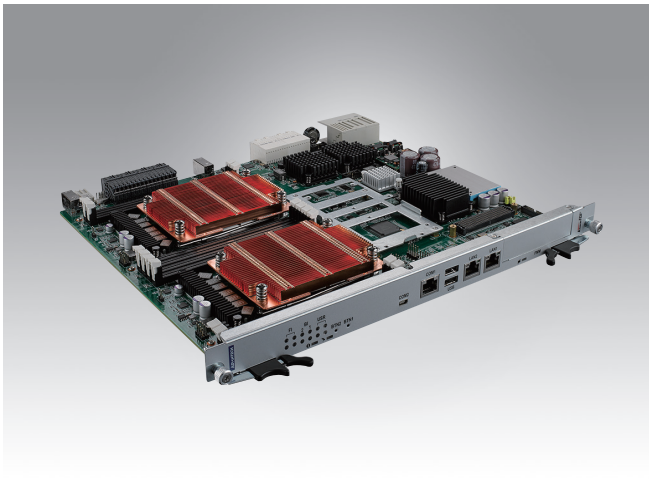
MIC-5342

AdvancedTCA, Dual Socket CPU Blade with Intel® Xeon® E5-2600 v3 Series Processors for Telecom Applications



Features

- Two 12-Core Intel® Xeon® E5-2600 v3 Series processors
- Intel® Communications Chipset 8900 Series
- Eight DDR4 VLP DIMMs with ECC support
- Up to four 40GBase-KR4 ports on Fabric interface to support Dual-Dual Star Topology
- Two 10/100/1000Mbps BI ports
- Two 10/100/1000BASE-T front panel ports
- One Fabric Mezzanine Module (type II) for optional front I/O or additional acceleration
- Fully managed, hot-swappable RTM with 8 PCIe gen.3 lanes

Introduction

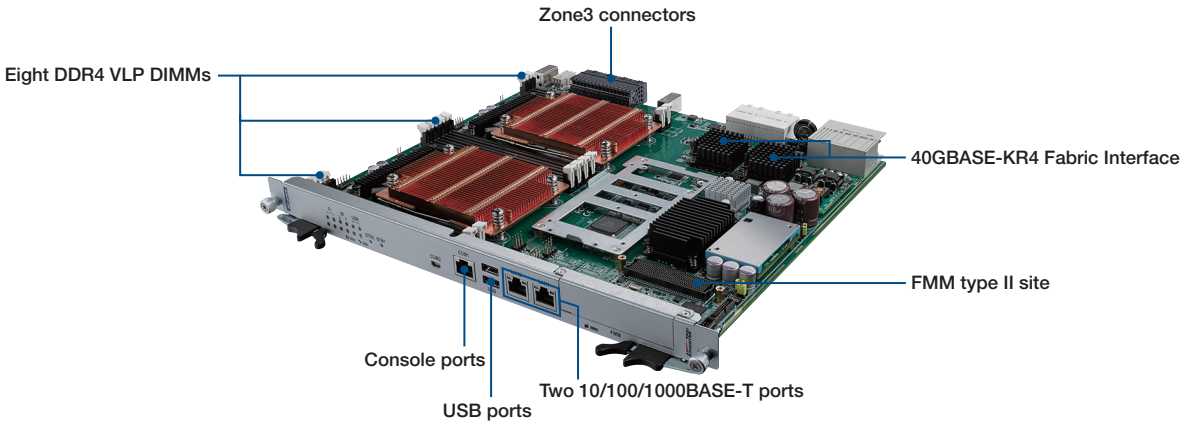
Advantech's MIC-5342 is a dual processor ATCA blade based on the Intel® platform formerly codenamed "River Forest". It enables the highest performance available in the ATCA form factor with up to 28 cores and 56 threads of processing power, fast PCI Express gen. 3 lanes running at up to 8Gbps, and best in class virtualization support. Two QPI interfaces between the CPUs improve memory and I/O access throughput and latencies when one processor needs to access resources hosted by the other socket. With four DDR4 DIMMs per socket in a quad channel design running up to 2133MT/s, the MIC-5342 not only offers superior memory bandwidth over 3-channel designs, but can also support RAM density up to 256GB. It outperforms previous generation dual socket designs while keeping similar thermal characteristics with balanced airflow resistance.

Fabric connectivity is implemented by two Intel® Ethernet controllers XL710-AM2 devices onboard, connecting to four backplane fabric channels. This allows the MIC-5342 to scale from legacy 10GbE to high speed 40GbE network interfaces as well as enable optional dual-dual star support for the most demanding applications utilizing 4 hub blades per system. A Fabric Mezzanine Module type II socket with PCIe x16 connectivity provides on-board expansion capability for additional front panel I/O, offload and acceleration controllers such as the Intel® Communications Chipset 8900 Series, IPSec offload engines, or customer specific logic.

The onboard IPMI firmware based on Advantech's advanced IPMI core enhances modularity and flexibility for customization of system management features, and provides a framework for value-added features that enhance the Reliability, Availability, Serviceability, Usability and Manageability (RASUM) of the product. HPM.1 based updates, including rollback support, are available for all programmable components such as the BIOS, BIOS settings, IPMC firmware, and FPGA. Advantech's IPMI solution, combined with an optimized UEFI BIOS, continues to offer advanced features used on previous generation Advantech MIC-533x blades, such as HPM.2 support, Dynamic Power Budgeting, BIOS redundancy, Real Time Clock Synchronization and MAC mirroring. Advantech's IPMI firmware has been tested for CP-TA compliance using the Polaris Networks ATCA Test Suite and against a variety of AdvancedTCA shelf management solutions.

