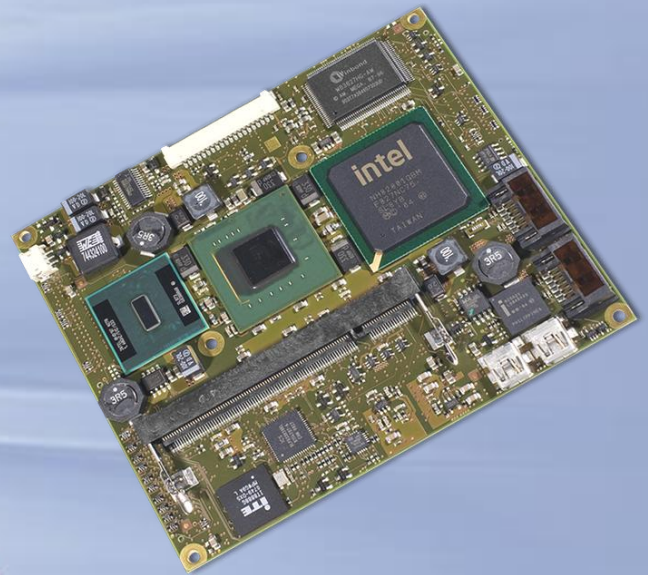


Product Sheet



ETX™ Family

Intel® Atom™ Module



ET(e) modules provide the functionality of an Embedded PC on a standard ETX-sized module. ET(e) modules are fully compliant with the latest ETX specification.

ET(e) modules are plugged onto an application-specific baseboard by high-density SMD connectors. The combination of a standardized CPU module and a base board designed for the specific requirements of the application enables a flexible, configurable system platform with scalable CPU performance.

The design of the **MSC ETE-A945GSE** module is based on Intel's embedded Atom™ CPU technology enabling to lower the power consumption for embedded applications to a minimum while maintaining high graphics performance.

The Intel® Atom™ N270 processor with its low power consumption of only 2.5W is ideally suited for fanless designs. Paired with the successful Intel 82945GSE the design offers high graphics performance and many I/O options.

The modules comply to the ETX specification 3.02 supporting dual SATA storage connectors on the module and offer a dual USB 2.0 connector for fast data transfers.

For evaluation and design-in of the ET(e)™ modules MSC provides evaluation baseboards.

Special starter kits for Linux are available upon request.

Features

- Intel® Atom™ N270 (1.6GHz)
- Mobile Intel® 945GSE Chipset with integrated Intel® Graphics Media Accelerator 950
- Up to 2GB DDR2 SDRAM
- Two SATA-300 mass storage Interfaces
- 10/100 Base-T Ethernet interface
- LVDS interface (24 Bit, dual channel) up to 1600 x 1200
- 2nd LVDS interface via on-board connector (optional)
- CRT interface up to 2.048 x 1.536
- Dual Independent Display supported
- PCI-to-ISA Bridge
- Dual serial interfaces (TTL)
- Six USB 2.0 interfaces
- AC'97 audio interface
- LPT (Uni/EPP/ECP)
- Phoenix TrustedCore BIOS
- System monitoring, watchdog
- ACPI power management including Suspend-to-RAM support
- Fully ETX 3.02 compliant
- Windows XP (embedded) Linux and Windows CE supported

Product description	Order numbers
Intel® Atom™ N270, 10/100/Base-TX	MSC ETE-A945GSE-N270-0300

Technical Data - MSC ETE-A945GSE

Core Logic, Memory

CPU: Intel® Atom N270 (1.6 GHz)

Chipset: Intel® 82945GSE, ICH7DH

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

Drives

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

PATA: 2 x Enhanced IDE ports (ATA/UDMA100)

Floppy: Shared with parallel port

Standard Interfaces

Parallel: Uni/EPP/ECP (shared with floppy I/F)

Serial: 2 x TTL

Infrared: IrDA 1.1

Keyboard / Mouse: PS/2

USB: 6 x USB 2.0 (two on on-board Mini-USB connectors)

Bus Interfaces

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

ISA: Standard ISA interface (PCI/ISA Bridge ITE 8888)

Serial Bus: I²C Bus, SMBus interface

Flat Panel/ CRT Interface

Graphics Controller: Intel® Graphics Media Accelerator 950 (integrated in Intel® 945GSE chipset) at 200/166 MHz

Video Memory: UMA, up to 384 MB

LCD Interface: LVDS 24 Bit, dual channel, resolution 1600 x 1200, 2nd LVDS interface (18 Bit, single channel, on-board connector)

CRT Interface: Resolution 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: 10/100Base-T controller in ICH7M

Sound Interface

AC'97 Audio interface (VIA 1612A)

Bios

Phoenix TrustedCore

Boot Options: Quick Boot, MultiBoot XP (FD, HD, CD, LAN, USB)
Boot without keyboard, LAN Boot via PXE (RPL optional)

Power Management: ACPI (S3 cold, S4, S5 supported, active/passive cooling)

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

Video: VGA BIOS with flat panel extensions (EDID/EPI)

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

Power Supply

Power: +5V +/-5%, 5V Stby optional

Power Consumption: 10W typ. (N270, 1.6 GHz)

Environment

Ambient: 0° ... 60°C (operating)

Temperature: -25°... 85°C (storage)

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

Mechanical

Dimensions: 95mm x 114mm x 12mm

Accessories

Heatspreaders: 95mm x 114mm x 2mm with through hole or threaded standoffs

Cooling: Active or passive heat sinks

Memory: SO-DIMMs from 512MB to 2 GB (PC4200 DDR2)

Base Boards: Various formats (for evaluation and software development)

Display Kits: TFT displays with backlight inverter and cabling set from 6" (640 x 480) up to 21" (1,600 x 1,200)

Board Support Packages: Linux and Windows® CE supported

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