EMCOMO Solutions AG

New FPGA, CPU and ADC/DAC products

We create first class Embedded Computer Solutions based on world leading Suppliers

Agenda

- EMCOMO Introduction
- VadaTech Introduction
- MicroTCA Project Examples
- Rev.3 Products in 2026
- Other new Products
- More MicroTCA Products

EMCOMO Introduction

… we create Embedded Solutions

About EMCOMO

- EMCOMO Solutions AG, Neu-Ulm, Germany
- Founded 2010
- Management:

Thomas Sabisch
CEO

Karl Judex
CTO/COO

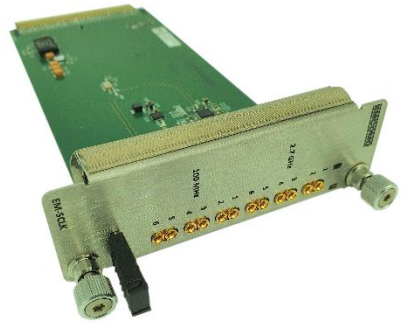
- Shareholders:
  - Management (>50%)
  - Private Investors

Our Portfolio

- Embedded Computer Systems
  - MicroTCA, VPX, ATCA, cPCI and VME based Systems
  - Own MicroTCA modules and rugged Power Supplies
  - Rugged and Rackmount PCs, HMIs
  - Various components from leading vendors
  - Customized Hard- and Software components

EM-P328-SD-OVR-R2

- Services
  - Consulting and system design
  - Project specific adaptions and extensions (Software, Hardware, Mechanics)
  - System setup and installation
  - Integration tests and system tests
  - Technical support



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VadaTech Introduction

About VadaTech

Headquarter in Henderson, Nevada

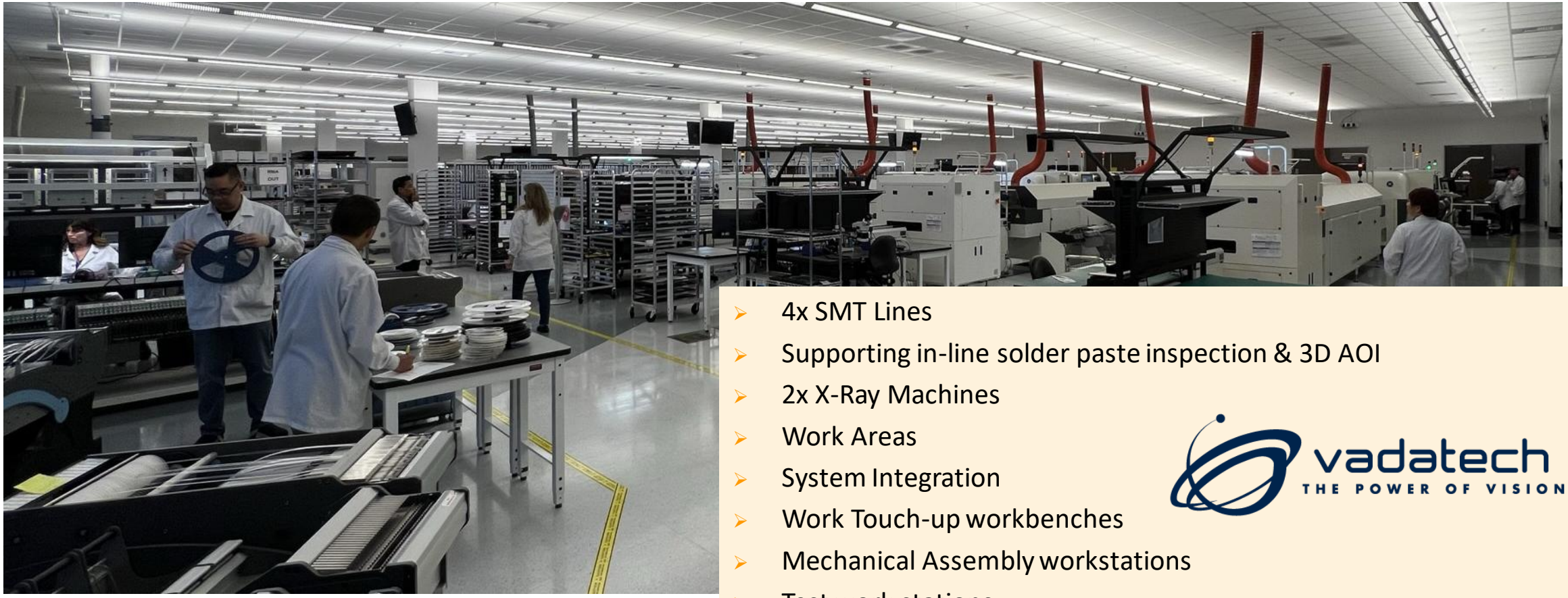
VadaTech is a world leader in the design and manufacture of embedded computing solutions with a focus in PICMG and VITA open standards.

