ICES 251

Intel® Atom™ N450 1.66GHz Micro COM Express Type II Module

Main Features

- Low Power COM Express CPU Module
- Onboard Intel® Atom™ N450 1.66GHz Processor
- Intel® ICH8M Chipset
- Support DDR2 667 SO-DIMM up to 2GB

- Intel® PCI Express GbE 82574L
- Support 3 x SATA, 1 x IDE, 8 x USB2.0 for fast peripherals
- Micro COM Express Type II supports up to 5 Express lanes, 32 bit PCI interface and one IDE and Gigabit LAN

Product Overview

ICES 251 is a COM Express module that features Intel® Atom™ N450 1.66GHz and ICH8M in small foot print. ICES 251 provides outstanding performance in the combination of high computing power and low thermal dissipation.

ICES 251 supports DDR2 667 SO-DIMM memory up to 2GB, and supports 3 x SATA, 1 x IDE, 8 x USB2.0 for fast peripherals.

ICES 251 is type 2 COM Express Module support up to 5 Express lanes, 32 bit PCI interface and one IDE and Gigabit LAN.

Specifications

CPU Support
- Onboard Intel® Atom™ N450 1.66GHz Processor

Chipset
- Intel® ICH8M chipsets

Main Memory
- Support one un-buffered non-ECC DDR2 SO-DIMM 667 up to 2GB

BIOS
- AMI System BIOS
- SPI ROM
- Plug & Play support
- Advanced Power Management and Advanced Configuration & Power Interface support

Display
- Intel® N450 integrated graphics solution with dynamic video memory allocation
- Analog monitor with pixel resolution up to 1400x1050 @60Hz
- Support Single channel for 18 bit
- LFP (local flat panel) LVDS interface

On-board LAN
- Intel® PCI Express GbE 82574L x 1

- Support PXE LAN boot function
- Support Wake on LAN function

Audio
- HD Configurable Audio bus Interface

Storage
- 3 x SATA
- 1 x IDE

Interface
- Reset signal
- 8 GPIO lines (GPI 0~3 and GPO0~3), CMOS Level (0/3.3V)
- I2C Interface/SMbus Interface
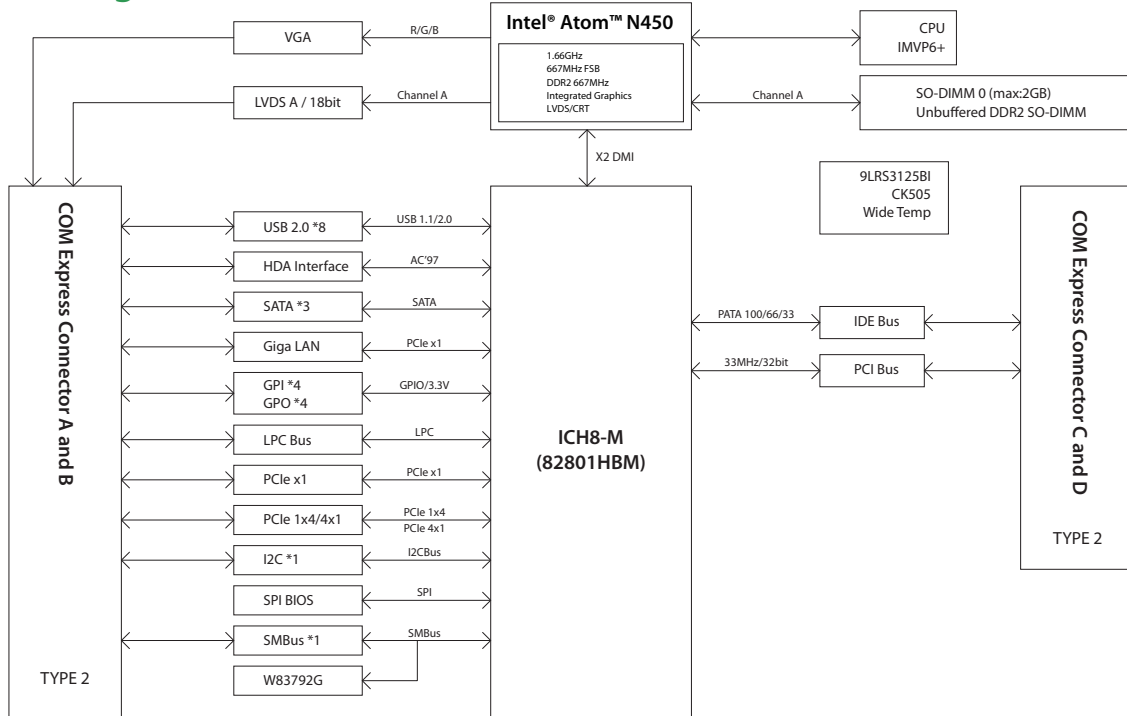- USB 2.0 x 8
- PATA

Other Interfaces
- One 3pin fan connector (90 degree, 12V)

COM Express Connector
- AB connector
  VGA/ LVDS/8 x USB/ HD Audio interface/3 x SATA/ LAN/ GPIO(3.3V)/ LPC bus/ 1 x PCIe x4/1 x PCIe x1/SMBus/ I2C/SPI BIOS
- CD connector, IDE, PCI

Block Diagram

Power Requirements
- +12Vdc, 3.3V battery, +5Vsb power input
- Support both AT and ATX power supply mode

Power Management
- ACPI 2.0 compliant with battery support. Also supports Suspend to RAM (S3)

System Monitor
- Monitoring of 4 voltages, 2 temperatures and 1 fan Speed.
- 4 voltage (For +5V, +12V, Vcore, +3.3V)
- 2 Temperatures (CPU and one external Temperature Sensor)

Carrier Board
- ICEB 8050
- ICEB 9030-MR

Dimensions
- 95mm (W) x 95mm (L)

Environment
- Operating temperature: -20°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity:
  10% to 97% (operating, non-condensing)
  5% to 97% (non-operating, non-condensing)

Certifications
- CE approval
- FCC Class A

Ordering Information

- **ICES 251 (P/N: 10K00025100X0)**
  Micro COM Express Type II Module Atom™ N450 1.66GHz COM Express Module