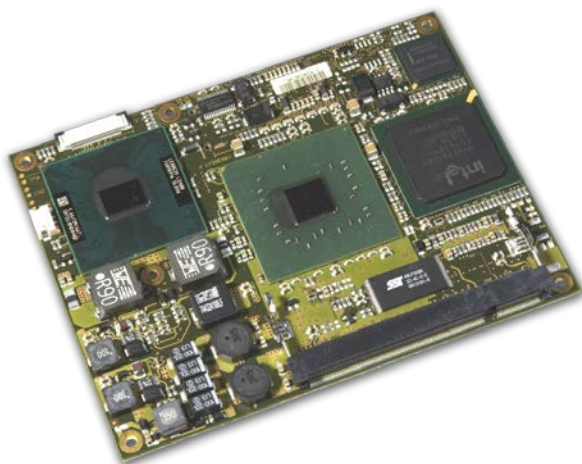


## MSC CXB-CD945

Intel® Core™ Duo






### Description

The design of the MSC CXB-CD945 module is based on Intel's dual core CPU technology.

This mature entry level COM Express Basic form factor board has already been successfully integrated in a whole range of designs and can be called an industry reference product.

Dual core CPU technology and MSC's optionally embedded security BIOS functions enable secure, tamper and cloning proof applications.

For applications with low power requirements we supply a low voltage version with a single core CPU.

95x125   
20/40 W   
Mid / High 

### Highlights

- Intel® Core™ Duo (1.2GHz – 1.66GHz)
- Intel® Celeron M (1.06GHz, 1.86GHz)
- Mobile Intel® 945GME Chipset with integrated Intel® GMA 950
- Up to 2GB DDR2 SDRAM
- Two SATA-300, one PATA mass storage interfaces
- LVDS interface up to 2048 x 1536
- CRT interface up to 2048 x 1536
- Dual Independent Display supported
- Four PCI Express™ x1 lanes
- Eight USB 2.0 interfaces
- Infineon TPM 1.2

## Technical Data – MSC CXB-CD945

### Core Logic, Memory

**COM Express:** Intel® Celeron M 423 (1,06GHz), Intel® Celeron M 440 (1.86 GHz), Intel® Core™ Duo L2400 (1.66 GHz) or Intel® Core™ 2 Duo L7400 (1.5 GHz), Intel® Core™ Duo U2500 (1.2 GHz)

**Chipset:** Intel® 82945GM(E), ICH7-M

**Memory:** 200-pin SO-DIMM socket for up to 1GB PC4200 DDR2 SDRAM

### Drives

**SATA:** 2 x SATA-2 channels (up to 300MB/s)

**EIDE:** 1 x Enhanced IDE port (ATA/UDMA100)

### Standard Interfaces

**USB:** 8 x USB 2.0

### Bus Interfaces

**COM Express™ Interface:** Type 2 interface, fully compliant

**PCI Express™ Interface:s:** Four channels PCI Express x1, one channel used for Gbit Ethernet , one PCI Express Graphic (PEG) x 16

**PCI Bus:** 32 Bit, 33MHz standard interface (PCI 2.3)

**LPC:** Low Pin Count bus for heritage interfaces

### Flat Panel / CRT Interface

**Graphics Controller:** Intel® Graphics Media Accelerator 950 (integrated in Intel® 945GM/E chipset)

**Video Memory:** UMA, up to 224 MB

**LCD Interface:** LVDS 24/48 Bit, dual channel, Resolution up to 1600 x 1200

**CRT Interface:** Resolution up to 2048 x 1536

### Miscellaneous

**Watchdog Timer:** Initiates system reset (programmable, 1s ... 255h)

**Fan Supply:** 3-pin header (5V)

**Battery:** External

**System Monitoring:** Voltage, Temperature, Fan

### LAN Interface

**Ethernet:** 10/100/1000Base-TX (Intel® 82573E)

### Sound Interface

**Audio:** AC'97 2.3 Audio Interface or HD Audio Interface (recommended)

### Security Device

Infineon Trusted Platform Module 1.2 SLB 9635

### Firmware, Software

Phoenix TrustedCore

**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:** ACPI (S3, S4, S5 supported), Enhanced Intel SpeedStep® technology supported, Active/passive cooling with CPU fan control

**USB:** USB legacy support (Keyboard, Mouse, Hub)

**Video:** VGA BIOS with flat panel extensions (EPI)

**Setup:** CMOS configuration backup in EEPROM

**HW Programming I/F:** UspEpc (Universal board support package for embedded PCs)

### Power Supply

**Power:** Power +12V +/-10%, 5V Stby optional

**Power Consumption:** 9W typ. (423, 1,06GHz), 27W typ. (440, 1.86GHz), 20W typ. (L2400, 1.66GHz), 25W typ. (L7400, 1,5 GHz), 10W typ. (U2500, 1,2GHz),

### Environment

**Ambient:** 0° ... 60°C (operating)

**Temperature:** -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-CD945

Order Number	Description	Reference
32230	Intel® Core™ Duo L2400, 10/100/1000Base-TX, TPM 1.2	MSC CXB-CD945-L2400-162000
32237	Intel® Core™ 2Duo L7400, 10/100/1000Base-TX, TPM 1.2	MSC CXB-CD945-L7400-164000
32238	Intel® Core™ Duo U2500, 10/100/1000Base-TX, TPM 1.2	MSC CXB-CD945-U2500-262000

## Accessories

Order Number	Description	Reference
	<b>Cooling</b>	
1073535	Active heatsink with spring mounted self aligning cooler elements Active Heatsink for CXB-CD945, CD9455, A945M with spring mounted selfaligning cooler elements connecting the component die. Aluminium plate with distance sleeves (2.7mm inner diameter), screws and thermopad for the southbridge. Speed controlled fan (YS type) with connector to the CPU module.	MSC CXB-945/915GM-01-HSF-003
1073536	Active heatsink with spring mounted self aligning cooler elements Active Heatsink for CXB-CD945, CD9455, A945M with spring mounted selfaligning cooler elements connecting the component die. Aluminium plate with distance sleeves (2.7mm inner diameter), screws and thermopad for the southbridge. Speed controlled fan (EF type) with connector to the CPU module.	MSC CXB-945/915GM-01-HSF-004
	<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 PCBFTX

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