

VERSA MODULE EUROCARD GPS EMBEDDED MODULE (VME-GEM)

Engility has integrated leading-edge military GPS Selective Availability Anti-Spoofing Module (SAASM) receivers to create a single slot, 6U, VME bus product—the VME-GEM. This integrated product offers the GPS community a fully qualified GPS receiver with a VME interface. Applications include military GPS navigation and the hot-starting of Precision Guided Munitions (PGMs).

Drawing on the latest design of the Rockwell Collins GEM or the Trimble Force 5 receiver, Engility has created a superior VME GPS receiver product. The VME-GEM is backwardly compatible with the Rockwell Collins GEM III and IV GPS receivers, as well as with previous releases of the Trimble Force 5 receiver.

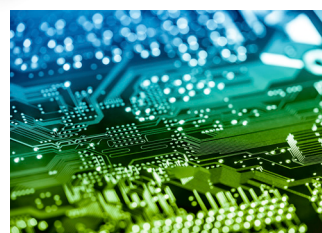
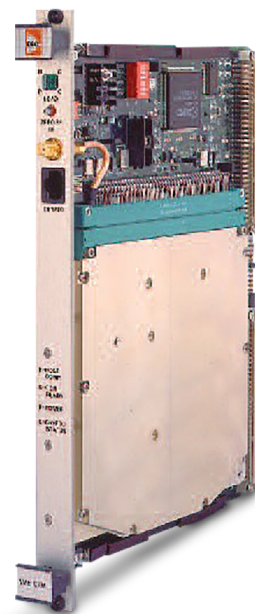
The VME-GEM can operate in a stand-alone, unaided mode or aided by INS or Doppler. The primary data interface, the Dual Port RAM, is mapped over the VME bus and provides data in accordance with ICD-GPS-059. The RS-422 instrumentation port provides standardized messaging in accordance with ICD-GPS-150 and full PTTI per ICD-GPS-060.

All receiver modules are field-replaceable units, offering a path for future technology enhancements and upgrades such as M code. Engility's VME-GEM merges leading-edge military-qualified GPS SAASM receivers with the open systems IEEE VME standard bus to allow rapid integration into any VME platform.

Rapid prototyping is easy because little or no VME-GEM hardware development is required for prototypes. The VME-GEM can facilitate concept evaluation by providing a GPS receiver on a VME card that can be plugged into any VME-based test bed.

Features and Benefits

- 12-channel L1 or L2 Frequency all-in-view tracking and navigation
- 24-channel simultaneous L1 and L2 Frequency
- VME bus interface in accordance with ICD-GPS-059 or ICD-GPS-155
- VME 6U single-slot footprint
- Precise Time and Time Interval (PTTI) in accordance with ICD-GPS-060
- Instrumentation port with standard RS232 and RS422 serial interface in accordance with ICD-GPS-150
- Selective Availability Anti-Spoofing Module (SAASM) compliant
- Crypto keying via DS-101 or DS-102
- NAVSTAR GPS Joint Program Office security approval
- Rockwell Collins and Trimble mature GPS operational software
- Compatible AE1 and GAS1 antenna discrete interfaces
- RF antenna interface with preamp power or disable
- 1 Pulse Per Second (1PPS) in, 1PPS out
- 10 Pulse Per Second (10PPS) out
- Capable of stand-alone GPS operation
- Proven integration with INS/Doppler
- Low power requirement



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Engility has provided engineering solutions for over 50 years. Our team of highly specialized engineers and technicians has delivered state-of-the-art navigation solutions to a variety of customers. We meet our customers' most demanding needs by drawing on our board-level design expertise and using in-house design, testing, and quality assurance (QA) facilities. A team approach to integrating engineering, manufacturing, and QA ensures our products are designed, developed, and manufactured to the highest manufacturing standards and specifications. All Engility products are designed and manufactured with the highest-quality components available and are tested and verified to meet customer requirements. All products carry a 1-year warranty with extended warranties available.

Engility P/N 500400 End-of-Life Announcement

Due to obsolescence issues with two critical components of the VME-GEM CCA (P/N 500400), Engility discontinued sales of this product.

Engility has made a significant effort to support customer requests by extending the life of the product as long as possible subject to component availability, but we have now reached the point where remaining orders can only be filled from existing component inventory.

Engility provides a form, fit, and function replacement in the VME-GPS 510 Series, P/N 510000 (see Figure 1). The VME-GPS 510 Series combines leading-edge military version GPS receivers with VME technology developed by Engility into a single-slot VME bus product. This product has been recently redesigned using the latest technology to interface with all Rockwell Collins GEM series and Trimble Force 5 series receivers, provides Ethernet connectivity, and supports firmware expandability.



Figure 1: Comparison of VME-GPS CCA P/N 510000 (left) shown next to VME-GEM CCA P/N 500400 (right)

For more information, please contact:

Ed DeMild

GPS Product Manager

Tel: 978.655.9702

ed.demild@engilitycorp.com

John VanDoren

Engineering

Tel: 978.655.9703

john.vandoren@engilitycorp.com

Engility Corporation

4803 Stonecroft Blvd.

Chantilly, VA 20151

Tel: 703.633.8300

www.engilitycorp.com

For more than 20 years, Engility has worked extensively with the Department of Defense Global Positioning Systems Directorate at the Los Angeles Air Force Base to provide innovative GPS products and solutions that satisfy security standards, policies, and procedures.