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Reference # DSC-A-42004

**Rugged PCI/104-Express SBC with Intel N2800 CPU Offers Exceptional I/O Capabilities;  
Advanced Processing**

*Board's dual-core CPU and advanced cooling ideal for harsh environments*

**Mountain View, Calif. January 2014** – Diamond Systems, a leading global developer of compact, rugged, I/O-rich embedded computing solutions for a broad range of real-world applications, now offers Atlas, a rugged PCI/104-Express single board computer (SBC) based on Intel's dual core Cedar Trail N2800 CPU.

Offering a speed of 1.86 GHz and dual core hyperthreading technology that enables applications to run in parallel, the new SBC provides exceptionally efficient processing. The Atlas SBC combines excellent Intel Atom CPU performance, a wealth of on-board I/O and a conduction cooled thermal solution at a competitive price.

Its rugged design makes it exceptionally reliable in harsh applications including industrial, on-vehicle and military environments.

Available I/O includes USB 2.0, RS-232/422/485, Gigabit Ethernet, SATA and digital I/O. Atlas supports I/O expansion with PCI-104, PCIe/104, PCI/104-Express and PCIe MiniCard I/O modules.

Atlas uses a new miniature, cost-effective, high-speed expansion connector that supports most PCIe/104 I/O modules. This design helps keep the cost of Atlas low, while increasing the PCB area available for other I/O features.

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Thanks to a dual-use PCIe MiniCard/mSATA socket, the board can accommodate newer I/O modules in the PCIe MiniCard form factor featuring WiFi, Ethernet, analog I/O, digital I/O and CAN. These modules provide compact expandability without increasing the total height of the system. For rugged applications, mSATA disk modules up to 64 GB are available in SLC and MLC technologies and with wide temperature operation.

Atlas SBCs run Linux, Windows Embedded Standard 7 and Windows Embedded CE operating systems. A Linux software development kit is available with bootable images and drivers enabling engineers to start a design project right out of the box.

The Atlas SBC was specifically designed for rugged applications. From an operating temperature of -40°C to +75°C and on-board DDR3 SDRAM to an integrated conduction cooling heat spreader and a high tolerance for shock and vibration, Atlas thrives in harsh environments. The bottom-mounted heat spreader provides a convenient mounting platform for the board, reduces case interior temperatures for improved system reliability, and simplifies the installation of I/O modules and cables by eliminating interference from heat sinks.

### **Technical Specifications:**

- Intel 1.86 GHz Cedar Trail N2800 CPU and NM10 chipset
- 2 GB or 4 GB 64-bit soldered, on-board DDR3 SDRAM
- Gigabit Ethernet and SATA ports
- 4 USB 2.0 ports
- 6 serial ports (4 RS-232/422/485 and 2 RS-232)
- VGA and LVDS LCD display support
- Audio I/O
- PCI-104, PCIe/104, PCI/104-Express, and PCIe MiniCard I/O expansion
- PC/104-*Plus* form factor with wings (4.550" x 3.775")

### **Pricing and Availability**

Two models of the Atlas PCI/104-Express SBC are available. The ATLN2800-4G offers 4 GB of on-board RAM, and the ATLN2800-2G has 2 GB of on-board RAM. Single unit pricing starts at US \$645.

Complete development kits, software development kits and a cable kit are all available to accelerate development efforts. For quantity pricing and special order options, email [sales@diamondsystems.com](mailto:sales@diamondsystems.com) or call 800-367-2104.

For more product information, visit <http://www.diamondsystems.com/products/atlas>

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**UPCOMING TRADESHOW:** Embedded World, Feb. 25-27, 2014, Stand # 2-346; Nuremberg, Germany

### **About Diamond Systems:**

Since 1989, Mountain View, California-based Diamond Systems Corporation has provided compact, rugged, board- and system-level real world embedded computing solutions to companies in a broad range of markets, including transportation, energy, aerospace, defense, manufacturing, medical and research.

The company is renowned as an innovator of embedded I/O standards and technologies; it originated the FeaturePak I/O modules standard, was an early adopter of PC/104 module technology, and holds a patent for a unique analog I/O autocalibration technique.

Diamond's extensive product line includes compact, highly integrated single board computers (SBCs); an extensive line of expansion modules for analog and digital I/O, wired and wireless communications, GPS, solid-state disk, and power supply functions; and complete system-level solutions.

In support of performance-critical embedded application requirements, its products operate reliably over wide operating temperature ranges, such as -40°C to +85°C, and at high levels of shock and vibration. Diamond also offers a comprehensive hardware, software and system integration and customization services.

For further information, please visit [www.diamondsystems.com](http://www.diamondsystems.com) or call 800-367-2104.