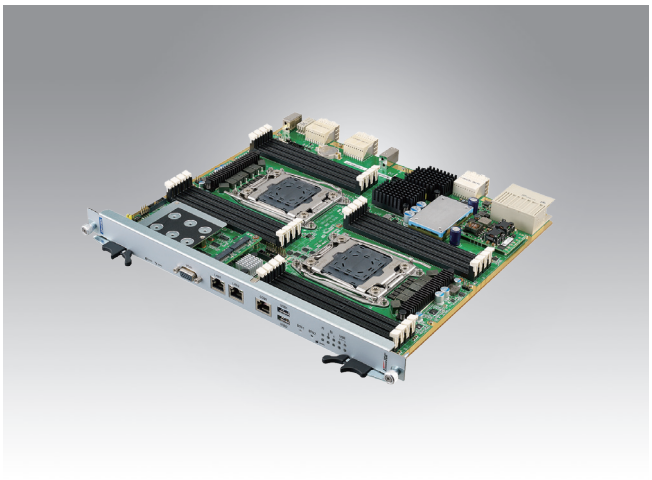
MIC-5345MIL

AdvancedTCA, Ruggedized Dual Socket CPU Blade with Intel® Xeon® Processor E5-2648L v4 Series



Features

- Ruggedized ATCA Node Blade designed for mission critical applications
- Dual Intel® Xeon® Processor E5-2648L v4
- Intel® C610 server class chipset
- Sixteen DDR4 VLP DIMMs with ECC support
- Support for 40G/10G ports on Fabric interface
- Three storage/FMM options (SSD / M.2 & FMM site / Dual M.2)

Introduction

The MIC-5345MIL is a 40G dual socket ATCA blade based on the Intel® Xeon® E5-2648L v4, ruggedized by Advantech using select components and accompanied by design enhancement for its use in harsh environments. The blade's field proven commercial design coupled with its rugged features make it ideal for use in ruggedized chassis for Command, Control, Communication, Computing, Intelligence, Surveillance and Reconnaissance (C4ISR) solutions where reliable operation in extremes of operating temperature, shock, vibration and corrosive atmospheres is vital.

The MIC-5345MIL is available fully configured using CPUs with up to 24-cores with long life cycle support, and 8 DDR4 VLP DIMM slots per socket fully tested using commercial and wide temperature range industrial grade ECC memory for up to 512MB per blade.

AVX 2.0 extensions in the processor provide a set of instructions for executing Single Instruction Multiple Data (SIMD) operations to enhance real-time signal and image processing capabilities. AVX accelerates overall compute performance in CPU intensive applications that involve image, audio & video processing and analysis required in a variety of rugged, ground mobile applications.

Extended temperature support allows the MIC-5345MIL to boot up at -30°C for use in low temperature environments while the mechanical design has been improved for the fixation of ruggedized convection cooled heatsinks.

Optional conformal coating can also be applied to act as protection against moisture, dust, and chemicals that could result in damage or failure if non-protected.

The blade supports a Fabric Mezzanine Module type II socket with PCIe x8 connectivity providing extension possibilities for additional front port I/O, offload and acceleration controllers such as the Intel® Communications Chipset 89xx Series, other IPSec offload engines or customer specific logic.

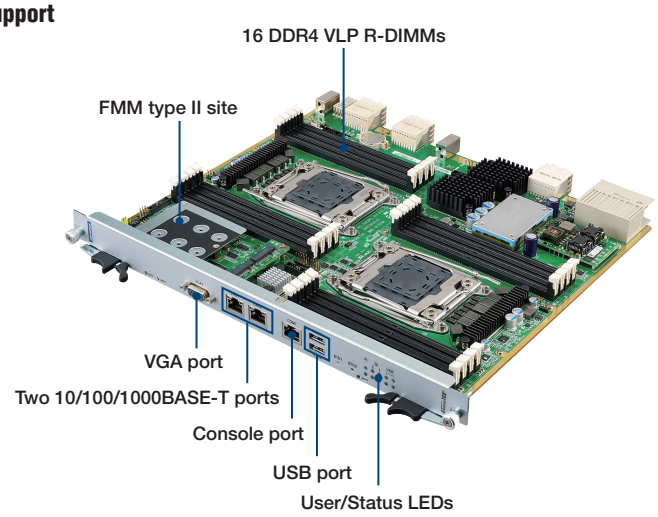
The specification table below provides full details on the blade's rich front panel and rear I/O features.