VadaTech offers unmatched product selection and expertise in MicroTCA, VPX and AdvancedTCA.

Details

- Founded 2004
- >300 Employees worldwide
- 5 locations (USA, Europe, Asia)
- AS9100 certified
- RoHS, REACH and WEEE compliant

Vadatech HQ - 92,500 SQFT (8.600 m²)



- 4x SMT Lines
- Supporting in-line solder paste inspection & 3D AOI
- 2x X-Ray Machines
- Work Areas
- System Integration
- Work Touch-up workbenches
- Mechanical Assembly workstations
- Test work stations
- Inspection points at Receiving, SMT, Touchup, Mechanical and Final

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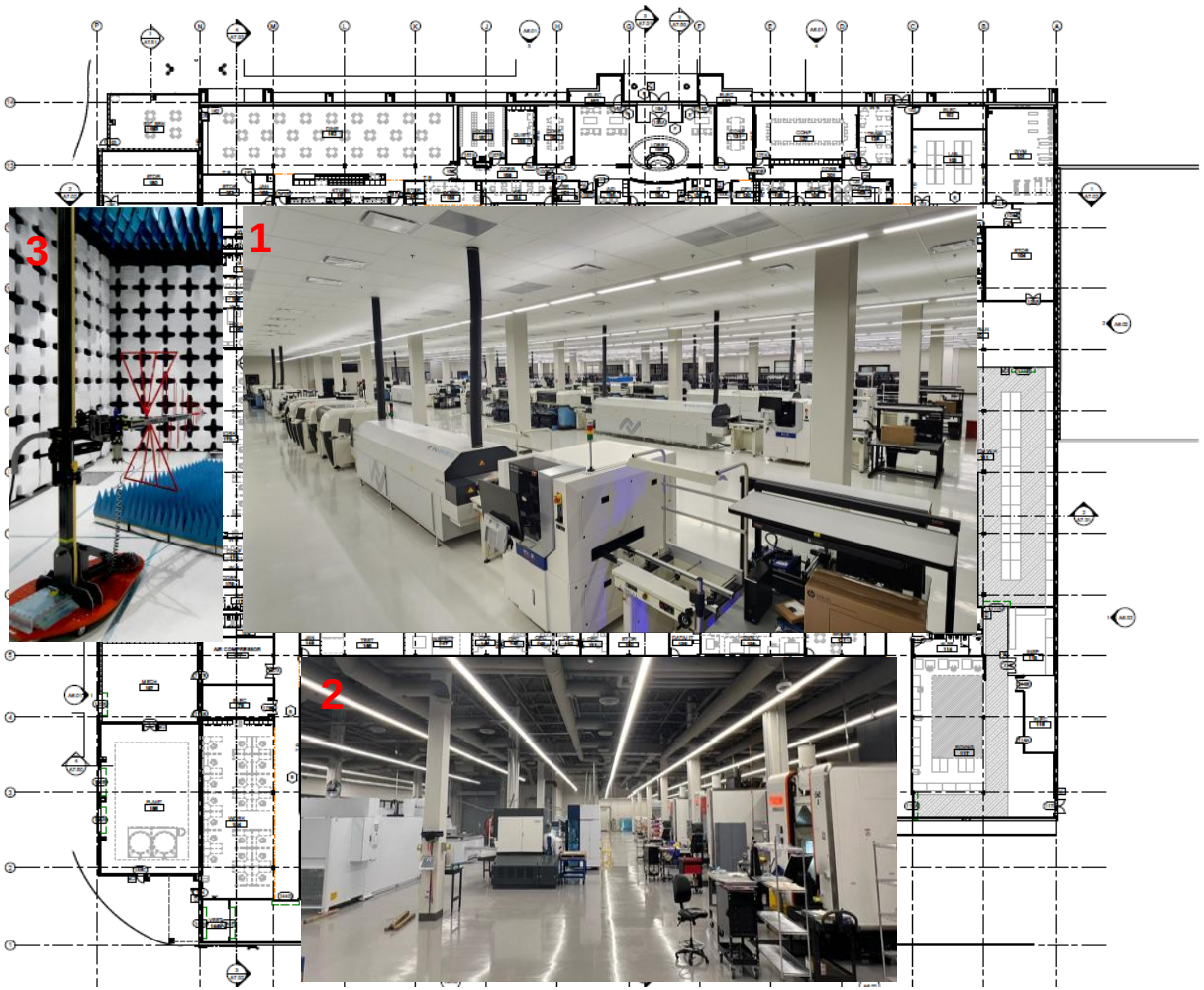
Production Facility - 140,000 SQFT (13.000 m²)



3 primary work centers:

1. Electronic board production with 6x SMT Lines
2. Metalwork manufacturing – **building all crates internally now**
3. Full environmental test laboratory

