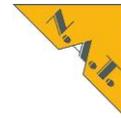# N.A.T. Announces New 2U MicroTCA.4.1 Chassis for Telecom, Industrial and High Energy Physics Research Applications

N.A.T., a leading supplier of embedded boards and systems based on open standards, today announced the NATIVE-R2, a powerful new 2U MicroTCA (MTCA.4.1) chassis that is particularly suited to telecommunications, industrial and particle physics research applications. Supporting a single MCH and power unit, the NATIVE-R2 can accommodate six horizontally-mounted AdvancedMC® (AMCs) modules (five mid-size and one full-size), up to five MicroRTMs and a JTAG switch module (JSM).

AMC 2	AMC 5			AMC RTM 5	AMC RTM 2
AMC 1	MCH	CU	CU	MCH RTM	AMC RTM 1
AMC 3					AMC RTM 3
AMC 4	AMC 6			PU	AMC RTM 4
Front Slots			Rear Slots		

The NATIVE-R2 enables developers to build a compact, multi-purpose computing system for a variety of applications by integrating cost-effective AMCs. The compact design and support for PCIe Gen3 x8 makes the NATIVE-R2 ideal for applications with high connectivity requirements, such as high energy physics and telecom edge, access and aggregation equipment. Optional support for White Rabbit, an Ethernet extension protocol for precision timing of network nodes, provides sub-nanosecond accuracy synchronization, particularly useful for the high energy physics community.

The MCH is the heart of a MicroTCA system and the NAT-MCH-PHYS80 offers 80 PCI Express lane switch configurable PCI Express port width of 1, 4, 8 or 16 lanes, a 16-lane PCI Express connection to rear MCH-RTM and one 16-lane optical PCI Express connection to the front panel. The NAT-MCH-PHYS80 can be integrated with the NAT-MCH-RTM-COMex-E3, N.A.T.'s quad core Intel® Xeon® E3 processor module, to create the most powerful single-slot solution for management, switching and processing that is available for MTCA.4.

About MicroTCA.4.1

The MTCA.4.1 hardware extensions specification introduces an additional rear backplane to support both precision analog and digital functions. The backplane supports ancillary Rear Power Modules that can deliver positive and negative analog power as well as standard power to µRTMs or full height eRTMS (extended RTMs). The additional backplane, side space and rear power makes possible a new family of applications, stimulated by the need for compact multi-GHz Low Level RF systems for high density superconducting accelerator applications.

Family of MicroTCA chassis

The NATIVE-R2 is a member of the NATIVE family of MicroTCA chassis which consists of:

- NATIVE-mini
- NATIVE-SX
- NATIVE-C1
- NATIVE-C2
- NATIVE-R5
- NATIVE-R9

About N.A.T.

Founded in 1990 with the aim of developing high-performance network interfaces for industrial computers, N.A.T is a privately owned and financed company with headquarters in Bonn, Germany and certified distributors and sales agents worldwide. The company has developed substantial knowledge in networking technologies across a wide range of open, standards-based architectures including VMEbus, CompactPCI, PCI, PCIexpress, PMC, Industry Pack Modules, and M-Modules. N.A.T. was at the forefront when the AdvancedTCA, MicroTCA and AMC standards were introduced and is today one of the leading suppliers for board and system level products based on AMC and MicroTCA. The product portfolio includes line interfaces, network processors, single- and multicore data engines, management and system controllers, 19" rack mountable chassis, power supplies and of course the communication protocols and middle-ware to build turn-key and application-ready systems. For more information, please visit www.nateurope.com.

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