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# AFRL Awards GE For 20-Tflops Computer

**G**E INTELLIGENT Platforms ([www.ge-ip.com](http://www.ge-ip.com)) has received an order from the Research Information Technology Branch (RITB) of the US Air Force Research Laboratory (AFRL) Information Directorate for a High Performance Embedded Computing (HPEC) system; this system is intended for adaptive learning, large-scale dynamic data analysis, and advanced reasoning functions. The computing system, which is based on powerful graphics-processing-unit (GPU) accelerators from NVIDIA ([www.nvidia.com](http://www.nvidia.com)), is meant to provide real-time digital signal processing of high-bandwidth data derived from RF/microwave sensors in support of the US Department of Defense High Performance Computing Modernization Program (HPCMP).

The modular system, which is housed in a 6U OpenVPX rack-mount chassis, builds upon multiple single-board computers based on Core i7 microprocessor cores from Intel Corp. ([www.intel.com](http://www.intel.com)). The system will be capable of providing 20 trillion floating-point



This modular computer system will achieve 20-Tflops processing power in support of next-generation radar systems. [Photo courtesy of GE Intelligent Platforms ([www.ge-ip.com](http://www.ge-ip.com)).]

operations per second (20 Tflops), and can be expanded with additional computer modules.

Rod Rice, general manager for Military & Aerospace Products at GE Intelligent Platforms, explains that "GE has long been a proponent of GPU accelerators as the optimum approach to solving the toughest problems facing military organizations today." He adds: "GPUs deliver an unbeatable combination of very high performance computing with minimal power consumption and heat dissipation in constricted spaces—characteristics that were key to AFRL awarding GE this order." The HPCMP is a key part of the development of next-generation radar systems, including synthetic-aperture-radar systems, and such computing power is essential to designing these systems. ■

# Tactical Radio Earns Top Secret Certification

**W**ARFIGHTERS HAVE gained access to a compact standalone Link 16 radio termination, as the TacNet Tactical Radio (TTR) from Rockwell Collins ([www.rockwellcollins.com](http://www.rockwellcollins.com)) has gained final Top Secret certification from the National Security Agency (NSA; [www.nsa.gov](http://www.nsa.gov)). The compact, convection-cooled radio complies with MIL-STD-810F and MIL-STD-461E and has an operating range of better than 200 nautical miles. The tactical radio measures just  $6.6 \times 4.96 \times 5.56$  in., weighs 9.9 lbs., and operates on +28 VDC.

As Mike Jones, vice president and general manager of Communication and Navigation Products for Rockwell Collins, explains, "The TacNet



Measuring a mere  $6.6 \times 4.96 \times 5.56$  in. and weighing just 9.9 lbs., the TacNet Tactical Radio (TTR) has received Top Secret certification from one of the US government's most demanding organizations, the National Security Agency.

Tactical Radio opens up Link 16 networked communications to a wide range of new users and gives warfighters the connectivity they need to successfully complete missions with increased survivability."

Link 16 networked radio communications can benefit a variety of different tactical applications, including in unmanned aerial vehicles, rotary-wing aircraft, mobile ground stations, and maritime systems. The tactical radio provides data, images, and digital voice capabilities and is interoperable with multifunction information distribution system (MIDS) and Joint Tactical Information Distribution System (JTIDS) radio systems. ■