

## ATC805 – ATCA 40GbE Switch with SyncE/IEEE1588 and Dual AMC Slots

ATCA 40G/10G Switch, 2 AMC slots

Photo Coming Soon

### KEY FEATURES

- 40GbE ATCA switch, compliant to PICMG 3.1 specifications
- Dedicated GbE switch for the Base Channel
- SyncE and IEEE1588, managed Layer 3 software
- Dual mid-size AMC slots per AMC.2 specification
- Front panel Quad QSFP+
- Additional QSFP+/SFP+/RJ-45 via the AMC modules
- PLL synthesizer for generating any clock frequency disciplined to GPS/SyncE/IEEE1588
- Utilizes VadaTech's proven IPMI Management Controller

**AdvancedTCA<sup>®</sup>**

**40G**

### Benefits of Choosing VadaTech

- 40/10GbE Managed Layer 3 switch performance with the versatility of 2 AMC slots
- 1.2 TBit Switch Fabric
- Four 40GbE ports are routed to Zone three
- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full ecosystem of front and rear boards, enclosures, specialty modules, and test/dev products from one source
- AS9100 and ISO9001 certified company

The ATC805 is ideal for broadband media servers or other applications requiring the versatility of a powerful 40Gb Ethernet switch (1.2 TBit throughput) with dual integrated AMC slots. The AMC modules allow adding different personality modules to have diverse types of media ports (i.e. SFP+/QSFP+/Copper, etc.) or standard AMC.2 modules such as NPU, FPGA, etc. The switch provides four ports of 40GbE to the front panel with an additional four ports to the Rear Transition Module (RTM). Each of 40GbE ports could be configured as four 10GbE Ports.

The 40GbE and the 1GbE switch Fabric runs in SyncE and/or IEEE1588 mode. The module has an option for on-board GPS, 1 PPS and/or any frequency input as reference. The module has CLK1A/CLK2A/CLK3A as well as the second clock CLK1B/CLK2B/CLK3B. All the clocks go through a Cross Bar Switch (CBS), which allows any clock as input/output with minimum Jitter.

A mux selection allows the 40GE switch to interface with the GbE Switch. This allows the option for the full separation of the Fabric and the Base channels. An RTM can be ordered separately to access the rear ports, contact VadaTech for details.

## 40GBE/10GBE LAYER 3 MANAGED SWITCH

The Layer 3 managed 40GbE switch fabric routes 13 ports to the Fabric Channels, one port to the Update Channel, four ports to the front panel via QSFP+, four ports to the RTM and 3 ports to each AMC. The features include Spanning Tree (+ Rapid), VLANs, GMRP, GVRP, Port Authentication, IGMP/Snooping Proxy, and Multi-cast Listener Discovery. Each Fabric port could be configured as a 40GbE/10GbE or four 1GbE.

## GBE LAYER 3 MANAGED SWITCH

The Layer 3 managed GbE switch routes 13 ports to the base channels, 1 update, and dual 10/100 for shelf management, two ports to the front panel, two ports to the RTM and two ports to each AMC. The features include Switching, Multi-cast, Source Port Filtering, Storm Control Per-Port, Spanning Tree, Double Tagging, and Mirroring.

## GPS RECEIVER ENABLED FEATURES

The ATC805 can be ordered with a GPS Receiver option. The receiver disciplines an on-board high-quality DPLL which is phase/frequency aligned to the atomic clocks in the GPS satellite constellation. The on-board clock synthesis/jitter cleaning capability can be utilized to convert this frequency into any frequency desired while still remaining locked to the GPS atomic clocks.

When the GPS Receiver option is purchased the ATC805 has the capability to re-transmit the incoming GPS data via Ethernet to other nodes in the network in the Trimble TSIP binary protocol format. This GPS data is also sent out the front panel GPS RS-232 serial port in the standard NMEA format for use by external equipment.