Located close to HQ

MicroTCA
Project Examples

MicroTCA Project Example 1 - LLRF Platform

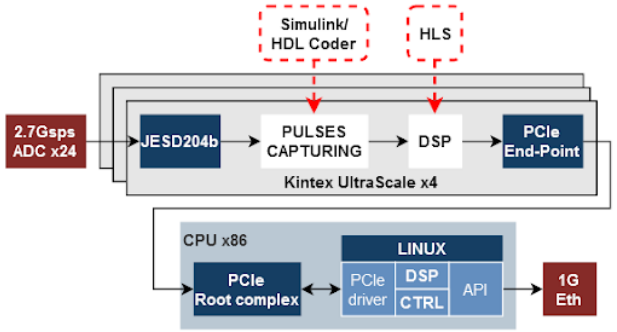
EMCOMO services

- System design, integration and test

Features

- 2U 19" MTCA.4 system with 6 mid-size double-width AMC slots and 6 RTM slots
- dual redundant universal 85-265V AC power modules with 500W each
- MCH with PCIe Gen.3 fabric switch, high precision temperature controlled oscillator and JTAG virtual probe
- Up to 6 Zynq Ultrascale+ dual FMC carrier boards loaded with various FMC modules:
  - 4x ADC 1 GSPS @ 16-bit and 4x DAC 2.8 GSPS @ 16-bit
  - quad SFP+ transceivers (e.g. for 10 GbE)
  - 16x RS-422/RS-485, 16x M-LVDS and 16x GPIO

MicroTCA Project Example 2 – HSDAQ System



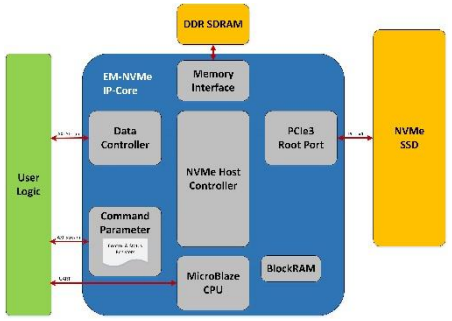
Features

- VadaTech components:
  - 5U 19“ MicroTCA system with MCH
  - 24 x ADC with 2.7 GSPS @ 14-bit with Kintex UlstraScale processing FPGA
- EMCOMO components:
  - Clock module for phase synchronous ADC clocks
  - X86 application CPU with Linux

EMCOMO services

- System design, integration and test
- IP-Core and software development
- Hardware development of components and production
- Cable/Frontend development and production

MicroTCA Project Example 3 – EGSE System



Features

- VadaTech components:
  - 9U 19“ MTCA.4 system VT815 with 2x MCH with separate PCIe domains for maximum data transfer performance
  - 3x FPGA dual FMC carrier for high speed serial connections
  - 3x NVMe carrier for M.2 SSD modules
- EMCOMO somponents:
  - X86 application CPU with Linux

EMCOMO services

- System design, integration and test
- NVMe IP-Core and software development

Project Example 4 – EUV Lithography Control

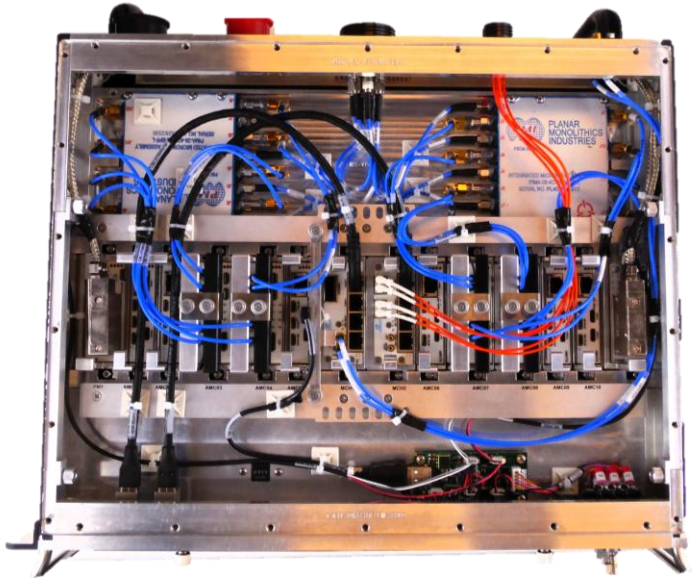
Features

- 5U 19“ MicroTCA system with dual redundant Power Modules, 1,000W each
- 1 MCH with PCIe fabric switch and 1 MCH with SRIO fabric switch
- Intel Xeon processor with 2TB SSD, PCIe Gen.3 and SRIO fabric interface
- Intel Arria-10 FPGA FMC carrier board for customer specific FMC module
- Up to 4 QSFP+/SFP+ carrier boards to connect external SRIO devices
- Interface board with 4x USB 3.0 to connect external USB 3.0 devices

