

## MSC CXB-A945M

Intel® Atom™ - Basic

Supporting five PCI Express x1 lanes



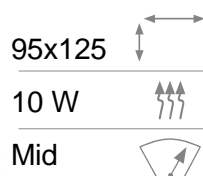
### Description

The design of the MSC CXB-A945M module is based on Intel's ATOM™ CPU technology enabling low power consumption while maintaining high graphics performance.

The N270 processor with its low power consumption of only 2.5W is ideally suited for fanless designs.

Paired with the successful Intel 82945GME the design offers high graphics performance including the support for PCIe x16 and many I/O options.

In addition to an extensive set of interfaces and features, the MSC CXB-A945M delivers hardware and BIOS based security that is compliant to the requirements of the TCG (Trusted Computing Group).



### Highlights

- Intel® Atom™ N270 (1.6GHz)
- Mobile Intel® 945GME Chipset with integrated Intel® 950
- Up to 2GB DDR2 SDRAM
- Two SATA-150 mass storage interfaces
- 10 / 100 / 1000 Base-TX Ethernet interfaces
- LVDS interface (18 / 24 / 36 / 48 Bit) up to 1600 x 1200
- CRT interface up to 2048 x 1536
- Dual Independent Display supported
- Five PCI Express™ x1 lanes
- Eight USB 2.0 interfaces
- Infineon TPM 1.2

## Technical Data – MSC CXB-A945M

### Module Standard

#### **PICMG COM Express™ Standard COM.0**

Type 2 compliant interface, extended form factor

### Core Logic, Memory

#### **CPU**

Intel® Atom N270 (1.6 GHz)

#### **Chipset**

Intel® 82945GME, ICH7DH

#### **Memory**

200-pin SO-DIMM socket for up to 2GB PC4200 DDR2 SDRAM

### Storage Interfaces

#### **SATA**

2 x SATA-2 channels (up to 150MB/s)

#### **EIDE**

1 x Enhanced IDE port (ATA/UDMA100)

### Bus Interfaces

#### **USB**

8 x USB 2.0

#### **PCI Express™**

Five channels PCI Express x1

#### **PCI**

32 Bit, 33MHz standard interface (PCI 2.3)

#### **LPC**

Low Pin Count bus for legacy interfaces

### Display Interface

#### **Graphics Controller**

Intel® Graphics Media Accelerator 950  
(integrated in Intel® 945GM chipset)

#### **Video Memory**

UMA, up to 384 MB

#### **LCD Interface**

LVDS 24/48 Bit, dual channel, Resolution 1600 x 1200,  
External PCIe x 16 graphics supported

#### **CRT Interface**

Resolution 2048 x 1536

### Miscellaneous

#### **Watchdog Timer**

Initiates system reset, (programmable, 1s ... 255h)

#### **Fan Supply**

3-pin header (12V)

#### **Battery**

External

#### **System Monitoring**

Voltage, Temperature, Fan

### Network Interface

#### **Ethernet**

10/100/1000Base-TX (Intel® 82573E)

### Audio Interface

Audio Interface or AC'97 Audio Interface, High Definition

### Security Device

Infineon Trusted Platform Mmodule 1.2 SLB 9635

### Firmware, Software

#### **Boot Options**

Quick Boot, MultiBoot XP (FD, HD, CD, LAN, USB),  
Boot without keyboard, LAN Boot via PXE (RPL optional),  
Wake on LAN (WOL) supported

#### **Security**

Phoenix StrongROM technology TPM 1.2 support, Pre-Boot-  
Authentication, Phoenix SecureFlash for safe BIOS updates

#### **Power Management**

(S3 cold, S4, S5 supported), Enhanced Intel SpeedStep®  
technology supported, Active/passive cooling

#### **USB**

USB legacy support (Keyboard, Mouse, Hub)

#### **Video**

VGA BIOS with flat panel extensions (EPI)

#### **HW Programming I/F**

UspEpc (Universal board support package for embedded PCs)

### Power Supply

#### **Power Supply Voltage**

+12V +/-10%, 5V Stby optional

#### **Power Consumption**

8W typ. (N270, 1.6 GHz)

### Environment

#### **Ambient Temperature**

0° ... 60°C (operating)  
-25° ... 85°C (storage)

#### **Humidity**

5 ... 95% (operating, non-condensing)  
5 ... 95% (storage, non-condensing)

### Mechanical

#### **Dimensions**

125mm x 95mm x13mm

## Order Reference – MSC CXB-A945M

Order Number	Description	Reference
32365	COM Express Basic compatible CPU module (95x125mm). Module based on Intel Atom N270 at 1.60 GHz; 945GME chipset; integrated UMA graphics; LCD interface (LVDS); Ethernet controller (10/100/1000 Base-T); TPM; slot for DDR2-533 SODIMM memory module; AC97 audio; 5 PCIe x1, PCIe x16	MSC CXB-A945M-N270-060000

## Accessories

Order Number	Description	Reference
	<b>Cooling</b>	
1073534	Passive heat sink for CXB-CD945, CD9455, A945M with spring mounted self aligning cooler elements connecting the die. Aluminium plate (2.7mm inner diameter), screws and thermopad. No Fan.	MSC CXB-945GM-02 HSI-001
1073524	Passive heat sink (block with fins)	MSC CXB-A945M-01 HSI-001
1073535 / 1073536	Active heat sink (spring coolers)	MSC CXB-945/915GM-01 HSF-00*
1073525	Heat spreader	MSC CXB-A945M-01 HSP-001
	<b>Carrier Boards</b>	
32367	COM Express Industrial Platform with PCI and PCI Express x1; Dual LAN,VGA/DVI, Quad USB, COM1/2, HD-Audio; MiniPCI, SATA, CF onboard,170x170mm (mini-ITX)	MSC CX-MB-IP1
	<b>Memory Modules*</b>	
1050983	DDR2 SODIMM, 1GB, PC667, 128Mx64, 1.8V, 64Mx16 based, 2rank	HYMP112S64CP6-Y5
1051494	DDR2 SODIMM, 1GB, PC800, 128Mx64, 1.8V, 2rank	HYMP112S64CP6-S6
1050984	DDR2 SODIMM, 2GB, PC667, 256Mx64, CL5, 1.8V, FBGA, 128Mx8 based, 2rank	HYMP125S64CP8-Y5
	* Pe-qualified memory modules are with the CPU product above	

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