

# AMC645

## NVMe HBA with 16 NVMe Solid State Drives, AMC



AMC645

### Key Features

- AMC NVMe Host Bus Adapter (HBA) with Full support for RAID
- Dual Core ARM A15 RAID on Chip (ROC)
- Onboard 8 GB of DDR4 Memory with ECC
- Hardware Engine for RAID 5 and RAID 6 acceleration
- AMC.1 PCIe Gen3 x8
- Single module, mid-size per AMC.0
- IPMI 2.0 compliant

### Benefits

- Multi-Terabit storage capacity in a single module AMC form factor carrier
- NVMe performance with RAID support
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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The AMC645 is full ROC HBA which supports RAID level 0, 1, 5, 6, 10, 50 and 60. The module supports End-to-End CRC (ECRC) and Advanced Error Reporting (AER). The NVMe storage provides high speed and low latency read/write to the SSD devices.

The module has up to 8 NVMe storage devices and an additional 8 GB of DDR4 with ECC.

The AMC645 has PCIe Gen3 x8 or single x4 routed to the fabric Ports 4-11.

The AMC645 is available in both air-cooled (MTCA.0 and MTCA.1) and rugged conduction-cooled versions (MTCA.2 or MTCA.3, contact sales for details).



Figure 1: AMC645

## Block Diagram

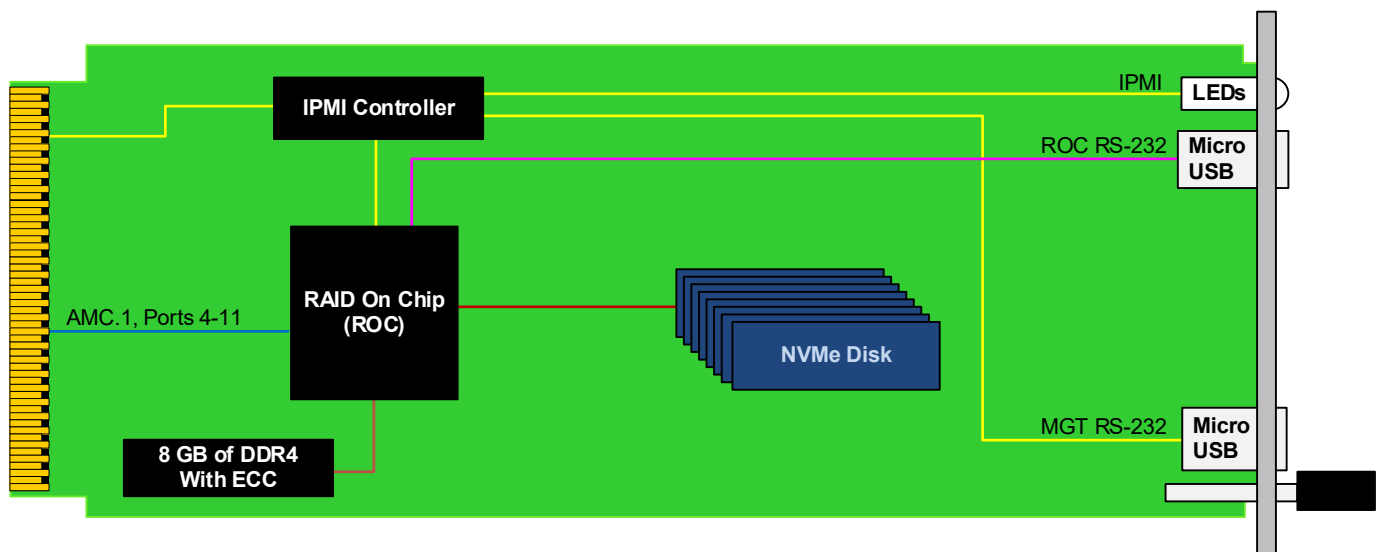


Figure 2: AMC645 Functional Block Diagram

## Front Panel

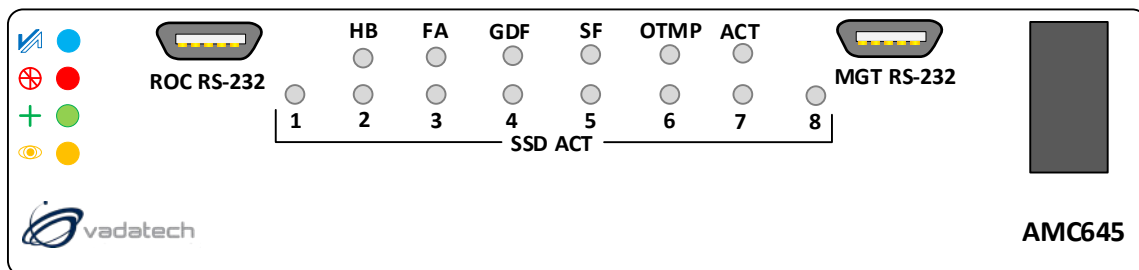


Figure 3: AMC645 Front Panel

# Specifications

| Architecture      |  |   |
|-------------------|--|---|
| Physical          | Dimensions   | Single module, mid-size (full-size optional)                                      |
|                   |  | Width: 2.89" (73.5 mm)  |
|                   |  | Depth 7.11" (180.6 mm)  |
| Type              | AMC Storage  | NVMe SSD  |
| Standards         |  |   |
| AMC               | Type   | AMC.1   |
| Module Management | IPMI   | IPMI v2.0   |
| PCIe              | Lanes  | Single x8 or single x4  |
| Storage           | SSD  | Up to 8 NVMe SSD  |
| Configuration     |  |   |
| Power             | AMC645   | 40W with 8 TB of Storage  |
| Environmental     | Temperature  | See <a href="#">Ordering Options</a> and <a href="#">Environmental Spec Sheet</a> |
|                   |  | Storage Temperature: -40° to +85°C  |
|                   |  | Vibration Operating 9.8 m/s <sup>2</sup> (1G), 5 to 500 Hz on each axis           |
|                   | Shock  | Operating 325 G/2 ms, 160 G/1 ms  |
|                   |  | Relative Humidity 5 to 95% non-condensing   |
|                   |  |   |
| Front Panel       | Interface Connectors   | Micro USB connector for MGT RS-232  |
|                   |  | Micro USB connector for CPU/ROC RS-232  |
|                   |  |   |
|                   | LEDs   | IPMI Management Control   |