EMCOMO services

- System design, integration and test

Project Example 5 – MTCA.2 Aerospace System



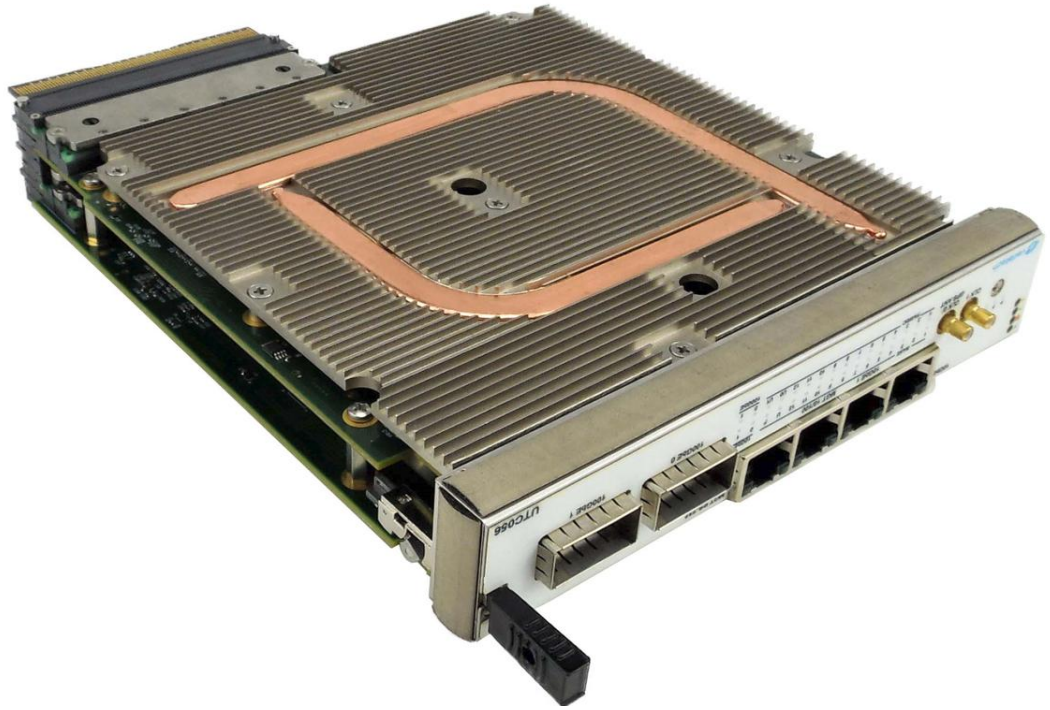
Features

- 6U 19“ MicroTCA system with 10 or 12 slots MTCA.1 or MTCA.2
- dual DC Power Modules, 1,000W each
- 1 MCH with 40GbE fabric switch and 1 MCH with CBS fabric switch
- 4x Intel CPU ICE-Lake D AMC Module
- 4x Xilinx UltraScale+™ XCVU13P FPGA AMC Module with 2 chanels 12-bit 10.3GSPS ADC and 2 channels 16-bit 12GSPS DAC each

Rev. 3 Products in 2026

(Update)

5th Generation MCH



Features

- Supported Fabrics
  - 100G Ethernet (40G and/or quad 10G supported per slot) with dual 100G uplink on the front panel
  - PCIe Gen.4 with dual uplink via OCuLink on the front panel
- Available double-width and single-width

UD - Planned availability Q1/26

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VT815 Chassis Upgrade to R3.0