The onboard IPMI firmware based on Advantech's IPMI core offers greater modularity and flexibility for the customization of system management features, and provides the framework for added value features enhancing Reliability, Availability, Serviceability, Usability and Manageability (RASUM) of the product. The MIC-5345MIL can be easily customized based on

Advantech's unique Customized COTS framework with custom FMMs, modifications of the onboard system FPGA, IPMI and/or BIOS firmware.

MIC-5345MIL features two 10/40GbE fabric ports based on XL710-BM2 Ethernet controller with fast PCI Express gen. 3 technology running at up to 8Gbps per lane and best-in-class virtualization support. Two QPI interfaces between the CPUs improve memory and I/O access throughput and latencies.

Dual CPU SKU with 16 DIMM Support



Specifications

Processor System	CPU	Dual Intel® Xeon® E5-2648L v4 processor (75W)	
	Max. Speed	2.5GHz	
	Chipset	Intel® C610 series PCH server class chipset	
	BIOS	Redundant AMI UEFI based BIOS	
	QPI	9.6 GT/s	
Memory	Technology	DDR4 up to four channel / 2400MHz SDRAM (72-bit ECC Un-/ Registered), LR DIMM support	
	Max. Capacity	Configurable up to 256 GB	
	Socket	16 VLP RDIMMs	
Zone 2	Fabric Interface	1 Intel® XL710 controller with 2 x 40GBaseKR4 ports	
	Base Interface	i350 supporting two 10/100/1000Base-T ports	
Front I/O Interface	Serial (COM)	1 x Serial Port (RJ-45)	
	VGA	1 x VGA Port	
	Ethernet	2 x 10/100/1000BASE-T through Intel® i350	
	USB 3.0	2 x Type A ports	
Operating System	Compatibility	Microsoft Windows server2008 R2, CentOS7.3, RedHat Enterprise 7.2	
IPMC	BMC Controller	Aspeed AST1010	
	IPMI	Compliant with IPMI 2.0 using Advantech advanced IPMI core	
FMM	Site	1 x FMM type II socket	
	Interface	FMM type II: one PCIe x8 from CPU socket 0	
Miscellaneous	Storage/ FMM site	1 x SATAIII 2.5" SSD HD /1x SATAIII M.2(2242) + 1 x FMM Type II site/ 2 x SATAIII M.2(2242, 2260, 2280)	
	Real Time Clock	Built-in	
Power Requirement	Configuration	2 x E5-2648Lv4 (TDP 75W), 16 x DDR4 2133 (1866) 8GB VLP Memory	
	Consumption	Input Voltage: -48V / 288W Input Voltage: -60V / 289W	
Zone 3 (RTM)	RTM	Advantech common RTM interface Type 3 IPMBL(J31)	
	Interface	2 x PCIE x8, 1 x PCIE x4 (J33) 2 x USB2.0 (J31), 1 x VGA (J31), 1 x DVI (J31) 4 x SATA3.0 (J31), GPIO x 8 (J31), LED indicators (J31) 12V, 3.3V power for RTM (P30)	
Physical Characteristics	Dimensions (W x D)	6HP, 322.25 x 302.00 mm (PCB size)	
	Weight	2.8 kg	
Environment		Operating	Non-operating
	Temperature	-30 ~ 55° C (-22 ~ 131° F) (selected SKUs, only)	-40 ~ 70° C (-40 ~ 158° F)
	Humidity	5 to 93% @ 40° C (non condensing)	95% @ 40° C (non-condensing)
	Shock	4 G each axis	20 G each axis
	Vibration (5 ~ 500 Hz)	TBC Grms	2.16 Grms, 30 mins each axis
Compliance	Environment	ETSI EN300019-2-1 Class1.2, EN300019-2-2 Class 2.3, ETSI EN300019-2-3 Class 3.1E Designed to meet GR63-CORE	
	PICMG	3.0 R3.0, 3.1 R2.0, HPM.1	
	EMC	FCC47 CFR Part15, Class A, CE Mark (EN55022/EN55024/EN300386) Designed to meet GR1089-CORE	

Ordering Information

Part Number	Description
MIC-5345MILA1-P1E	MIC-5345MIL with dual E5-2648Lv4 CPUs, and single 2.5" SSD site, no memory*
MIC-5345MILB1-P1E	MIC-5345MIL with dual E5-2648Lv4 CPUs, and single FMM plus M.2 site no memory*
MIC-5345MILC1-P1E	MIC-5345MIL with dual E5-2648Lv4 CPUs and dual M.2 site, no memory*

*: Industrial grade DIMM must be used to support wide temperature

Related Products

Part Number	Description
FMM-5001FE	Niantic 10Gb LAN I/O Extended FMM (2x SFP+)