Providing Unprecedented Performance Density

Defense & Aerospace Computing

vadatech

THE POWER OF VISION

ABOUT US

VadaTech provides innovative embedded computing solutions that offer superior performance density for high-reliability requirements. With a unique combination of electrical, mechanical, software, and system-level expertise, VadaTech provides commercial or rugged computing solutions that work the first time, every time. AS9100 certified, our quality system provides a consistent and reliable product from initial concept to delivery.

Designed and manufactured in the USA, we utilize open-standard platforms for modularity and scalability, lowering your CAPEX and risk. We leverage our architecture of choice, MicroTCA, as well as other open platforms to minimize SWaP-C (Size, Weight, Power, Cost) in your application.

Our Expertise Includes Solutions For:

Signal Processing • Storage • FPGA/Processing

Communications/Networking • Specialty Solutions

MANUFACTURING

An AS9100 certified company, VadaTech has a 70,000 square foot manufacturing facility located in Las Vegas, Nevada. It is equipped with the latest state-of-the-art equipment ensuring the highest quality and consistency. This equipment includes several full SMT lines and automated optical inspection. The company also has in-house conformal coating, x-ray inspection, thermal/humidity chamber, shaker table, BGA removal, RTV/epoxy dispenser, stencil cleaner, and selective solder machine.

Every product lot on the SMT line goes through first article inspection. VadaTech is able to trace every serial number to a specific lot and operator at the time of production. With the most advanced equipment and stringent quality processes, we are able to produce highly complex boards/systems with high precision, traceability, and reliability.

Designed & Manufactured in the USA

AS9100 CERTIFIED

PARTNERS

PICMG • intel • WIND RIVER PARTNER • PCI SIG • VITA Open Standards, Open Markets • freescale • CAVIUM NETWORKS • BROADCOM • XILINX ALLIANCE PROGRAM • IPC • TEXAS INSTRUMENTS • MARVELL • FUJITSU • TILERA • Linux

APPLICATIONS

RADAR

— Sea/Land/Air, Phased Array

SONAR

— Sea/Air, Towed Array, Fixed

Signal Intelligence

— Signal Conversion/ Processing, Graphics Processing, Networking

Mission Computing

— Command/Control, Situational Awareness

Other Mil/Aero Applications

Electronic Warfare • Communications Network • Data Recorders • Simulators

Situational Awareness

- 7U Cube or 19" rackmount
- Multi-core processor for multiple video output streams
- High-speed graphics module for image processing
- Storage and FPGA options

C4ISR Data Processor & Communications

- 40GbE 5U Chassis Platform or 3U Subrack
- Layer 2 or 3 8-port Switch for communications
- Intel x86 4-core processors for RADAR data processing

- 1U rugged chassis for airborne application
- High-GSPS ADC + DAC for digital conversion
- Powerful FPGAs for heavy data streams
- Freescale Processors for pre and post processing

RADAR Signal Processing

- 1U rugged rackmount, 6-slot
- 40 GbE communications to towed array
- Precision clocking and time-stamping with GPS/ IEEE 1588/SyncE
- Multi-TB Storage RAID options

Naval Towed Array Communications

APPLICATION EXAMPLES

OPEN ARCHITECTURE PLATFORMS

MicroTCA •

To maximize performance density and SWaP-C, our system platforms typically utilize the MicroTCA open specification. MicroTCA is a stable architecture established in 2006 (with the AMC modules used in AdvancedTCA since 2003) that is easily ruggedized. MicroTCA.0 is the core specification with the ruggedization levels listed in the chart below. MicroTCA.4 is a version of the architecture with Rear I/O.

	MTCA.0	MTCA.1	MTCA.2/MTCA.3
MicroTCA Ruggedization Specification Level	Telco-centric spec for AMCs plugging into the backplane without modifications.	Industrial/Semi-rugged spec for exterior and mobilized communications applications.	Hardened MTCA spec for rugged and Mil-centric wedge-lock design with air-flow (MTCA.2) and no airflow (MTCA.3) over the modules.
Max Operating Shock	15g	25g	40g
Max Operating Vibration	1g sinusoidal	8g random	12g random
Operating Temperature*	-5C to +55C	Up to -40C to +55C	Up to -40C to +85C

*Specific environmental class categories are defined within each specification.