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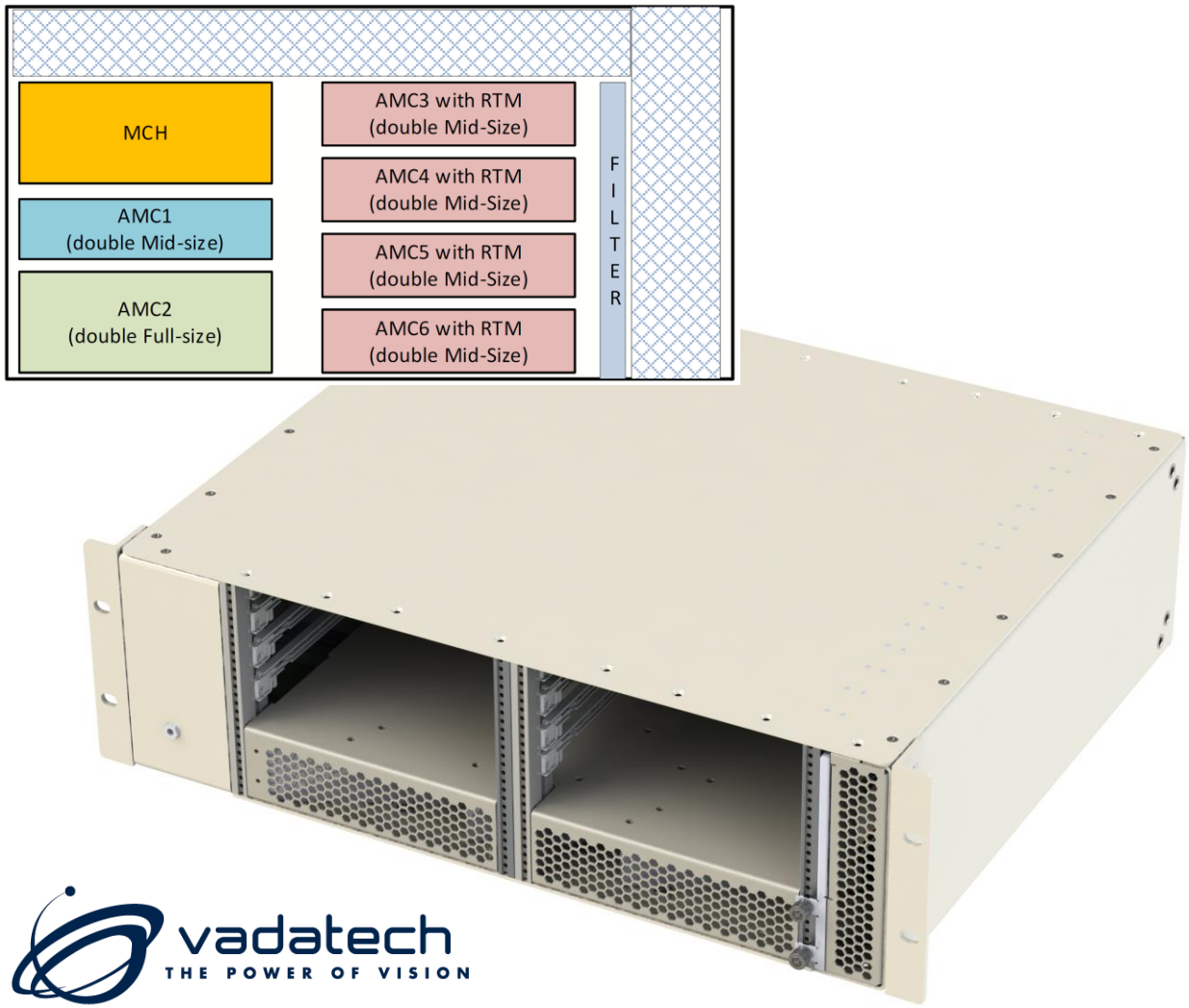
Features

- MTCA4.0 with RTM
- Front to back cooling with dual tongue on each slot
- Up to 3600W with full redundancy across the power modules
- Dual MCH
- 12 slots full-height double-width
- Support of 100 GbE and PCIe Gen.4 on the Backplane
- Single Tongue with 110W, dual Tongue with 120W per slot

UD - Planned availability Q1/26

VT888 - new R3.0 3U Chassis



Features

- MTCA.4.0 with RTM
- Front to back cooling with dual tongue on each slot
- Up to 2400W with full redundancy across the 2 hot-swappable power modules (1200W each)
- Single MCH
- 4 slots MTCA.4 double-width with RTM
- 2 slots double-width
- Support of 100 GbE and PCIe Gen.4 on the Backplane
- dual Tongue with over 170W per slot

Already released Q4/25

AMC770 / AMC771 / AMC772 – Upgrade to R3.0

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Features

- new layout for R3.0 (new finger definition)
- dual 100 GbE or PCIe Gen.4 to the backplane
- Intel® Ice Lake-D Processor Xeon® D-1746TER (Minimum 10 years life span for the CPU guaranteed by Intel)
- Serial Over LAN (SOL)
- 48GB of DDR4 memory with ECC
- 1TB of NVMe Storage
- Platform Firmware Resilience (PFR) via on board FPGA for security
- Trusted Platform Management (TPM)
- Single module, mid-size with option for full-size or 8HP

