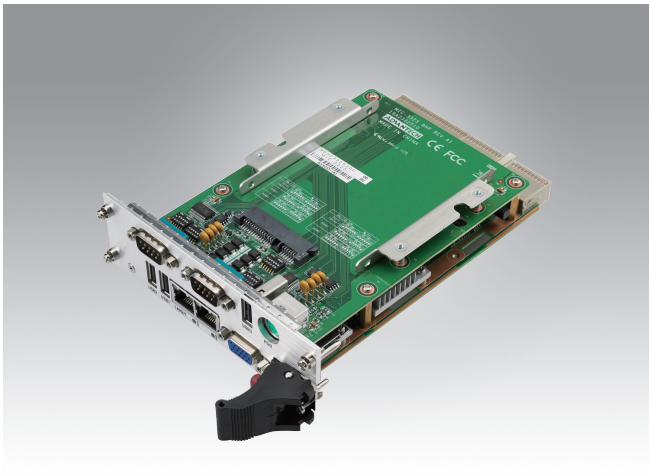
MIC-3325

3U CompactPCI® Intel® Atom™ Dual Core D525/N455 Processor Blade



Features

- Dual Core Intel® Atom™ D525 processor/single core N455 processor
- Intel® I/O Controller Hub 8-Mobile (ICH8M)
- Two GB DDR3 onboard up to 800 MT/s
- Optimized CompactFlash socket on single board computer
- 2.5" SATA-II HDD on XTM second layer
- Two 10/100/1000 Mbps ports, two USB ports, one VGA port on front panel
- Two COM ports, one USB ports, one PS/2 port on 8HP second layer
- Support 5V only power input
- PICMG 2.0, R 3.0, PICMG 2.1, R 2.0 compliant

Introduction

Advantech's MIC-3325 is a 3U CompactPCI dual/single core processor blade based on the Intel® Atom™ processor D525/N455+ICH8M two-chip platform. It provides the high performance of 2 cores and 4 threads of processing power at lower cost, and with easier validation. The MIC-3325 fully utilizes the I/O features of the Intel® chipsets, including an integrated memory controller (IMC), integrated graphics processing unit (GPU) and integrated I/O (IIO) such as DMI. The low power requirements of the Intel® Atom™ processor makes operation in elevated temperature ranges possible. Breakthrough memory design puts 2GB SDRAM on board, while keeping the speed at DDR3 800MT/s. The on-board CPU and memory provide less weight and higher shock/vibration resistance than socket devices. With such benefits, the MIC-3325 can be used in mission-critical applications such as military defense, transportation, traffic control, test and measurement (T&M) as well as critical data acquisition & control applications. MIC-3325 uses the Intel® ICH8M as the PCH, which provides extensive I/O support. The Integrated Gigabit Ethernet Controller can operate at multiple speeds (10/100/1000 Mb/s) and in either full duplex or half duplex mode. A flexible 8HP extension module design provides the MIC-3325 with great flexibility and additional I/O connectivity to the customer. For more connectivity details, please contact an Advantech representative.

Specifications

Processor System	CPU	Intel Atom N455 Single Core 1.66 GHz Intel Atom D525 Dual Core 1.8 GHz
	Max. Speed	1.8 GHz
	Chipset	Intel ICH8M @ Pine View-D Platform
	BIOS	SPI 2-MByte BIOS
	DMI	100 MHz reference clock
CompactPCI Interface	J1 Connector	32-bit PCI local bus (33MHz)
	J2 Connector	RTM area (VIO Power 32bit)
Memory	Technology	DDR3-800 SDRAM
	Max. Capacity	2 GB
	On board/socket	On board
Graphics	Chipset	Integrated in Intel Atom N455/D525
	Resolution	Intel Atom N455 Single Core up to 1400 x 1050 (SXGA) Intel Atom D525 Dual Core up to 2048 x 1536
Ethernet	Controller	2Xi82583V
	Interface	10/100/1000 Mbps
	I/O Connector	RJ-45 x 1 (front panel), RJ-45 x 1 (RTM)
	Controller	ICH8M (MAC)+82567 (PHY)
	Interface	10/100/1000 Mbps
	I/O Connector	RJ-45 x 1 (front panel)
Storage	IDE	1 x CompactFlash Socket Type II
	SATA	1 x Internal SATA connector only on 8HP version
Front I/O	VGA	DB15 Port
	Ethernet	2 x 10/100/1000 Mbps RJ-45 connector
	USB 2.0	2 x Type A ports
	LEDs	Power, Hot Swap
	8HP-option A	2 x DB9 RS-232, 1 x USB Type A port, 1 x PS/2 port

