



### **MIRIDEON SINGLE BOARD IS SPACE INDUSTRY'S FIRST FLIGHT COMPUTER TO FEATURE BRE440 PowerPC® PROCESSOR**

#### ***Broad Reach Engineering puts system-on-a-chip technology to work for next-generation applications***

TEMPE, AZ (April 14, 2010) – Broad Reach Engineering has completed development and delivery of the Mirideon single board computer. It is the first flight computer to include the BRE440 PowerPC, the aerospace industry's highest-performance radiation-hardened microprocessor.

“Integrating peripheral functions with embedded ‘system-on-a-chip’ processors is an idea whose time has come in the space market,” said Broad Reach CEO Chris McCormick. “The evolution of system-on-a-chip technology has driven Broad Reach to create the highest-performance rad-hard CPU available in the space market, and is now embedded in our new Mirideon 3U single board computer.”

The Mirideon radiation-hardened board is built around a BRE440 rad-hard system-on-a-chip processor. It features 512MB DDRAM, 128kB EEPROM, 16MB FLASH with TMR, PCI backend interface, dual Ethernet ports, and dual UART. The board is available at various CPU clock frequencies ranging from 83MHz to 133MHz. The board runs from 5W to 9W, depending on clock speed, and is rated for -40C to 71C. All parts on the board are latch up immune to greater than 80MeV, all memory is SEU mitigated, and parts have a high total dose rating, including a processor rated to >1MRad TID.

The BRE440 is based on a high-performance, dual-issue (2 MIPS/MHz), superscalar 32-bit RISC PowerPC440 CPU Core that is part of the PowerPC 400 Series of advanced embedded processor cores, and is supported by the PowerPC Embedded Tools Program. IBM and third-party vendors offer a full range of development tools including compilers, debuggers, real-time operating systems and logic analyzers. A commercial prototype board based on the 440GP processor is available for code development.

“With the Mirideon, Broad Reach has achieved higher performance in smaller packages for our next generation avionics” said McCormick. “This computer and chip open the door for smaller, lower power, higher performance instruments for space.”



## BROAD REACH ENGINEERING

### **About Broad Reach Engineering**

Broad Reach Engineering produces spaceflight hardware and software solutions, integrating vehicle design, component design and engineering services for aerospace, scientific, commercial and military customers on four continents and for global space centers and contractors. The company's radiation-hardened avionics and electronics product lines include the next-generation BRE440 "system-on-a-chip" – the world's highest-performance radiation-hardened microprocessor. Founded in 1997, the company has office and laboratory locations in Tempe, Ariz., and Golden, Colo. For more information, please visit [www.broadreachengineering.com](http://www.broadreachengineering.com).

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