UD - Planned availability Q1/26

Other new Products

High Speed ADC/DAC products UD for 2026

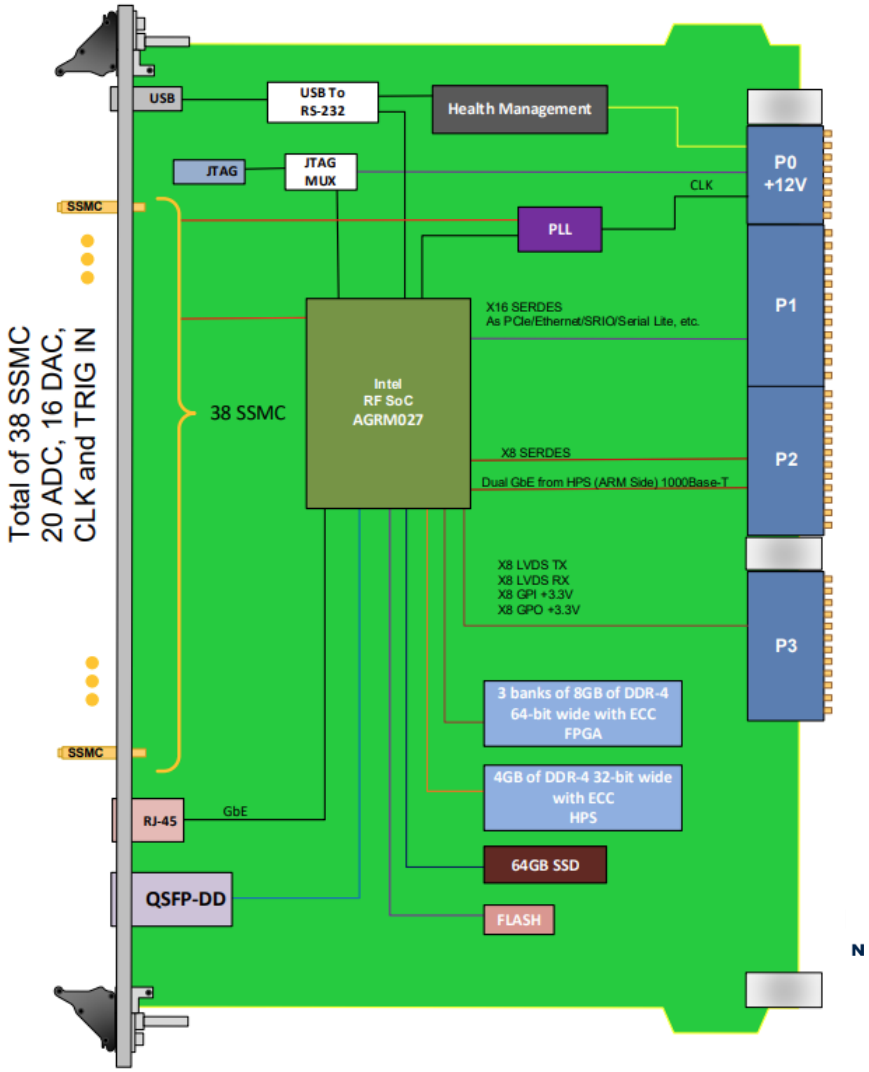
- FMC+ Module with Analog Devices **AD9084** (Q4/25)
  - 4 DAC / 4 ADC channels with up to 28 GSPS @ 16-bit / 20 GSPS @ 12-bit
  - Usable RF Analog bandwidth up to 18 GHz
- VPX boards 3U and 6U with dual / quad **AD9084** (VPX557 - Q1/26 – Q2/26)
  - AMC Modules on project base
- Single-width AMC Module with Intel **Agilex 9 RFSoC** (Q3/26)
  - 8 DAC / 8 ADC channels with up to 64 GSPS @ 10-bit
  - Usable RF Analog bandwidth up to 36 GHz
- FMC+ Module with Jariet **Electra-MA** high speed ADC / DAC (Q4/25)
  - 4 DAC / 4 ADC channels with up to 64 GSPS @ 10-bit
  - Usable RF Analog bandwidth up to 36 GHz
- VPX boards 3U and 6U with dual / quad Jariet **Electra-MA** (Q1/26 – Q2/26)
  - AMC Modules on project base

FPGA products UD for 2026

- AMD **Versal XCVP1802** (7.326.000 Logic Cells, 3.349.120 LUTs, 14.352 DSP Engines)
  - 6U VPX Dual FMC+ Carrier (VPX400 - Q1/26)
  - PCI599 with Quad QSFP-DD (Q1/26)
  - AMC Modules on project base
- AMD **Versal XCVP1902** (18.507.000 Logic Cells, 8.460.288 LUTs, 6.864 DSP Engines)
  - PCI598 with Quad QSFP-DD (Q4/25)
  - 1U System with 20 QSFP-DD (Q2/26)
  - TDP potentially to high for AMC Modules
- AMD **Versal XCVC2502** (3.837.000 Logic Cells, 1.708.672 LUTs, 7.392 DSP Engines)
  - 1U System with 20 QSFP-DD (Q2/26)
  - AMC Modules on project base
- Intel **Agilex-7 AGIB027R31B2I** (2.692.760 Logic Elements, 8.528 DSP Engines)
  - 6U VPX Dual FMC+ Carrier (Q1/26)
  - AMC Modules on project base

