

UTC043

2nd Gen MicroTCA Carrier Hub, Layer 2 Managed Switch



UTC043

Key Features

- Unified 1 GHz quad-core CPU for MicroTCA Carrier Management Controller (MCMC) and Shelf Manager
- Layer 2 managed GbE switch with seven egress ports
- Dual GbE to each AMC
- Redundant boot system to ensure fail-safe upgrades
- Automatic fail-over with dual UTC043
- Single module, full size per AMC.0
- HPM.1 and IPMI 2.0 compliant
- HCSL 100 MHz fabric clock

Benefits

- High-density single-width MCH Layer 2 switch for compact integration
- Based on VadaTech worldwide deployed UTC002 MCH and VT003 3rd generation Shelf Manager
- 100 MHz clock reference for synchronization of AMC using PCIe protocol (PCIe switch fabric not included in the UTC043)
- Interoperability tested with wide range of industry products
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company



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UTC043

The VadaTech UTC043 is a feature-rich MicroTCA Carrier Hub (MCH) for the MTCA chassis. Its management software is based on VadaTech's robust Carrier Manager and Shelf Manager which have been deployed for many years with proven results. The MCMC manages power modules, 2 Cooling Units and 12 AMCs within the MTCA chassis.

The UTC043 is a single width module. The front panel includes seven GbE interfaces via RJ-45 connectors and two management ports via RJ-45 (10/100) and a Micro USB (RS-232) connectors. The layer two managed GbE switch supports a rich set of RFCs.

The UTC043 runs Linux on its MCMC Quad Core ARM Freescale processor @ 1 GHz per core and is hot-swappable. It is fully redundant when used in conjunction with a second instance of the module. The firmware is HPM.2 compliant enabling easy upgrades.



