NITX-300 Series

Ultra Low Power Nano-ITX Motherboards

Embedded Computing for Business-Critical Continuity™

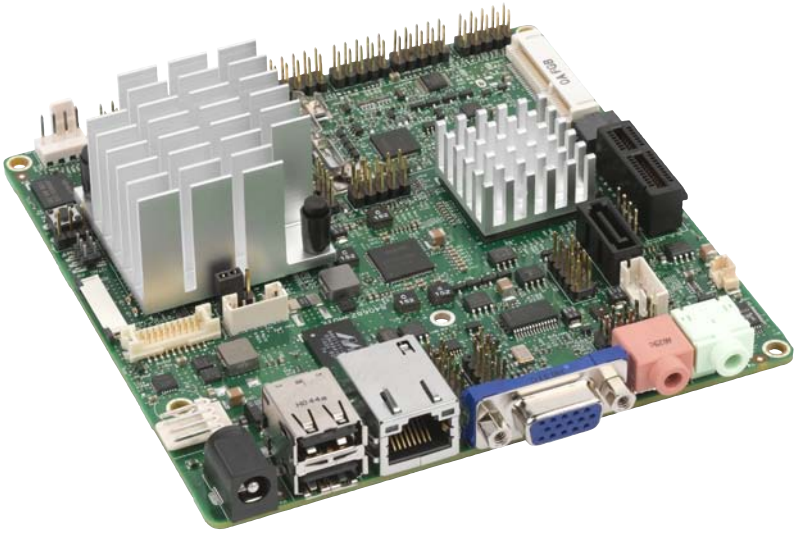
PRELIMINARY DATA SHEET

Easy-to-use Nano-ITX motherboards are ideal for low power embedded applications

- < 7 Watts typical power consumption
- Up to 1.0 GHz Intel Atom processor E6xx series
- Up to 1GB DDR2 memory, soldered on board
- Gigabit Ethernet, SATA and USB
- PCI Express x1 and PCI Express Mini Card slot
- Dual display support
- Four serial ports

The NITX-300 series of Nano-ITX motherboards from Emerson Network Power feature the Intel® Atom™ processor E6xx series. These ultra low power motherboard solutions offer passive cooling capability for reliable operation. They are designed for use in a variety of applications such as embedded instruments, medical carts, audio visual display systems, and other applications that require an easy-to-use Nano-ITX motherboard with support for a variety of operating systems.

With a size format of 120 mm x 120 mm, Nano-ITX form factor motherboards are very suitable for low power embedded applications. The NITX-300 series has a low height profile to fit into most enclosures and has a wide range of built-in connectivity including LCD and/or CRT displays; SATA for physical or solid state disks; a PCI Express x1 expansion slot and a PCI Express Mini Card slot for Wi-Fi/WiMAX; USB and Gigabit Ethernet networks; audio; and multiple serial ports.



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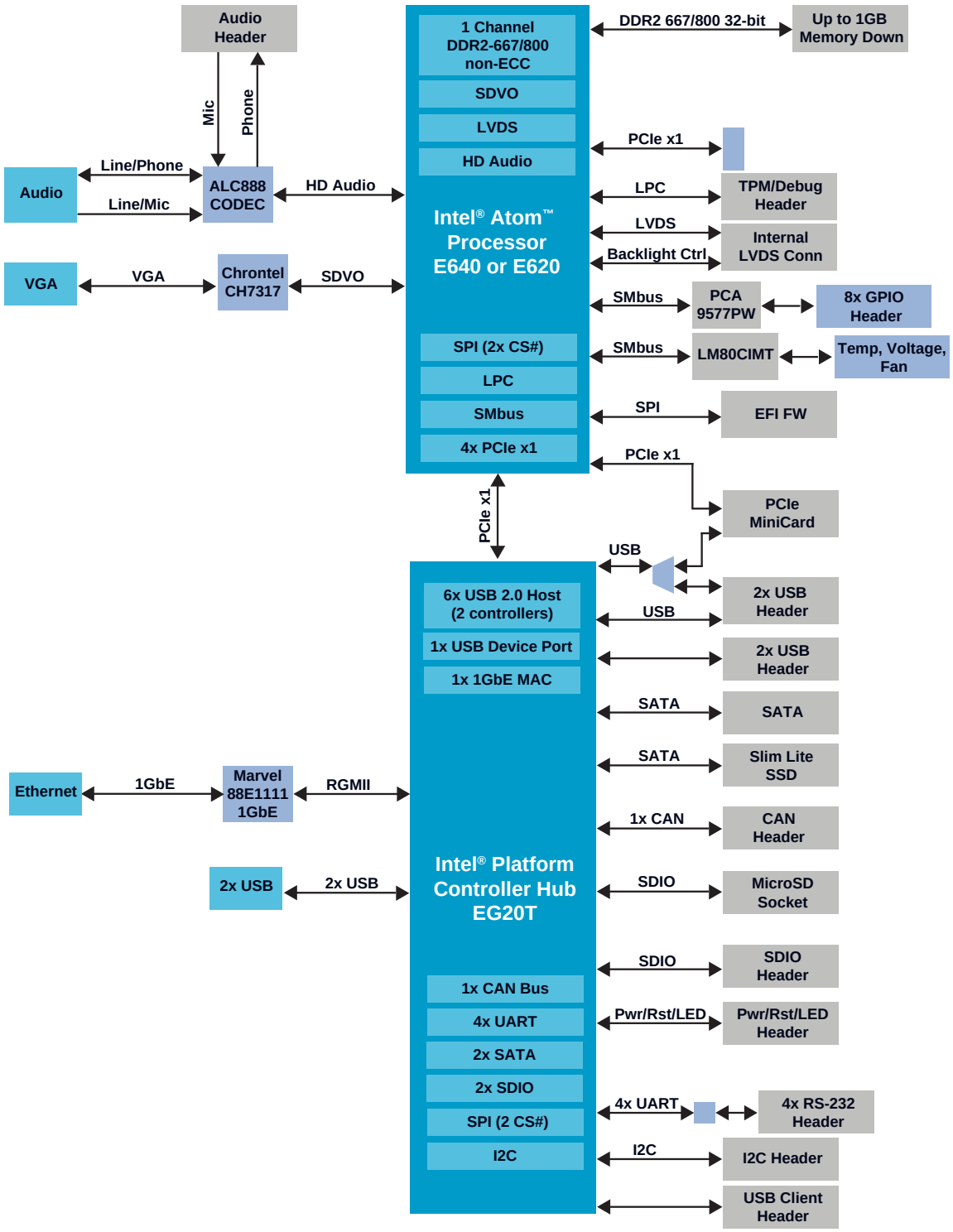
NITX-300 Series Block Diagram



