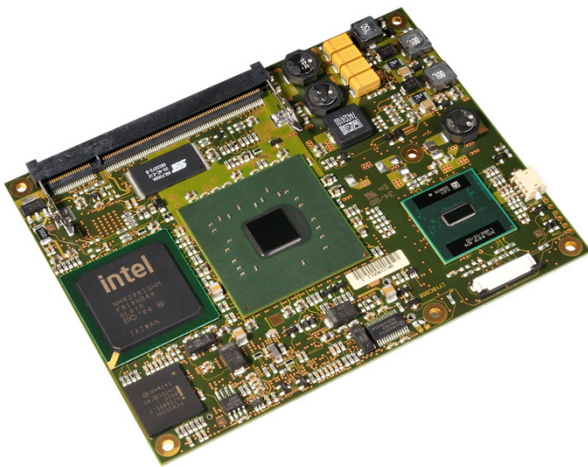


MSC CXB-A945M

Intel® Atom™ - Basic

Supporting five PCI Express x1 lanes



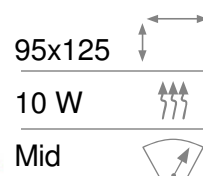
Description

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
Cooling		
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
Carrier Boards		
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
Memory Modules*		
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		

Corporate Offices

MSC Vertriebs GmbH, Industriestraße 16, 76297 Stutensee, Tel. +49 7249 910 – 0, Fax +49 7249 7993 0
MSC Vertriebs GmbH, Design Center München-Neufahrn, Zepelinstr. 1A, 85375 Neufahrn, Tel. +49 8165 906 – 100, E-mail: boards@msc-ge.com,
Technical Support COM: Tel. +49 8165 906 – 200, E-mail: support.boards@msc-ge.com, Internet: www.msc-ge.com/support-boards

Sales Offices Germany

München-Dornach · Tel. +49 89 945532 – 0 · **Berlin** · Tel. +49 30 720089-0 · **Hamburg** · Tel. +49 4106 7764-0 · **Hannover** · Tel. +49 511 616847-0 ·
Braunschweig · Tel. +49 5341 2999-0 · **Düsseldorf** · Tel. +49 211 92593-0 · **Aachen** · Tel. +49 2408 709 – 0 · **Koblenz** · Tel.+49 2630 96239-11 ·
Rodgau · Tel. +49 6106 26769 – 0 · **Wiesbaden** · Tel. +49 611 97320-0 · **Frankenthal** · Tel. +49 6233 344-0 · **Stuttgart** · Tel. +49 711 78336-0 ·
Freiburg · Tel. +49 761 8819 – 819 · **Nürnberg** · Tel. +49 911 43970-0 · **Jena** · Tel. +49 3641 6825-0 · **Stutensee** · Tel. +49 7249 910-173

Sales Offices Europe

MSC Vertriebs GmbH · Leobersdorf · Tel. +43 2236 205066-0 · **Velden** · Tel. +43 4274 23222-17 · **MSC Schweiz AG · Biel/Bienne** · Tel. +41 32 366 8565 ·
Montreux · Tel. +41 21 965 3500 · **Rotkreuz** · Tel. +41 41 785 8200 · **Volketswil** · Tel. +41 43 355 33 66 ·
MSC Iberia S.L. · Barcelona · Tel. +34 931 505 505 · **Madrid** · Tel. +34 91 72169-51 ·
MSC France · Paris · Tel. +33 1 45128230 · **Strasbourg** · Tel. +33 3 88 651843 · **Lyon** · Tel. +33 4 72 756020 ·
MSC Italia Srl · Tel. +39 039 63089-1 · **MSC Nederland BV** · Tel. +31 78 6920-150 · **MSC Belgium Office** · Tel. +32 2 452 6451 ·
MSC (UK) LTD. · Brighton · Tel. +44 1273 622446, **Weybridge** · Tel. +44 1932 268990 · **Milton Keynes** · Tel. +44 1908 263999 ·
MSC (Scotland) LTD. · Tel. +44 1506 460555 · **MSC Representative (DK) MK Nordic ApS** · Tel. +45 24 252745 ·
MSC-Vertriebs-CZ s.r.o. · Blansko · Tel. +420 516 411494-15, **Prague** · Tel. +420 251 261 130 ·
MSC-Vertriebs-SK s.r.o. · Zilina · Tel. +421 41 5001243 · **MSC Budapest Kft.** · Tel. +36 1250 90-40 ·
MSC Polska Sp. z o.o. · Tel. +48 323 3054-50 · **MSC-Mibatron s.r.l. · Bucharest** · Tel. +40 31 1023466 · Tel. +40 21 2302530 ·
MSC Vertriebs GmbH · Istanbul · Tel. +90 216 411 2333

