

Intel® Core™ 2 Duo Processor AdvancedMC™ Module

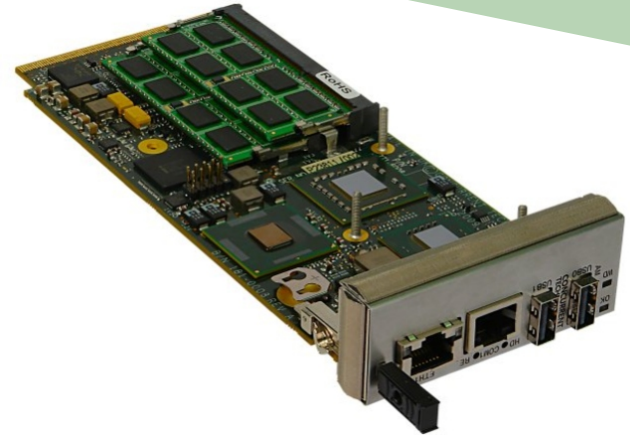


APPLICATIONS

The AM 210/x0x is a high performance single-width, full or mid-height, AdvancedMC™ processor module. The module supports the 2.26 GHz Intel® Core™ 2 Duo processor SP9300 or the 1.86 GHz Intel® Core™ 2 Duo processor SL9400, with an Intel® GS45 and ICH9M-E chipset and up to 8 Gbytes DDR3-1066 memory. The AM 210/x0x is designed in compliance to AMC.0, AMC.1 Type 8 (x8 PCI Express®), AMC.2 Type E2 (2x Gigabit Ethernet) and AMC.3 Type S2 (2x SATA ports). The module also features four USB 2.0 ports, two RS232

HIGHLIGHTS

- Single-width, full-height or mid-height, AdvancedMC processor module:
 - compliant to AMC.0
- Can be configured for compliance with the requirements of the SCOPE Alliance
- 2.26 GHz or 1.86 GHz Intel Core 2 Duo processor:
 - 32 Kbytes L1 cache
 - 6 Mbytes L2 cache
 - Intel® 64 (or Intel® EM64T) 64-bit computing support
- Up to 8 Gbytes of DDR3-1066 SDRAM
- 3 x Gigabit Ethernet interfaces:
 - AMC.2 Type E2 (2 interfaces, Serdes type)
 - 1 additional interface via front panel RJ45 connector
- x8 PCI Express fabric port:
 - AMC.1 Type 8
- 4 x external USB 2.0 ports:
 - 2 front and optionally 2 rear
- Support for onboard USB 2.0 Flash Drive Module



ports, two additional SATA ports and one additional Gigabit Ethernet interface. Supporting full hot swap and IPMI capabilities with a range of industry standard operating systems, the AM 210/x0x is designed for use in AdvancedTCA® or MicroTCA™ applications in the telecommunications, scientific, and defense markets. Options to operate in temperatures from -25°C to +70°C are available. Application examples include media-servers or blade-servers.

- 4 x Serial ATA interfaces on rear I/O:
 - AMC.3 Type S2
 - optionally two additional interfaces
- 2 x RS232 serial channel interfaces:
 - 1 front and optionally 1 rear
- 4 Mbyte of BIOS Flash EPROM
- Hot swap compliant:
 - compliant to AMC.0
- IPMI (Intelligent Platform Management Interface):
 - IPMI Version 1.5 according to AMC.0
- Watchdog timer and Long Duration Timer
- Extended temperature versions available:
 - -25°C to +70°C (E-Series)
 - 1.86 GHz, mid-height or full-height front panel
 - 2.26 GHz, full-height front panel
- Support for Linux®, Windows® Server 2003, Windows® Server 2008, Windows® XP, Windows® XP Embedded, QNX® and VxWorks®

Central Processor

- 2.26 GHz Intel® Core™ 2 Duo processor SP9300 or 1.86 GHz Intel® Core™ 2 Duo processor SL9400:-
 - using a FC-BGA 956 (micro Flip-Chip Ball Grid Array) package
 - 32 Kbytes of primary (L1) on-die cache
 - 6 Mbytes of shared secondary (L2) on-die cache
 - 1066 MHz Front Side Bus (FSB)
 - Intel® 64 (or Intel® EM64T) 64-bit computing support
- utilizes 64-bit Intel® GS45 and ICH9M-E chipset
- provision for XDP debug port

DRAM

- full-height AMC module supports up to 8 Gbytes DDR3-1066 SDRAM:-
 - via two SODIMM sockets
- peak bandwidth of 16 Gbytes/s
- accessible from processor and AMC connector

PICMG AdvancedMC™ Interfaces

- hot swap compliant to AMC.0
- single x8 or dual x4 PCI Express® fabric connection:-
 - AMC.1 Type 8
 - transfer rate up to 4 Gbytes/s
 - supported by a DMA engine in the PCI Express switch
 - can be used as two x4 interfaces in dual redundant fabric systems
 - external or on-board fabric clock support
- rear I/O compliant to AMC.1 specification
- can be configured for compliance with the requirements of the SCOPE Alliance

