without notice.

Preliminary Version 09/02 – Printed in Canada

For detailed product technical specifications, please call:

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