Hardware Specifications

PROCESSOR

- 1.0 or 0.6 GHz Intel® Atom processor E640 or E620

CHIPSET

- Intel® Platform Controller Hub EG20T

MEMORY

- 512MB or 1GB soldered down DDR2

VIDEO

- Supports dual display outputs with a single channel LVDS and VGA connectivity. LVDS resolution up to 1280 x 768, VGA resolution up to 1280 x 1024 pixels at 60 Hz

STANDARD REAR I/O

- One (1) Gigabit Ethernet
- Two (2) USB 2.0
- One (1) VGA
- Two (2) audio jacks
- One (1) 12V power input socket

INTERNAL I/O EXPANSION

- One (1) PCI Express x1 slot
- One (1) PCI Express Mini Card slot for WiFi/WiMAX wireless module
- Four (4) USB headers
- One (1) USB Client header
- One (1) GPIO header
- Four (4) Serial headers
- One (1) LVDS header
- One (1) CAN header
- One (1) Audio header
- One (1) SATA connector
- One (1) Bottom-mounted Slim-Lite SSD connector
- One (1) Bottom-mounted MicroSD memory card connector
- One (1) LPC header
- One (1) eUSB flash socket

POWER CONSUMPTION

- Typical use < 7 Watts

COMPLIANCE AND CERTIFICATION INFORMATION

- EMC and Safety
  - Class B (FCC, VCCI, MIC, AS/NZ)
  - UL, CSA, Ctick

Firmware and Operating System Support

BIOS

- UEFI BIOS

OS COMPATIBILITY:

- Microsoft® Windows® XP
- Windows® Windows® 7
- Microsoft® Windows® Embedded Standard
- Meego Linux
- Wind River Hypervisor 1.2
- Wind River VxWorks 6.8.2
- Wind River Linux 4
- Wind River Tilcon Graphics Suite 5.8

NITX-315-DEVKIT Contents

- Nano-ITX Motherboard
- Power supply
- Drivers CD
- SATA power cable
- Wind River On-Board Embedded Development Kit including:
  - One (1) Getting Started with Wind River guide
  - One (1) 16GB LiveUSB stick containing Workbench 3.2.3, Hypervisor 1.2, WR Linux 4.0, VxWorks 6.8.2 and Tilcon 5.8.1
  - One (1) 4GB microSD pre-loaded with Wind River Hypervisor 1.2 running VxWorks 6.8.2 and Wind River Linux 4 as Guest OS

The Wind River On-Board Embedded Development Kit for the NITX-300 Seed Board is ideally suited for developers that wish to develop graphics applications, as well as for those developers that wish to run multiple applications using the on-board hypervisor technology. The 30-day evaluation software includes Wind River Hypervisor with VxWorks and Wind River Linux as Guest OS. Wind River Linux is pre-integrated with the Intel® Embedded Media and Graphics Driver.

The LiveUSB stick that accompanies the kit is pre-installed with both the Wind River Workbench IDE for embedded development and the Tilcon GUI tools for graphics development.

By working closely together, Emerson and Wind River are making development access easier, faster and more affordable than ever by putting all the tools in one box for customer evaluation.

Ordering Information

Part Number	Description
NITX-315-DEVKIT	NITX-315 with Wind River and Meego bootable USB sticks and power adaptor
NITX-315-ET	1.0 GHz Extended temperature Intel® Atom™ Processor E640T, 1GB memory, -20 °C to +70 °C
NITX-315	1.0 GHz Intel Atom processor E640, 1GB memory
NITX-300	0.6 GHz Intel Atom processor E620, 512MB memory

SOLUTION SERVICES

Emerson Network Power provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

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