Storage Interfaces

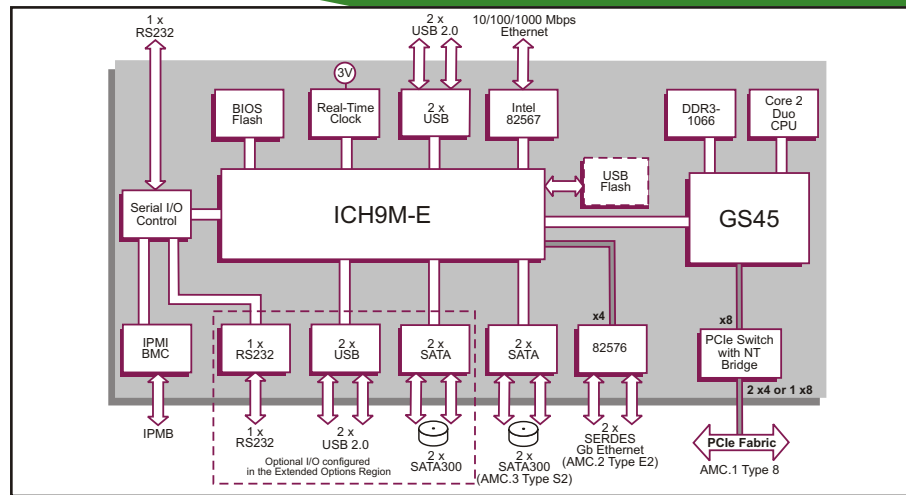
- 4 x Serial ATA300 interfaces:-
 - AMC.3 Type S2
 - optionally two additional interfaces in AMC connector extended options region
 - transfer rate up to 300 Mbytes/s
- supports up to 8 Gbytes optional USB 2.0 Flash Drive Module

Ethernet Interfaces

- dual Gigabit Ethernet interfaces via AMC connector:-
 - AMC.2 Type E2
 - supporting Serdes type 1000BX
 - implemented by Intel® 82576EB LAN Controller via x4 PCI Express port
- 1 x front panel 10/100/1000 Mbps interface accessed via RJ45 connector:-
 - implemented by an Intel® 82567LM LAN PHY

Firmware Support

- Phoenix® TrustedCore™ Server
- comprehensive Power-On Self-Test (POST)
- LAN boot firmware included



Flash EPROM

- 4 Mbytes of BIOS SPI Flash EPROM

Serial Interfaces

- 2 x RS232 serial channels:-
 - 1 channel via RJ45 front panel connector
 - optionally 1 channel in AMC connector extended options region
- 16550 compatible UART
- modem control signals supported:-
 - front channel supports TxD, RxD, CTS, RTS, DSR, DTR and DCD
 - rear channel supports TxD, RxD, CTS and RTS only

Other Peripheral Interfaces

- PC-compatible Real Time Clock (Year 2000 compliant)
- watchdog timer
- 1 x 32-bit Long Duration Timer with processor interrupt capability
- CPU temperature monitor; voltages monitor:-
 - all accessible via IPMI
- 5 x USB 2.0 (Universal Serial Bus) interfaces:-
 - 2 channel via front panel
 - optionally 2 channels in AMC connector extended options region
 - 1 channel supports optional USB Flash Drive Module

Software Support

- support for Linux®, Windows® Server 2003, Windows® Server 2008, Windows® XP, Windows® XP Embedded, QNX® and VxWorks®

IPMI

- IPMI Version 1.5 according to AMC.0
- on-board BMC (Baseboard Management Controller)
- supports 8 Kbytes of non-volatile memory

Electrical Specification

- +12V @ 3.1A; ±2V (typical at 2.26 GHz with 8 Gbytes SDRAM)
- +3.3V @ less than 0.15A, voltage ±5%

Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

Environmental Specification

- operating temperature:-
 - 0°C to +55°C (N-Series, all configurations)
 - -25°C to +70°C (E-Series, 1.86 GHz, full-height or mid-height front panel. 2.26 GHz full-height front panel)
- -40°C to +85°C (storage)
- 5% to 95% Relative Humidity, non-condensing (operating and storage)

Mechanical Specification

- AMC.0 single-width form-factor: 180.6mm x 73.5mm (7.1 inches x 2.9 inches)
- full-height panel: 29mm (1.1 inches):-
 - mid-height version available

ORDERING INFORMATION

Order Number Product Description (Hardware)

AM 210/101-xy	1.86 GHz Core 2 Duo processor SL9400, full-height AMC
AM 210/301-xy	1.86 GHz Core 2 Duo processor SL9400, mid-height AMC
AM 210/102-xy	2.26 GHz Core 2 Duo processor SP9300, full-height AMC
AM 210/302-xy	2.26 GHz Core 2 Duo processor SP9300, mid-height AMC

AD 235/001-0z USB Flash Drive Module

Replace the order number suffix (xy) with selections from the following:
where x = rear I/O options where y = SDRAM size

1 - 2xUSB, 1xRS232 and 2xSATA in Extended Options Region	1 - reserved
2 - Standard AMC 1/I/O (and SCOPE Alliance compliant)	2 - 2 Gbytes
3 - reserved	4 - 4 Gbytes
	6 - 8 Gbytes

For z options or further information please contact your local sales office. For E-Series (-25°C to +70°C), please contact your local sales office.