

# **Main Features**

- Low Power COM Express CPU Module
- Onboard Intel® Pineview-M 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 xIDE, 8 x USB2.0 for fast peripherals
- Micro COM Exrpress 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® Pineview-M 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® Pineview-M N450 1.66GHz Processor

#### Chipset

• Intel® ICH8M chipsets

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

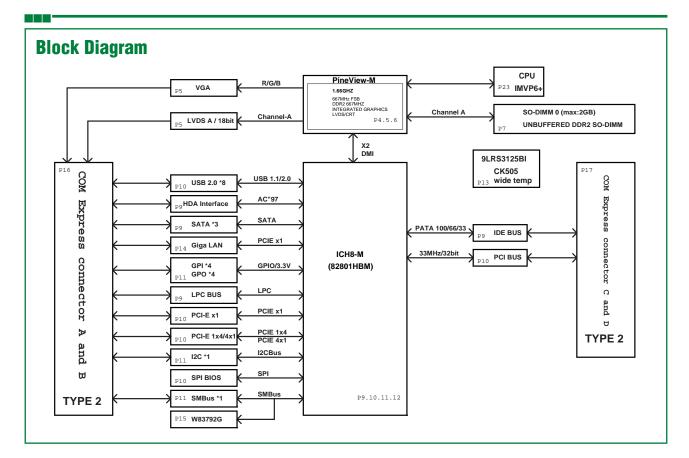
- · Reset signal
- 8 GPIO lines (GPI 0~3 and GPO0~3), CMOS Level (0/3.3V)
- I2C Interface/SMbus Interface
- USB 2.0 x 8
- PATA

#### Other Interfaces

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

COM Express NE(COM





#### **COM Express Connector**

- AB connector VGA/ LVDS/8 x USB/ HD Audio interface/2 x SATA/ LAN/ GPIO(3.3V)/LPC bus/ 1 x PCIe x4/1 x PCIe x1/SMBus/ I2C/SPI BIOS
- CD connector, IDE,PCI

#### **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 Pineview-M N450 1.66GHz COM Express Module