Specifications (Cont.)

RIO (J2 interface)	SATA	1 SATA-II (internal)	
	VGA	1 port (VGA switchable from front panel by jumper1)	
	COM	2 ports (internal)	
	USB 2.0	2 ports	
	RJ-45	1 PCIex1 based on i82583V MAC/PHY	
Watchdog Timer	Supervision	0 ~ 255s, 1s step, generate reset signal	
Operating System	Compatibility	Microsoft Windows XP Professional, Windows 7, Windows XPE, Redhat6.1	
Power Requirement	Configuration	4HP, w/o RIO	
	Consumption	16.6 W for D525, 14.6 W for N455 (4HP with peripherals)	
Physical Characteristics	Dimensions (W x D)	4HP, 160.00 x 100.00 mm (6.30" x 3.95") (PCB size)	
	Weight	0.4 kg including XTM	
Environment		Operating	Non-operating
	Temperature	0 ~ 60° C (32 ~ 140° F)	-40 ~ 85° C (-40 ~ 185° F)
	Humidity	5 to 95% @ 40°C (non condensing)	95% @ 60° C (non-condensing)
	Shock	10 G, 11ms	30 G, 11ms
	Vibration	1.06 Grms (5 ~ 100 Hz, without on-board HDD)	2 Grms (5 ~ 500 Hz)
Regulatory Compliance	Conformance	FCC, Class A, CE, RoHS	
	Standard	PICMG 2.0 Rev. 3.0 compatible; PICMG 2.1 R2.0 CompactPCI Hot Swap Specification	

Ordering Information

Part Number	Description
MIC-3325D-D2E	MIC-3325 with D525 CPU 2G RAM XTM dual slot
MIC-3325D-S2E	MIC-3325 with D525 CPU 2G RAM single slot
MIC-3325N-D3E	MIC-3325 w/ N455 CPU 2G RAM 8HP-2 XTM dual slot
MIC-3325N-S2E	MIC-3325 with N455 CPU 2G RAM single slot
MIC-3525-S1E	Rear I/O for MIC-3325 with VGA, LAN, USB, SATA, COM
MIC-3325XTM-S1E	3U CPCI Extension Board for MIC-3325

Recommended Configurations

CPU Board	Enclosure	Rear I/O Board
MIC-3325	MIC-3022AE, 3U CPCI enclosure with 400W ATX PSU	MIC-3525-S1E
MIC-3325	MIC-3022CE, 3U CPCI enclosure with 250W CPCI PSU	MIC-3525-S1E

If you need other chassis or RIO, please contact your Advantech sales representative.

Optional Accessories

Part Number	Description
MIC-3955A1-S1E	3U CPCI 4-port Serial Port Controller with RS-232/422/485
MIC-3955B1-S1E	3U CPCI 4-port RS-232/422/485 to RIO 4HP
MIC-3955R1-D1E	3U CPCI 4-port RS-232/422/485 RIO Board 8HP
MIC-3716/3-A	3U 250kS/s, 16-bit, 16-ch multifunction Card
MIC-3756/3-A	64-ch Isolated DI/O Card
MIC-3680/3-A	2-port CAN Card
MIC-3953-AE	MIC-3953 3U PMC carrier board
MIC-3665-AE	CompactPCI PMC with dual copper (RJ-45) Gigabit Ethernet interfaces