MTCA.0

MTCA.1

MTCA.3

MTCA.4

MTCA.2

AdvancedTCA •

Rugged ATCA systems and specialty boards and RTMs

CompactPCI •

High performance switches and specialty boards

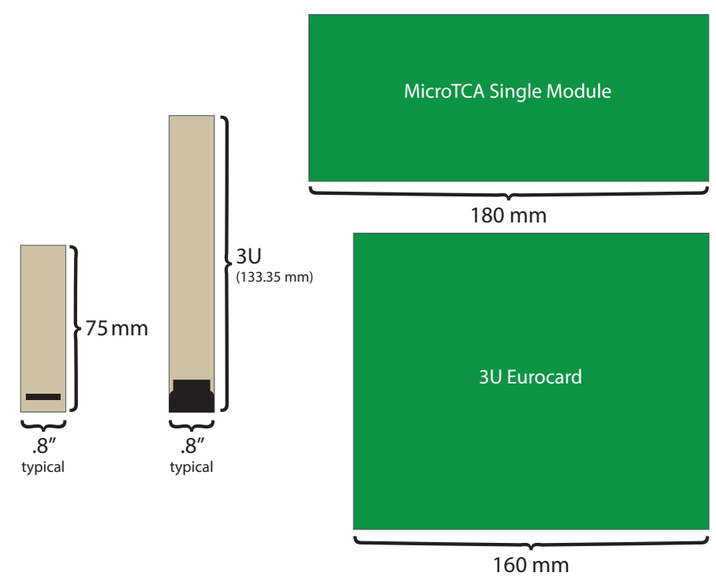
OpenVPX •

Specialty products and systems for OpenVPX

Other •

Includes PCI Express and other architecture specialty modules and adapters

MicroTCA vs. 3U Eurocard Comparison



benefits to open standards

- **Less Risk –**
  No single source, lower obsolescence risk
- **Large Ecosystem –**
  Dozens of vendors and hundreds or products to choose from
- **Scalability & Upgrades –**
  Modular design allows easy upgrade path
- **Tighter Vendor Competition –**
  Drives innovation, upgrades, and cost reduction
- **Leverage Whole Industry –**
  Leverage knowledge, expertise of dozens of vendors
- **Tech Re-Use in Multiple Applications –**
  Utilize many of same modules in multiple programs
- **More Options –**
  With an open spec, there is always the option to pivot and do it yourself

PRODUCTS/SOLUTIONS

Solutions/Application-Ready Platforms

- Rugged Storage RAID Solutions
- Sensor Processing Application - Ready Platform
- Signal Processing Solutions
- Data Acquisition Solutions
- Communications Platforms
- Small Form Factor (SFF) Solutions

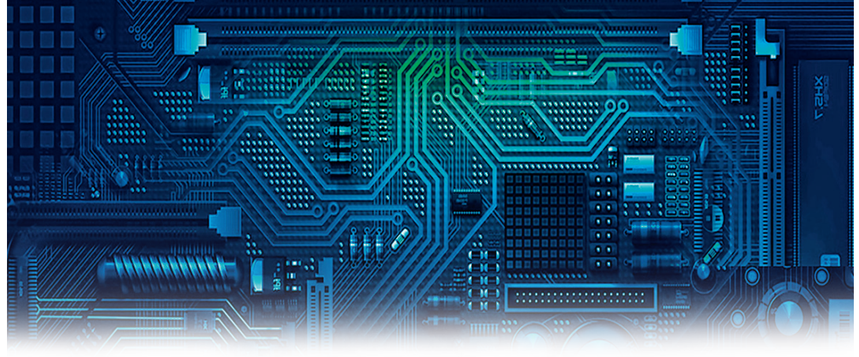
Chassis Platforms

- Conduction-cooled ATRs
- 1U Chassis Platforms up to 12 slots
- Versatile Platforms with Rear I/O
- Small Form Factor (SFF) Platforms
- AdvancedTCA, MicroTCA and OpenVPX Platforms

Board-Level Products

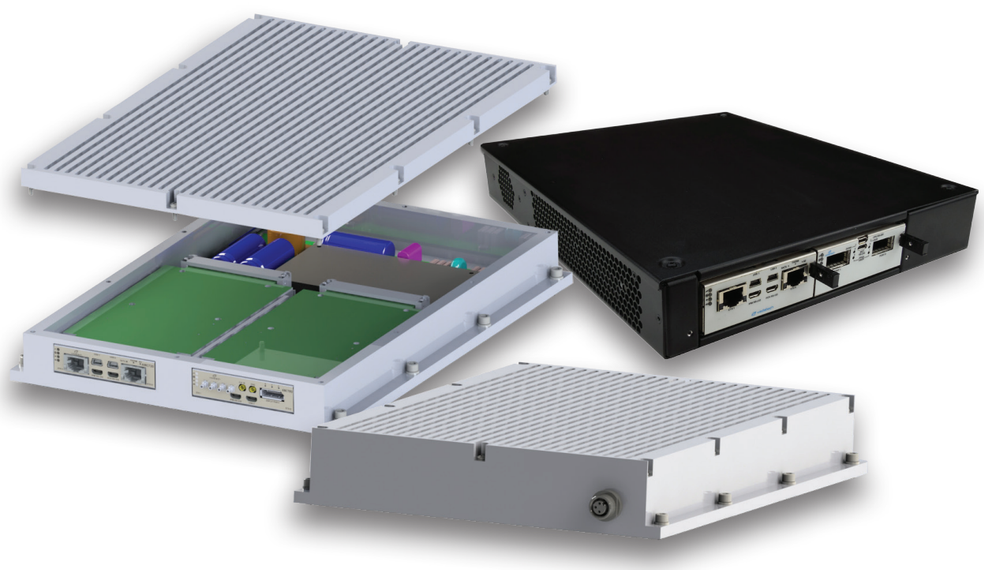
- Processing - PCIe Gen3, 40G/10G, SRIO options *(Intel, Freescale, Tilera, & Cavium - up to 72 cores)*
- FPGAs - full Xilinx series-7, Altera, to 100G
- ADC & DAC - multi-GPS, various channels and resolutions
- Networking - 40G/10G/GbE
- Graphics - high performance, various resolution
- Storage - high speed & capacity, SSD, JBOD, RAID
- Switches - multi-port options, Layer 2/3, 40G/10G
- Other - Carriers, Adapters, I/O, Shelf Management

