

Main Features

- ♦ Support Wide Range Operating Temperature
- ♦ Low Power COM Express CPU Module
- ♦ On-board Intel® Atom™ N450 1.66GHz Processor
- ♦ Intel® ICH8M Chipset
- ♦ Support DDR2 667 SO-DIMM up to 2GB
- ♦ Intel® PCI Express GbE 82574L
- ♦ Support 3x SATA, 1x IDE, 8x 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 251X supports operating temperature from -40°C to 85°C. It also provides outstanding performance in the combination of high computing power and low thermal dissipation. ICES 251X supports DDR2 667 SO-DIMM memory up to 2GB, and supports 3x SATA, 1x IDE, 8x USB2.0 for fast peripherals. ICES 251X 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

- ♦ On-board Intel® Atom™ N450 1.66GHz processor

Main Memory

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

Chipset

- ♦ Intel® ICH8M chipsets

BIOS

- ♦ AMI System BIOS
- ♦ SPI ROM
- ♦ Plug and play support
- ♦ Advanced power management and advanced configuration & power interface support

On-board LAN

- ♦ Intel® PCI Express GbE 82574L x 1
- ♦ Support PXE LAN boot function
- ♦ Support Wake on LAN function

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 fl at panel) LVDS interface

Audio

- ♦ HD configurable audio bus interface

Storage

- ♦ 3 x SATA
- ♦ 1 x IDE

I/O 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

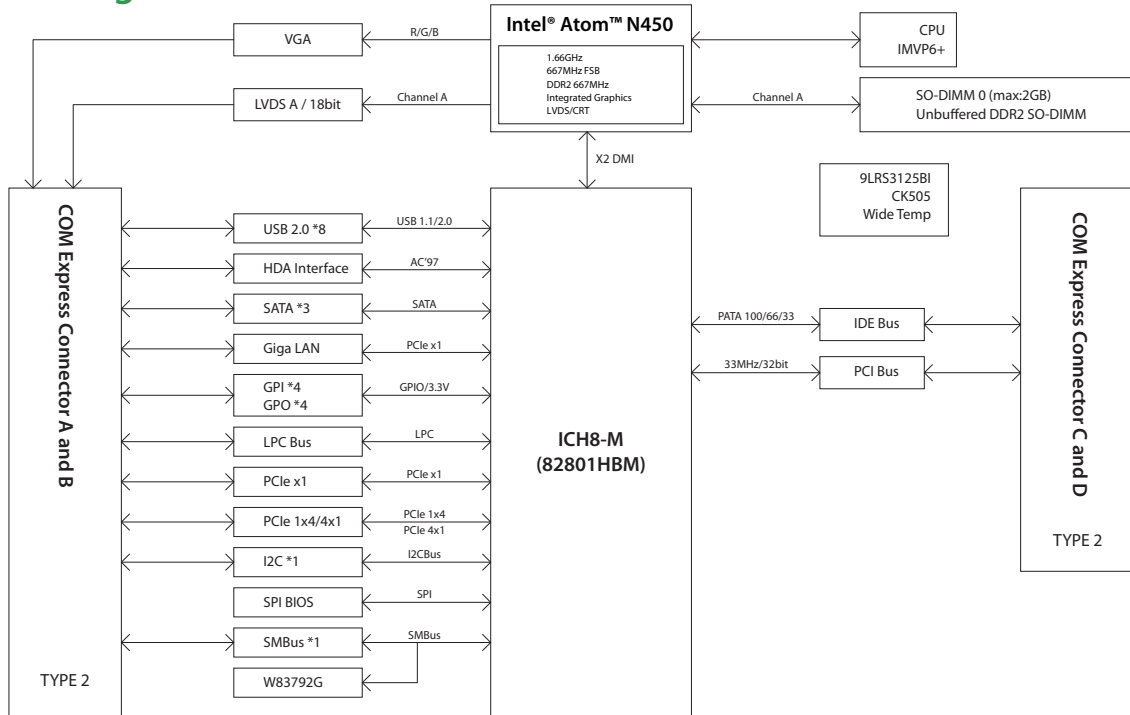
Other Interfaces

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

COM Express Connector

- ♦ AB connector
VGA/ LVDS/ 8x USB/ HD audio interface/ 3 x SATA/ LAN/ GPIO (3.3V)/ LPC bus
- ♦ 1x PCIe X4/ 1x PCIe X1/ SMBus/ I2C/ SPI BIOS
- ♦ CD connector, IDE, PCI

Block Diagram



System Monitor

- Monitoring of 4 voltages, 2 temperatures and 1 fan speed
- 4 voltages (For +5V, +12V, Vcore, +3.3V)
- 2 temperatures (CPU and one external temperature sensor)

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)

Carrier Board

- ICEB 8050
- ICEB 9030-MR

Dimensions

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

Environment

- Operating temperature: -40°C to 85°C
- Storage temperature: -40°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 251X (P/N: TBD)

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