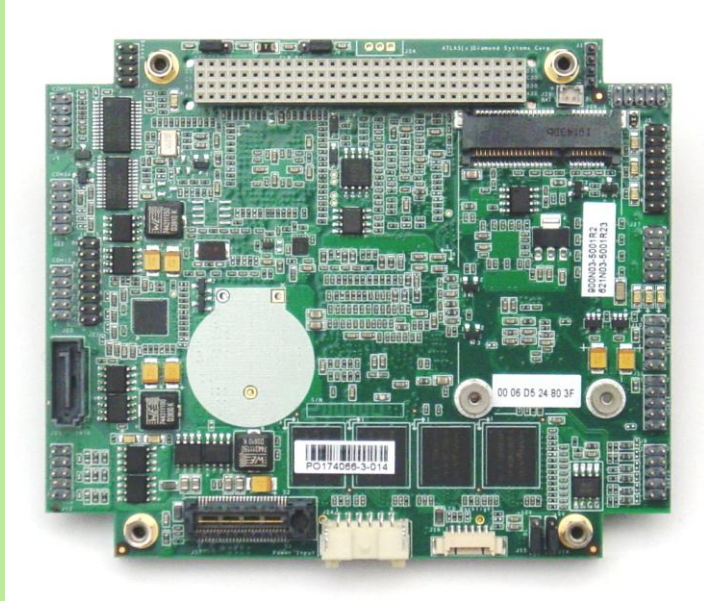


# ATLAS SBC Family

## PCI/104-Express SBC

### 1.86GHz Intel N2800 CPU with On-board SDRAM and PCIe MiniCard Expansion



- ◆ Intel 1.86GHz N2800 Cedar Trail CPU
- ◆ Intel NM10 chipset
- ◆ 2GB or 4GB 64-bit DDR3 SDRAM soldered on board
- ◆ Support for:
  - 4 USB 2.0 ports
  - 4 RS-232/422/485 ports
  - 2 RS-232 ports
  - 1 Gigabit Ethernet port
  - 1 SATA port for hard drive
  - 18-bit LVDS LCD display with dual independent displays
  - VGA CRT
  - ALC892 HD audio
  - 8 GPIO lines
  - Programmable watchdog timer
  - Shared expansion socket auto-selects for either PCIe MiniCard or mSATA flashdisk modules
- ◆ High degree of I/O expandability with PCIe/104, PCI/104-Express, and PCIe MiniCard
- ◆ PC/104-Plus form factor (4.55" x 3.775") with wings
- ◆ Extremely rugged with soldered RAM and -40°C to +75°C (-40°F to +167°F) operating temperature

### Highly Integrated SBC

Atlas is a compact, rugged, PCI/104-Express single board computer that features the Intel N2800 Cedar Trail processor in the PC/104-Plus form factor with wings. In this compact form factor, Atlas offers a wide range of I/O, meeting the majority of today's connectivity requirements.

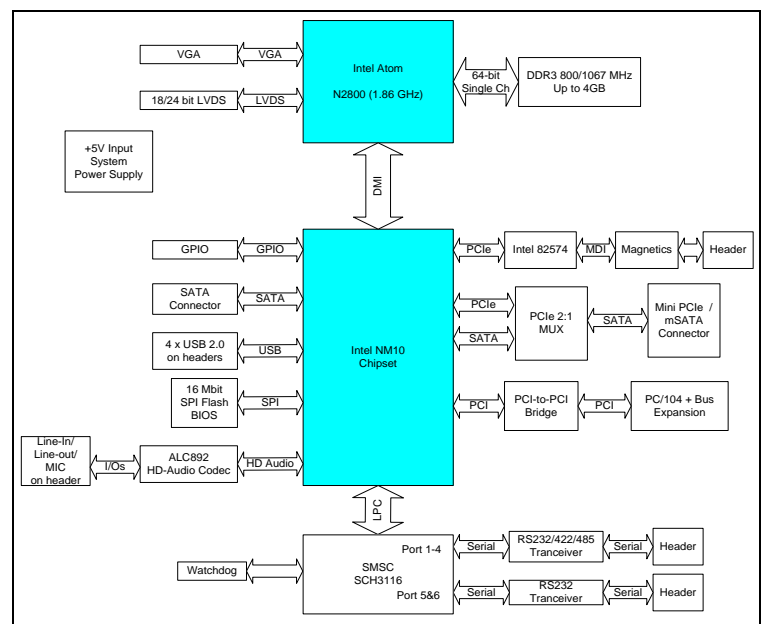
### Flexible I/O Expansion

Atlas supports I/O expansion with PCIe/104 and PCI/104-Express I/O modules. The new one-bank connector supports both PCIe/104 Type 1 and Type 2 modules. The new miniature, cost-effective expansion connector supports most PCIe/104 I/O modules while reducing the cost of Atlas and increasing the PCB area available for other I/O features.