FPGA RFSoC products UD for 2026

- **Agilex-9 RFSoC AGRM027**
  - VPX540 6U with front and rear I/O (VITA 67.2)
  - 20 ADC channels 4 GSPS @ 14-bit
  - 16 DAC channels 12 GSPS @ 14-bit
  - Release planned for Q4/25
- AMC Modules on project base



CPU products UD for 2026

- Intel **Cascade Lake** Gen5 Embedded CPU
  - Minimum 8 years life span for the CPU guaranteed by Intel
  - Focused on Two SKU:
  - 4514Y
    - Total of 16 Core with 32 Threads
    - Processor base Freq 2GHz with Max Turbo Freq of 3.4GHz
    - Eight DDR4 Banks
    - Total power 230W
  - 4516Y+
    - Total of 24 Core with 48 Threads
    - Processor base Freq 2GHz with Max Turbo Freq of 3.7GHz
    - Eight DDR4 banks
    - Total power 260W
  - ATCA dual Socket (ATC140) – release planned for Q4/25
  - VPX single Socket (Q2/26)
  - AMC Modules on project base (Xeon Gen.6 based or ICE-Lake D HCC)

More MicroTCA Products

VT887 - 3U MTCA.4.1 Chassis

Features

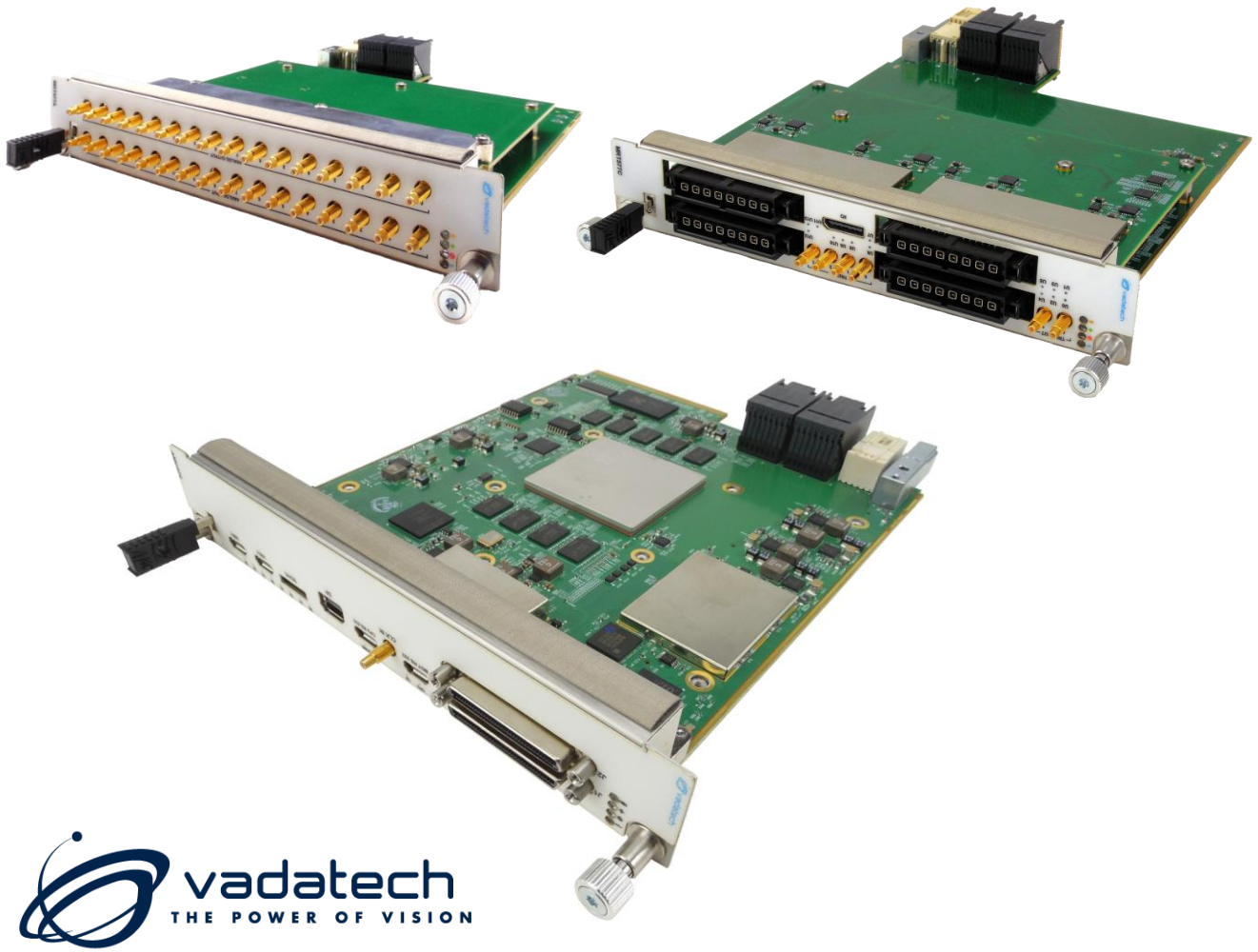
- MTCA.4.1
- Three full-size double-width AMC slots
- Rear Transition Module (RTM) with extra power connector (two of the three slots)
- Dual Tongue with 360W per slot including the RTM (first two slots 200W, RTM 160W, Slot 3 is 90W)
- 1100W Power Supply
- Right to left cooling
- Single MCH