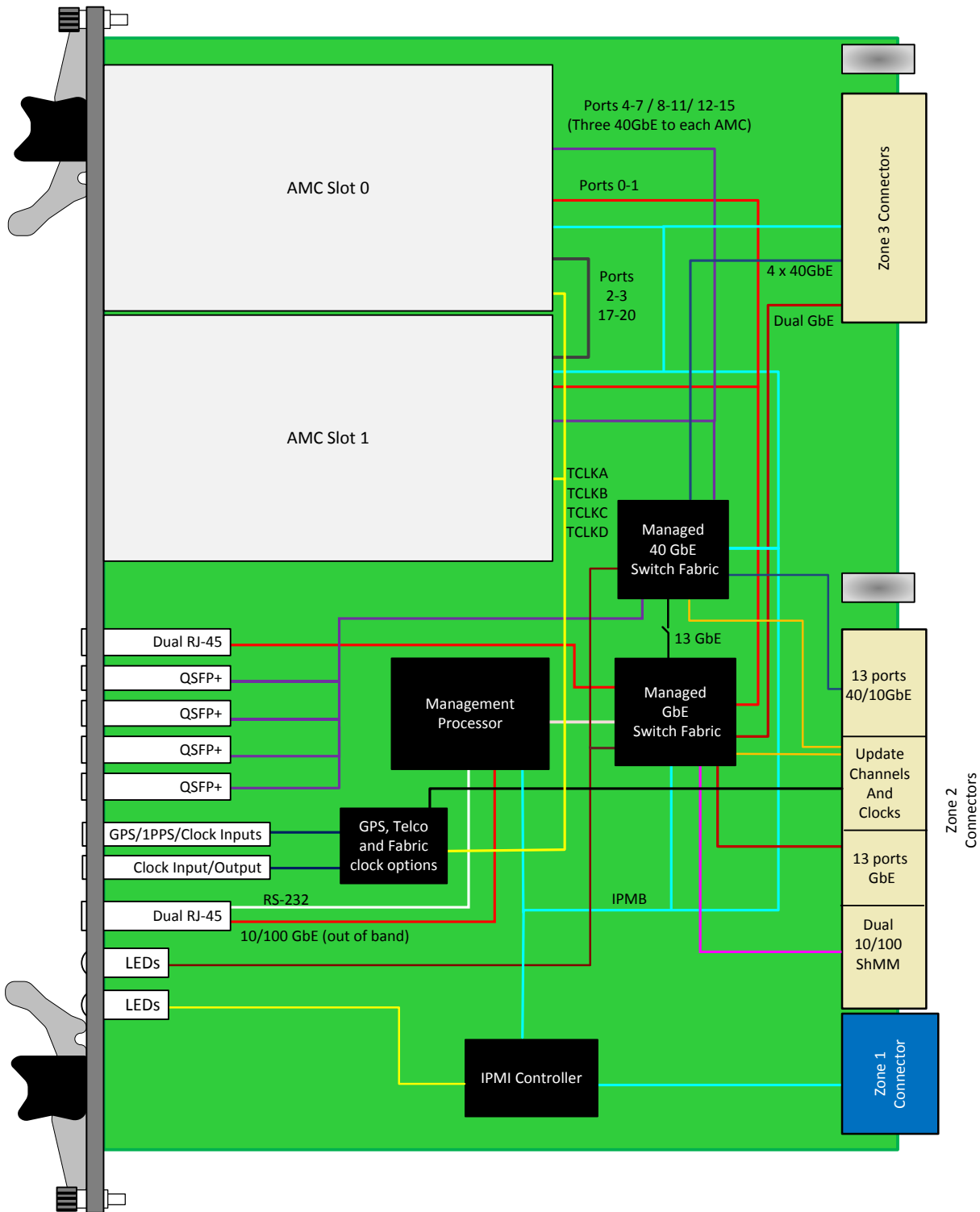
## IEEE1588 PTP AND NTP GRAND MASTER CLOCK

The ATC805 can provide Ethernet time services to the chassis networks on both the GbE and 40GbE fabrics. It can be subordinate to an external PTP or NTP master server or, when the GPS receiver option is purchased, can act as a Grand Master clock utilizing the precision timing information provided via the GPS receiver and on-board disciplined oscillator.

## SYNCHRONOUS ETHERNET

The ATC805 provides a Synchronous Ethernet (SyncE) on the GbE and 40GbE fabric ports. With this feature, ports on the 1G and/or 40G Ethernet switches can be designated as master or slave ports and the Ethernet fabrics within the chassis can be synchronized from end-to-end with external equipment. This feature utilizes advanced telecom-grade network synchronization PLLs to provide exceptional SyncE performance.