Atlas also provides a dual-use PCIe MiniCard / mSATA socket for additional I/O expansion. I/O modules featuring WiFi, Ethernet, Analog I/O, Digital I/O, and CAN are now available in the PCIe MiniCard form factor, providing compact expandability without increasing the total height of the system.

### Rugged Design

The Atlas SBC was designed with rugged applications in mind. From an operating temperature of -40°C to +75°C, the on-board DDR3 SDRAM, integrated heat spreader thermal solution, and its high tolerance for shock and vibration, Atlas SBCs thrive in harsh environments.

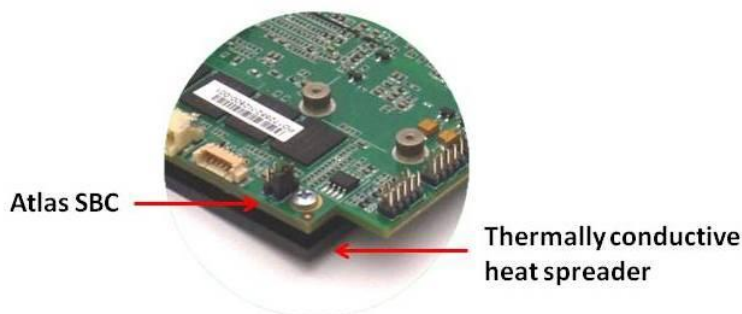


# Atlas: Intel N2800 PCI/104-Express SBC

## Specifications

<b>Processor</b>	Intel 1.86GHz N2800 Cedar Trail CPU
<b>CPU Passmark</b>	653
<b>Cooling</b>	Heatspreader, fan-less
<b>Memory</b>	2GB or 4GB onboard 64-bit DDR3 SDRAM
<b>Display type</b>	18-bit LVDS LCD flat panel interface with support for dual independent displays VGA CRT
<b>Display resolution</b>	LVDS: 1366 X 768 maximum VGA: 1280 X 1024 maximum
<b>USB ports</b>	4 USB 2.0
<b>Serial ports</b>	4 RS-232/422/485 ports 2 RS-232 ports
<b>Networking</b>	1 Gigabit Ethernet from Intel 82574IT
<b>Mass storage</b>	1 SATA port for external drive 1 mSATA Disk Module interface*
<b>GPIO</b>	8 lines
<b>Keyboard/Mouse</b>	USB
<b>Audio</b>	HD Audio CODEC from Realtek ALC892 with stereo line out, line in and microphone
<b>WDT</b>	Programmable watchdog timer
<b>Expansion sockets</b>	PCIe MiniCard socket*
<b>Expansion bus</b>	PCI-104 and PCIe/104
<b>Input power</b>	+5VDC +/-5%
<b>Power consump</b>	7.53W idle
<b>Operating temp</b>	-40°C to +75°C (-40°F to +167°F)
<b>Shock</b>	IEC68-2-27 compatible
<b>Vibration</b>	MIL-STD-810E 514.4 compatible
<b>FCC</b>	Class A compatible
<b>Weight</b>	7.6oz (215.5 grams) with heatspreader
<b>Dimensions</b>	4.550" x 3.775" (116mm x 96mm)

\*shared interface, can use only one



Diamond's family of Atlas PCI/104-Express SBCs combines excellent CPU performance and a wealth of I/O at a competitive price. Available I/O includes USB 2.0, RS-232/422/485, Gigabit Ethernet, digital I/O, and SATA ports.

A shared PCIe MiniCard / mSATA socket is provided to add either additional I/O or a flashdisk of up to 64GB in capacity. This shared socket auto selects the appropriate interface after identifying the installed module.

## Development Kits

Atlas system development kits and software development kits are available with a bootable Linux image pre-loaded on a 16GB mSATA flashdisk. The Development Kit has everything you need to get started on your design project right out of the box.

## Software Support

Atlas SBCs run Linux, Windows Embedded Standard 7, and Windows Embedded CE.

## Ordering Information

<b>ATLN2800-4G</b>	Atlas SBC, 1.86GHz Atom N2800 CPU, 4GB DDR3 SDRAM
<b>ATLN2800-2G</b>	Atlas SBC, 1.86GHz Atom N2800 CPU, 2GB DDR3 SDRAM
<b>DK-ATLN-LNX</b>	Atlas Development Kit: ATLN2800-2G SBC, SDK-ATLN-LNX, CK-ATLAS-01, AC adapter
<b>SDK-ATLN-LNX</b>	Atlas Linux Software Development Kit with 16GB mSATA flashdisk
<b>CK-ATLAS-01</b>	Atlas Cable Kit for most on-board I/O