SMALL FORM FACTOR (SFF) SOLUTIONS



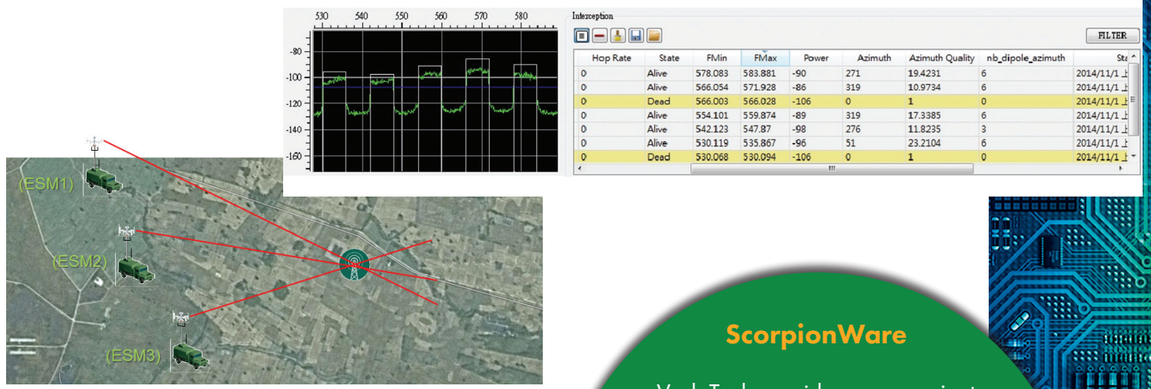
VadaTech offers SFF solutions that leverage its standard AMC modules. Customers benefit from the modularity, versatility, and lower risk of an open standard along with a customized enclosure solution to meet specific application requirements.

- Dual AMC Solutions
- Stand-Alone Storage/RAID Solutions
- High-Speed Communications Solutions
- Signal Processing & DAQ Solutions



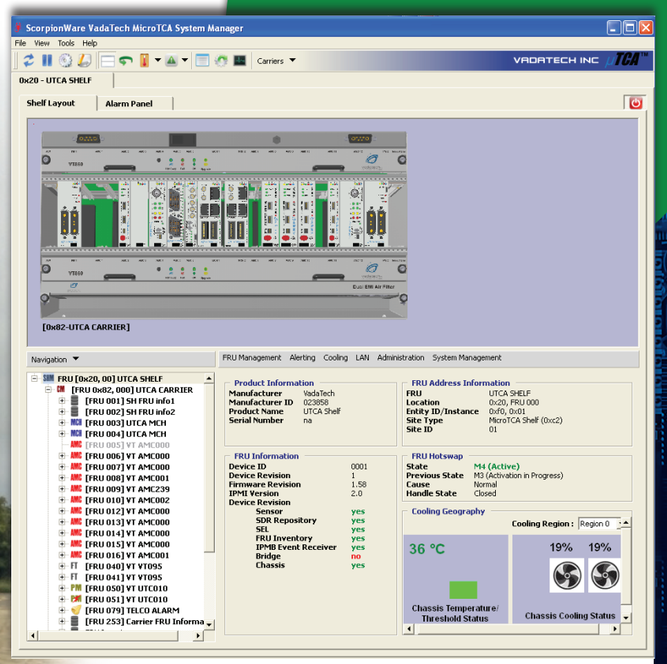
SOFTWARE ENHANCEMENT

VadaTech can support your development team with supplemental firmware/ software IP blocks for faster and more convenient communication interfaces and security.



ScorpionWare

VadaTech provides a convenient GUI software program for MicroTCA-based systems.



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