The MIC-5342 connects 8 PCIe gen.3 lanes to the Zone 3 interface for hot-swappable RTMs such as the RTM-5107, which supports two SAS HDDs. Please contact Advantech for more information about available RTMs. The MIC-5342 can also be easily customized based on Advantech's unique Customized COTS framework with custom RTMs, FMMs, or modifications of the on-board system FPGA, IPMI and/or BIOS firmware.

The optimization of features and unmatched flexibility based on Advantech's leading FMM technology make the MIC-5342 equally well suited for both control plane and application workloads in telecom networks.



Specifications

Processor System	CPU	Dual Intel® Xeon® E5-2600 v3 Series processors up to 120W TDP (chassis airflow dependent)	
	Max. Speed	2.5 GHz (SKU dependent)	
	Chipset	Intel® Communications Chipset 8900 Series	
	BIOS	Redundant AMI UEFI based BIOS	
	QPI	9.6 GT/s	
Memory	Technology	Four channel DDR4 2133MHz SDRAM (72-bit ECC Un-/ Registered) to each CPU	
	Max. Capacity	Configurable up to 256GB	
	Socket	8 x VLP RDIMMs	
Zone 2	Fabric Interface	Up to four 40GBASE-KR4 ports	
	Base Interface	2 x 10/100/1000BASE-T ports	
Front I/O Interface	Serial (COM)	1 x 16C550 compatible Serial Port (RJ-45 connector)	
	Ethernet	2 x 10/100/1000BASE-T ports	
	USB 2.0	2 x Type A ports	
Operating System	Compatibility	CentOS 7.0, Red Hat Enterprise 7.0, Wind River Linux 6.0	
IPMC	BMC Controller	Compliant with IPMI 2.0	
FMM	Site	1 FMM type II socket	
	Interface	1 x PCIe x16	
Miscellaneous	Storage	2 x CFast, 1 x MO-297 SATA slim SSD, 2 x M.2 SSD, or 1 x 2.5" SSD	
	TPM	TPM 2.0	
Power Requirement	Configuration	2 x E5-2658Av3 (TDP 105W), 8 x DDR4 2133 8GB VLP Memory, FMM-5001F (Single Intel® Ethernet Controller with 2x SFP+ output to Front Panel), no RTM	
	Consumption	Input Voltage: -48V / 300W (Preliminary)	
Zone 3 (RTM)	RTM	Advantech common RTM interface Type 2	
	Interface	1 x PCIe x8, 1 x PCIe x16, 1x COM, 2x USB 2.0, 2x SATA 3.0	
Physical Characteristics	Dimensions (W x D)	6HP, 322.25 x 280.00 mm (12.69" x 11.02") (PCB size)	
	Weight	2.8 kg	
Environment		Operating	Non-operating
	Temperature	0 ~ 55° C (32 ~ 131° F) (selected SKUs, only)	-40 ~ 70° C (-40 ~ 158° F)
	Humidity	5 to 95% @ 40° C (non-condensing)	95% @ 60° C (non-condensing)
	Shock	4 G each axis	-
	Vibration	5-200 Hz, 0.5 Grms each axis	5 Hz to 20 Hz @ 1 m2/s3 (0.01 g2 /Hz) (flat) 20 Hz to 200 Hz @ -3 dB/oct (slope down)
Compliance	Environment	ETSI EN300019-2-1 Class1.2, EN300019-2-2 Class 2.3, ETSI EN300019-2-3 Class 3.1E, Designed to meet GR-63-CORE	
	PICMG	3.0 R3.0, 3.1 R2.0, HPM.1, HPM.2, HPM.3	
	EMC	FCC47 CFR Part15, Class A, CE Mark (EN55022/EN55024/EN300386) Designed to meet GR-1089-CORE	

Ordering Information

Part Number	Description
MIC-5342SA1-P1E	DH8955 Chipset, four 40G FI ports with dual 12C/24T 75W (E5-2648Lv3) CPUs, no memory, no CFAST/ MO-297/SSD/M.2
MIC-5342SA1-P2E	DH8955 Chipset, four 40G FI ports with dual 12C/24T 105W (E5-2658Av3) CPUs, no memory, no CFAST/ MO-297/SSD/M.2
MIC-5342SA1-P3E	DH8955 Chipset, four 40G FI ports with dual 12C/24T 120W (E5-2680v3) CPUs, no memory, no CFAST/ MO-297/SSD/M.2
MIC-5342SA2-P1E	DH8925 Chipset, two 40G FI ports with dual 12C/24T 75W (E5-2648Lv3) CPUs, no memory, no CFAST/ MO-297/SSD/M.2
MIC-5342SA2-P2E	DH8925 Chipset, two 40G FI ports with dual 12C/24T 105W (E5-2658Av3) CPUs, no memory, no CFAST/ MO-297/SSD/M.2
MIC-5342SA2-P3E	DH8925 Chipset, two 40G FI ports with dual 12C/24T 120W (E5-2680v3) CPUs, no memory, no CFAST/ MO-297/SSD/M.2

Optional CFAST/MO-297/SSD/M.2 and new FMMs/RTMs are introduced on a regular basis. Please contact Advantech for an up-to-date list of compatible modules.

Related Products

Part Number	Description
RTM-5106SE	Niantic 10Gb LAN I/O Extended ATCA RTM (6x SFP+)
RTM-5107SE	Storage Extended ATCA RTM
FMM-5001FE	Niantic 10Gb LAN I/O Extended FMM (2x SFP+)
FMM-5002E	External VGA Port FMM
FMM-5006AE	Cave Creek Extended FMM (DH8920 chipset)
FMM-5006TE	Coleto Creek Extended FMM (DH8955 chipset)