Figure 1: UTC043



Figure 2: UTC043 Conduction Cooled

Block Diagram

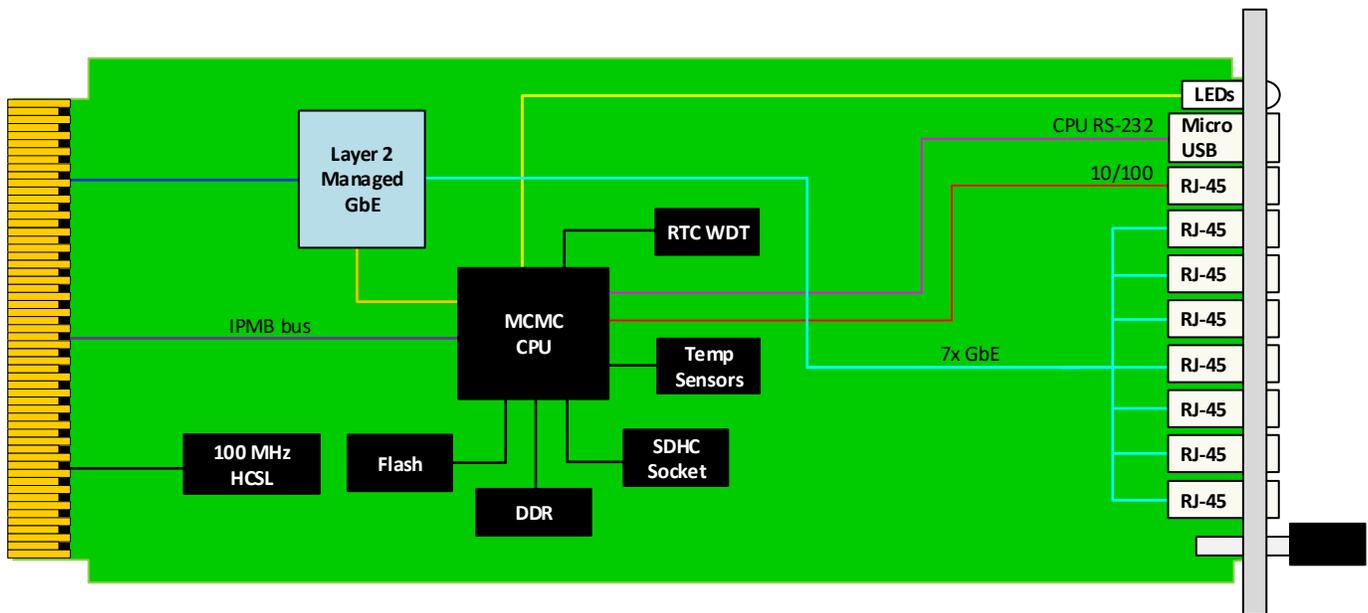


Figure 3: UTC043 Functional Block Diagram

Front Panel

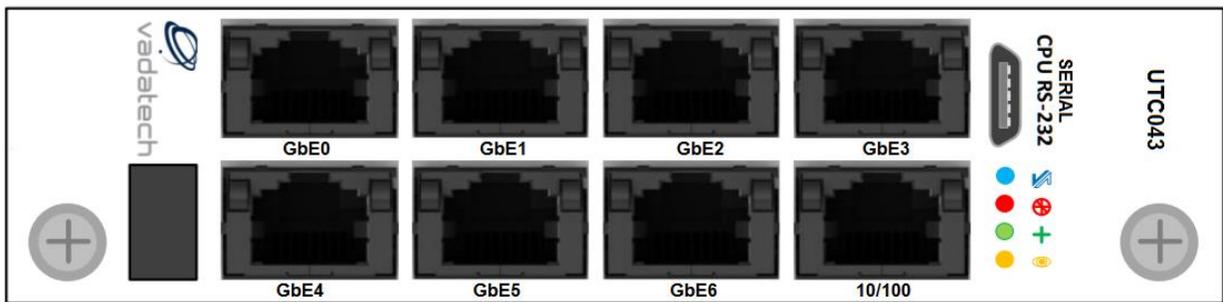


Figure 4: UTC043 Front Panel

Architecture

IPMI Carrier Manager/Shelf Manager/Protocol Analyzer

The UTC043 utilizes the same proven standards-compliant IPMI management stack that has been utilized successfully in our previous generation MCH products. It supports carrier manager, shelf manager, and protocol analyzer operations to help facilitate a seamless chassis integration experience. The IPMI stack enables a rich feature set including:

- IPMI v2.0 with IPMI v1.5 compatibility
- SDR, FRU, and SEL storage interfaces (SEL stored in MRAM for high-speed/non-volatile/no-wear-out access)
- Intelligent temperature, voltage, and current sensing
- Shelf cooling policy
- Shelf activation, power management, Automatic fail-over, and redundancy management
- Alarm controls
- Event notification and flexible alerting policies
- Backplane E-Keying
- CLI, SNMP, RMCP+, HTTP, and HPI
- IPMB Protocol Analyzer GUI for use on PC (available separately)
- ScorpionWare GUI system manager integration tool on PC (available separately)

Base Channel Ethernet Switch

The UTC043 provides a 1GbE base channel switch with 7 ports to the front panel via RJ-45. This switch is fully Layer 2 managed.

Specifications

Architecture	
Physical	Dimensions Single module, full-size Width: 2.89" (73.5 mm) Depth 7.11" (180.6 mm)
Type	Controller MTCA Carrier Hub (MCH)
Standards	
MTCA	PICMG MicroTCA.0 Revision 1.0
ATCA	PICMG 3.0 Revision 2.0 (AdvancedTCA)
AMC	AMC.0
Module Management	HPM HPM.1 Revision 1.0 IPMI IPMI v2.0
Configuration	
Power	UTC043 Option load dependent (as the MCMC and Shelf only <3W)
Environmental	Temperature See Ordering Options Storage Temperature: -40° to +85°C Altitude 40,000 ft non-operating Vibration Operating 9.8 m/s ² (1G), 5 to 500 Hz on each axis Shock Operating 30Gs on each axis Relative Humidity 5 to 95% non-condensing
Front Panel	Interface Connectors RS-232 for serial console as Micro USB Out-of-band LAN 10/100 from MCMC/Shelf Manager (RJ-45) Seven egress Ports 10/100/1000 (RJ-45) LEDs IPMI management control (Blue, Red, Amber and Green) LNK/ACT Mechanical Hot-swap ejector handle with +/-15 KV ESD protection Temperature Sensor Multiple temperature sensors onboard
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 VadaTech Terms and Conditions

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

UTC043 – ABC-000-00J-0L0

A = Management Software 1 = MCMC 2 = MCMC and Shelf Manager 3 = Reserved			
B = GbE Switch 0 = Reserved 1 = Managed Layer 2 GbE			L = MTCA Specification 0 = MTCA.0 1 = MTCA.1 (captive screws)
C = SDHC 0 = No SD card 1 = SD card (32 GB)		J = Temperature Range and Coating 0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic	

Related Products

VT883



- Rugged MTCA.1 Chassis 19" x 2U x 250 mm deep
- 5 slots Full Mesh or Fat-Pipes backplane option
- Full maintenance access from the front

AMC754



- Intel® Broadwell DE Xeon™ D-15XX processor
- 16 GB of DDR4 memory with ECC
- PCIe Gen3 x8

UTC010



- Dual -36V DC to -75V DC input, 792W (available in 396W)
- Hot-swappable with support for power module redundancy
- Dual IPMI bus

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