## BLOCK DIAGRAM



## SPECIFICATIONS

Architecture		
Physical	Dimensions	Width: 12.69" (322.25 mm)
		Depth 11.02" (280 mm)
Type	ATCA Switch/Carrier	Two AMC slots (single width, mid-size)
Standards		
Module Management	IPMI	IPMI version 2.0 and PICMG 3.0
Processor Type	MIPS	For management
PICMG	ATCA	PICMG 3.0 R2.0
Configuration		
Power	Power consumption	~110W (with no AMC Module loaded)
Environmental	Temperature	Operating Temperature: -5° to 55°C (Air flow requirements is to be greater than 200 LFM) Available in industrial temperature range
		Storage Temperature: -40° to +85°C
	Vibration	1 G, 5 to 500 Hz on each axis
	Shock	30 G on each axis
	Relative Humidity	5 to 95 per cent, non-condensing
Front Panel	Interface Connectors	Dual RJ-45 to base switch
		Quad QSFP+ to fabric switch
		RJ-45 for GbE out-of-band management CPU
	RJ-45 for RS-232 management CPU and Dual SMPM for clock inputs	
LEDs	Activity / Link	
	IPMI	
Software Support	Operating System	Linux
Conformal Coating	Humiseal 1A33 Polyurethane (Optional)	
	Humiseal 1B31 Acrylic (Optional)	
Other		
MTBF	MIL Handbook 217-F@TBD Hrs	
Certifications	Designed to meet FCC, CE and UL certifications where applicable	
Compliance	PICMG 3.0 Rev 3.0, RoHS 2.	
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards	
Warranty	Two (2) years	

### INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and  $\mu$ TCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), 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.

### Trademarks and Disclaimer

The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedTCA™ and the AdvancedMC™ logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.

## ORDERING OPTIONS

### ATC805 – ABC – DEF – 0HJ

#### A = Switch Software Stack

- 0 = VadaTech
- 1 = IPInfusion

#### B = First QSFP+ Transceiver

- 0 = None
- 1 = SR
- 2 = LR
- 3 = WDM (single LC fibre)

#### C = Second QSFP+ Transceiver

- 0 = None
- 1 = SR
- 2 = LR
- 3 = WDM (single LC fibre)

#### D = Third QSFP+ Transceiver

- 0 = None
- 1 = SR
- 2 = LR
- 3 = WDM (single LC fibre)

#### E = Fourth QSFP+ Transceiver

- 0 = None
- 1 = SR
- 2 = LR
- 3 = WDM (single LC fibre)

#### F = Front Panel Clocking\*

- 0 = None (*Backplane clocking only*)
- 1 = Dual LVCMOS Clock In/Out
- 2 = Sine Wave In + LVCMOS In/Out
- 3 = Built-in GPS receiver + LVCMOS In/Out
- 4 = Dual Sine Wave In

#### H = Temperature Range

- 0 = Commercial
- 1 = Industrial

#### J = Conformal Coating

- 0 = None
- 1 = Humiseal 1A33 Polyurethane
- 2 = Humiseal 1B31 Acrylic

\* Backplane M-LVDS clock routing and related PLL clocking features are provided regardless of the front panel clock option. When GPS (D=3) is selected, additional GPS-related features become available such as precision GPS time-stamping via Ethernet and GPS serial NMEA data.

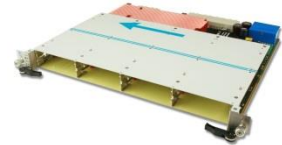
## RELATED PRODUCTS



VT830 – 6U ATCA Shelf



AMC735 – 10GbE Network Interface card



ATC133 – 10G Switch/Carrier + FPGA

## CONTACT US

#### VadaTech Corporate Office

198 N. Gibson Road,  
Henderson, NV 89014  
Email: [info@vadatech.com](mailto:info@vadatech.com)  
Telephone: (702) 896-3337  
Fax: (702) 896-0332

#### Asia Pacific Sales Office

7th Floor, No. 2, Wenhui Street, Neihu District, Taipei  
City, Taiwan 11445  
Email: [info@vadatech.com](mailto:info@vadatech.com)  
Telephone: +886-2-2627-7655  
Fax: +886-2-2627-7792

#### VadaTech European Sales Office

Ocean Village Innovation Centre, Ocean Way,  
Ocean Village, Southampton, SO14 3JZ  
Email: [info@vadatech.com](mailto:info@vadatech.com)  
Telephone: +44 2380 381982  
Fax: +44 2380 381983