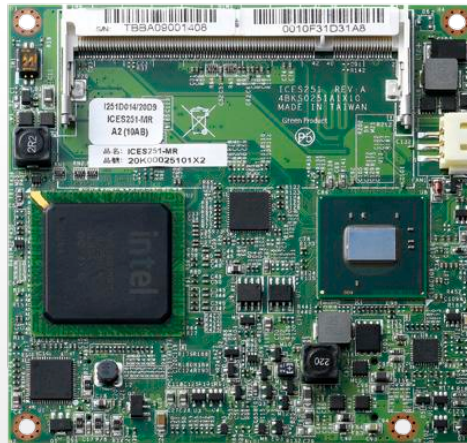


# ICES 251X

COM Express Type 2 Compact Module with Intel® Atom™ N450 1.66GHz  
DDR2, Extended -40°C to + 85°C



## 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
- Compact COM Express Type II Supports up to 5 Express Lanes, 32 bit PCI Interface and One IDE and Gigabit LAN

## Product Overview

The ICES 251X is a COM Express Type 2 compact module that features Extended -40°C to + 85°C operating temperature with Intel® Atom™ N450 1.66GHz and ICH8M in small foot print. ICES 251X supports operating temperature form -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)

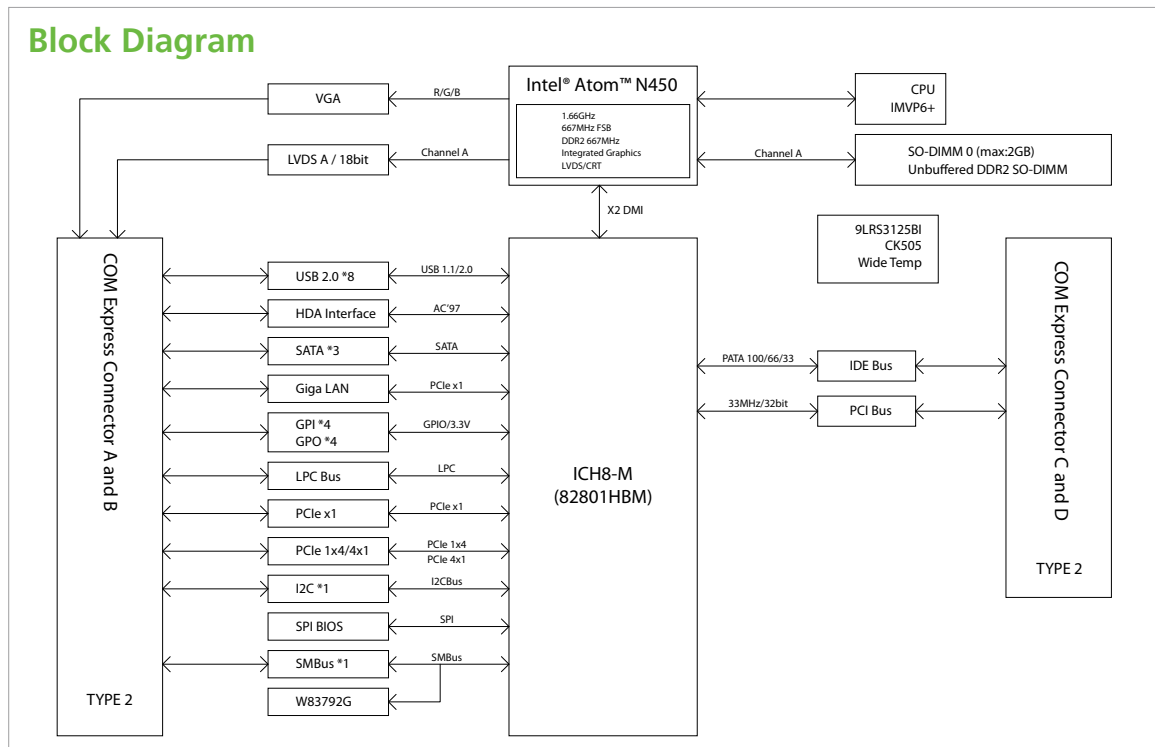
### COM Express Connector

- 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

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## 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

### 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:10K00025102X0)

COM Express Type 2 Compact Module Extended -40°C to +85°C with Intel® Atom™ N450 1.66GHz DDR2/ PCIe/ PCI/ IDE/ GbE/ LVDS/ audio interface

### • ICEB 8050 (P/N:10KB0805000X0)

COM Express Type 2 evaluation board with PCIe/ PCI/ SATA/ CF/ IDE/ COM/ USB/ LVDS/ VGA/ LAN

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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