|                   |  | Activity  |
|                   |  |   |
|                   | Mechanical   | Hot-swap ejector handle   |
|                   |  |   |
|                   |  |   |
| Software Support  | Operating System   | Linux, Windows, Solaris and VxWorks   |
| Other             |  |   |
| MTBF              | MIL Hand book 217-F@ TBD hrs   |   |
| Certifications    | Designed to meet FCC, CE and UL certifications, where applicable     |   |
| Standards         | VadaTech is certified to both the ISO9001:2015 and AS9100D standards |   |
| Warranty          | Two (2) years, see <a href="#">VadaTech Terms and Conditions</a>     |   |

## INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

# Ordering Options

## AMC645 – ABC-000-00J

| A = NVMe Storage Capacity             |  |  |
|---------------------------------------|--|--|
| 0 = Reserved                          |  |  |
| 1 = 8 TB                              |  |  |
| 2 = Reserved                          |  |  |
| 3 = Reserved                          |  |  |
| 4 = Reserved                          |  |  |
| B = PCIe Interface                    |  |  |
| 0 = x4 to Ports 4-7                   |  |  |
| 1 = x8 to Ports 4-11                  |  |  |
| C = Front Panel                       | J = Temperature Range and Coating                          |  |
| 1 = Reserved                          | 0 = Commercial (–5° to +45°C), No coating                  |  |
| 2 = Mid-size                          | 1 = Commercial (–5° to +45°C), Humiseal 1A33 Polyurethane  |  |
| 3 = Full-size                         | 2 = Commercial (–5° to +45°C), Humiseal 1B31 Acrylic       |  |
| 4 = Reserved                          | 3 = Reserved   |  |
| 5 = Mid-size, MTCA.1 (captive screw)  | 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane |  |
| 6 = Full-size, MTCA.1 (captive screw) | 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic      |  |
|                                       | 6 = Extended (–40° to +85°C), Humiseal 1A33 Polyurethane** |  |
|                                       | 7 = Extended (–40° to +85°C), Humiseal 1B31 Acrylic**      |  |

\*\*Conduction cooled, temperature is at edge of module

## Related Products

VT950



- MicroTCA rugged 1U 19" rackmount chassis platform
- Meets MIL-STD-810F, MIL-STD-901D for shock/vibration
- Meets MIL-STD-461E for EMI

AMC626



- HBA for external SATA 3 (6.0 Gbps) or SAS-3 (12 Gbps) drives
- AMC.1 compliant, PCIe Gen3 x8 or x4
- Support for 8 SAS/SATA Ports

AMC629



- HBA for external SATA 3 (6.0 Gbps) or SAS-3 (12 Gbps) drives
- Conduction cooled version available
- Integrated RAID 0, 1, 1E, and 10

# Contact

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