### SPAN™

**Power-PC Processor Board Stack Maximizes Navigation Capabilities in Challenging Environments**

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous, stable navigation</td>
<td>OEMV-3 form factor</td>
</tr>
<tr>
<td>Increased processing capability for demanding GNSS/INS applications</td>
<td>Wheel sensor input for ground applications</td>
</tr>
<tr>
<td>Supports IMUs from various suppliers</td>
<td>Optional development kit</td>
</tr>
<tr>
<td>Small volume for size-restricted applications</td>
<td>UART, USB, Ethernet and CAN peripherals</td>
</tr>
</tbody>
</table>

### GNSS+INS Solution Unlike Any Others

SPAN (Synchronous Position, Attitude and Navigation) technology brings together two different, but complementary technologies: GNSS positioning and inertial navigation. The absolute accuracy of GNSS positioning and the stability of inertial measurement unit (IMU) gyro and accelerometer measurements are tightly coupled to provide an exceptional 3D navigation solution that is stable and continuously available, even through periods when GNSS signals are blocked.

### SPAN-MPPC Overview

The SPAN-MPPC is designed to connect directly to NovAtel’s OEMV-3 receiver to create a powerful GNSS/INS receiver board-stack. When connected to a SPAN-supported IMU, the MPPC creates a continuous GNSS/INS navigation system that delivers accurate position, velocity and attitude. It outputs raw measurement data or solution data over several communication protocols. Multiple GNSS-synchronous strobes and event input lines ensure the MPPC is easy to integrate into larger systems.

### SPAN-MPPC Advantages

Tight coupling of the GNSS and IMU measurements provides more satellite observations and the most accurate, continuous solution possible. With NovAtel’s world-class OEMV® technology as its GNSS receiver, the SPAN-MPPC delivers many powerful features including GPS+GLONASS capability and Advance® RTK performance. A dedicated CPU for real-time GNSS/INS processing results in fast data rates and low raw data and solution latency for highly dynamic or time-critical applications.

If you require more information about our SPAN products, visit novatel.com/products/span-gnss-inertial-systems
SPAN System Performance

Horizontal Position Accuracy (RMS)
- Single Point L1: 1.8 m
- Single Point L1/L2: 1.5 m
- SBAS: 0.6 m
- CDGPS: 0.6 m
- DGPS: 0.45 m
- OmniSTAR VBS: 0.7 m
- XP: 0.15 m
- HP: 0.1 m
- RT-20®: 0.2 m
- RT-2™: 1 cm+1 ppm

Measurement Precision
- L1 C/A Code: 4 cm RMS
- L1 Carrier Phase: 0.5 mm RMS (differential channel)
- L2 P(Y) Code: 8 cm RMS
- L2 Carrier Phase: 1 mm RMS (differential channel)

Compatible IMUs
- IMU-H58
- IMU-H62
- IMU-LN200
- IMU-FSAS

Physical and Electrical
- Dimensions: 85 x 125 x 27 mm
- Weight: 75 g

Power
- Power Consumption: 8 W (typical with OEMV-3 connected)
- Input Voltage: +9 to +30 VDC

Communication Ports
- RS232/RS422 software configurable UART Ports: 4
- IMU Connection: 1
- RTK correction Input UART COM Port: 1
- USB 2.0 Host: 1
- USB 2.0 Device: 1
- Ethernet: 1
- Event Input Triggers: 4
- Configurable Output Strobes: 3

Input/Output Connectors
- OEMV-3 connections: 1 x 40-pin dual row female connector
- User connection: 2 x 40-pin dual row connector

Environmental
- Temperature
  - Operating: -40°C to +85°C
  - Storage: -50°C to +85°C
- Humidity: 95% non-condensing

Vibration (operating)
- Random: RTCA DO-160D, curve C
- Sinusoidal: SAE J1211, 4g

Shock (operating)
- MIL-STD-810F method 516.5, 22g

Regulatory
- Emissions
  - FCC Part 15, Class B
  - EN 55022, Class B
- Immunity
  - EN 55024

Features
- Field-upgradable firmware
- Supports RTCM SC-104 version 3.0, CMR version 3.0, CMR+, NMEA 0183 version 3.01, and RTCA DO-217 message types

Included Accessories
- Mounting standoffs
- CD

Optional Accessories
- OEMV-3 receiver
- GPS-700 series antennas
- ANT series antennas
- RF cables – 5, 10 and 30 m lengths
- Heatsink

Data Rates
- GPS Measurement: 50 Hz
- GPS Position: 20 Hz
- IMU Measurement: Up to 200 Hz
- INS Solution: Up to 200 Hz
- Time Accuracy: 50 ns RMS
- Maximum Velocity: 515 m/s

Statements related to the export of products are based solely on NovAtel’s experience in Canada, are not binding in any way and exportability may be different with respect to the export regulations in effect in another country. The responsibility for re-export of product from a Customer’s facility is solely the responsibility of the Customer.