Solution Brief

VadaTech Wins Large European C4ISR Project With MicroTCA Solution

A military prime contractor in Europe has chosen MicroTCA over OpenVPX for its RADAR Signal Processing application. The applications include ground-based mission surveillance, and airborne and ground-based RADAR. The company was looking for a high-performance, compact solution for data processing that could be used across multiple platforms including light-rugged and extreme rugged applications. MicroTCA provides excellent SWaP-C (Size, Weight, Power, and Cost). The architecture is an easily ruggedized form factor and provides a versatile ecosystem for a wide range of applications. The customer's system provides simultaneous multi-mission capability, high survivability (small target, high mobility), and is fully self-contained. The MicroTCA platform is expected to expand into other mission computing and RADAR projects for the company.

System Requirements

VadaTech started with a 3U subrack to the MicroTCA.1 specification (up to 15g operating shock and 1g sinusoidal vibration) for rugged applications. The MCH and backplane were designed to support 40GbE speeds for high-bandwidth communications. The subrack has perforated covers for bottom-to-top cooling within existing forced-air cooling infrastructure. It holds 6 full-size (6HP) and 6 mid-size (4HP) AMC payload modules, plus dual redundant MCHs and Power Modules. MicroTCA provides inherent system management including failover provisions as a core part of the specification.

The system platform utilizes VadaTech's 40G Layer 3 managed 12-port switch for network interface, and multiple Intel PCIe PrAMCs for data processing. The MCH provides a highly-integrated switch and clocking

VT930

AMC720

UTC004

MicroTCA.2 design for hybrid air/conduction cooling in a heat-exchanged chassis.

Please contact VadaTech for more information on other Mil/Aero, Communications, High-Energy Physics, and Industrial applications.

About VadaTech

VadaTech provides innovative embedded computing solutions from board-level products, chassis-level platforms, to configurable application-ready systems. With a focus on MicroTCA and AdvancedTCA solutions, the company offers unmatched product selection and expertise in the full xTCA ecosystem. With our unique combination of electrical, mechanical, software, and system-level expertise, VadaTech can provide customized commercial or rugged computing solutions to meet the most complex customer requirements.VadaTechalso offers specialized product solutions for VPX/VME, CompactPCI, and other architectures. A member of PICMG and VITA, VadaTech is headquartered in Henderson, NV with offices in Europe and Asia Pacific.

sub-system, containing functionality that would previously have required additional AMCs, so saving valuable space. This includes options for GPS/IEEE 1588/SyncE for precision clocking with time-stamping and clock holdover capability. The board can act as a Grand Master clock utilizing the precision timing information provided via the GPS receiver and on-board disciplined oscillator.
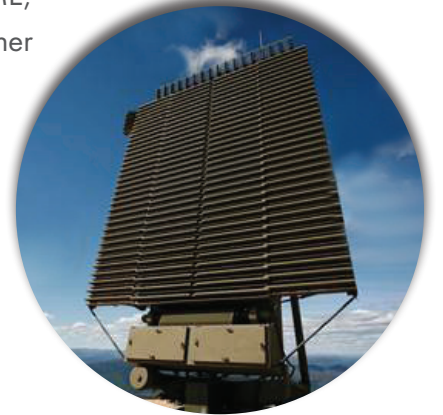
For hardened applications, a MicroTCA.3 style chassis (up to 40g operating shock and 12g random vibration) can be utilized. The same AMC modules that are used in commercial applications can be installed into clamshells for conduction cooling and module retention/protection. VadaTech's hardened solutions come in ½ and ¾ ATR sizes or can be offered in rackmount formats. The company is also developing

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