AMC769 - Intel Xeon Tiger Lake-H AMC

Features

- Intel Xeon W-11865MRE SoC (Tiger Lake-H) 11th-Generation (8 core @ 2.6 GHz Turbo 4.7 GHz)
- Dual 10GbE via RJ-45
- Dual Graphic DP with dual USB 3.0
- x16 PCIe Gen3 on ports 4-11, 12-15 and 17-20
- x16 PCIe Gen3 can be bifurcated as quad x4 or dual x8
- Dual M.2 with PCIe x4 Gen4 to each socket
- 64 GB of DDR4 memory with ECC
- Double module, mid-size (option for full-size) per AMC.0

AMC577 - RFSoC AMC



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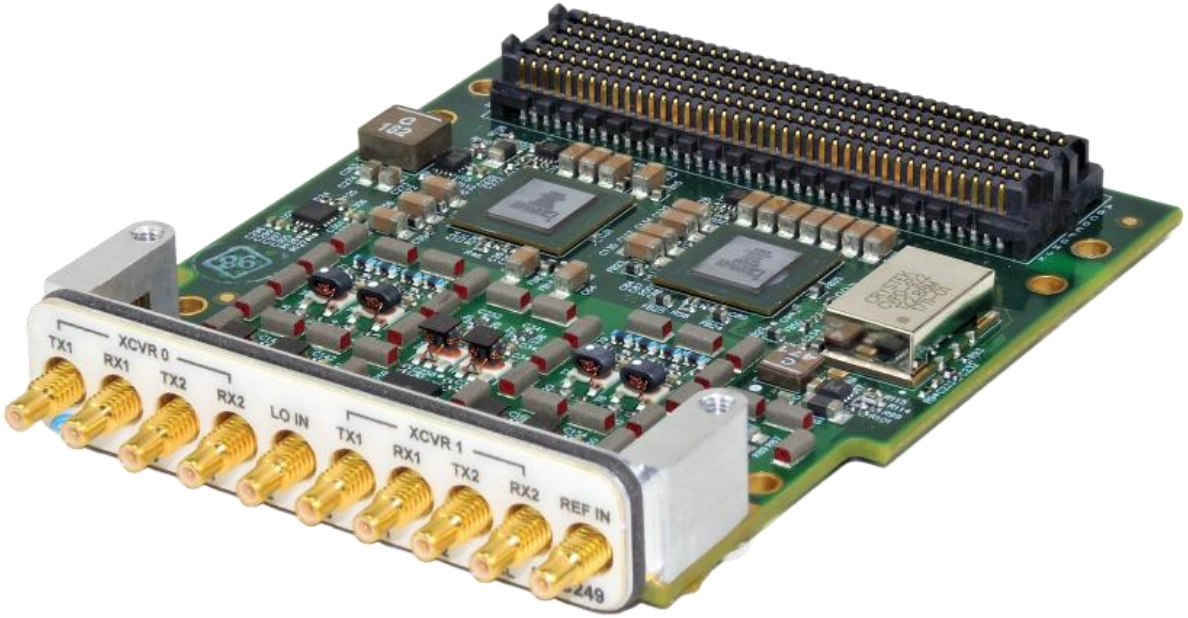
Features

- based on AMD XCZU49DR or XCZU29DR
- 16 Channels ADC 14-bit @ 2.5 GSPS
- 16 Channels DAC 14-bit @ 9.7 GSPS
- OCXO for stability
- All RF to the RTM
  - MRT577A with 16 ADCs and 16 DACs AC coupled via baluns
  - MRT577C with 16 ADCs and 16 DACs DC coupled via programmable LNAs, 8 LVDS User I/Os and Trig in/out
- AMD XCZU47DR with 5 GSPS ADCs already available on VPX578
  ➔ AMC Modules on project base

Largest Portfolio of FMC/FMC+ Modules



Latest Features

- **FMC268** based on ADC12DJ5200 and AD9164 / 9162
  - ADC 12-bit @ 10.4 GSPS
  - DAC 16-bit @ 12 GSPS
  - JESD204C
- **FMC270** based on the AFE7950
  - Wide-bandwidth multi-channel transceiver
  - 4 TX, 4 RX and 2 feedback chains
  - Up to 12GHz Direct-RF sampling
  - JESD204C

Thank you!
Any Questions

Web: www.emcomo.de **Email:** microtca@emcomo.de