NATIVE-Discovery

The **NATIVE-Discovery** is a one slot MTCA.0 chassis AMC box with minimum MTCA infrastructure including cooling as well as basic management and switching functionality. The system is powered by an external power supply.

The chassis can accommodate one single- or double-width, mid- or fullsize AMC. All AMC ports and a debug interface are routed towards the rear panel of the box, so they are accessible externally.

As the **NATIVE-Discovery** aims amongst others on testing and development applications, it offers sliding covers on top and bottom to access top and bottom side of the AMC's PCB.

Moreover, the **NATIVE-Discovery** is a good choice for applications which request the operation of just a single AMC and make minor demands on management and switching functionality, or redundancy.

For special demands, the **NATIVE-Discovery** can be integrated in another chassis. In this case, the core of the **NATIVE-Discovery** (without enclosure) is mounted inside a customized chassis.

Form Factor	
	• W 206mm x H 46mm x D 312mm (+ appr. 5mm for rear connectors) • designed for one single- or double-width, mid- or full-size AMC • standalone operation or integration in customized chassis
Management & Switching	
Processing Resources	• Atmel ATxmega128 • Marvel 88E6320 Ethernet Switch
Firmware	• Microcontroller Firmware for MTCA environment simulation
Power Supply	
	• External 240W Power Supply • Input Voltage: 18-36V
Cooling Units	
	• Integrated fan unit with five fans and 120W cooling power for AMC • Airflow direction: right to left
Front Panel	
	• Slot for single- or double-width AMC with mid-/ full-sized front panel • Depending on the form factor, the use of filler panel(s) is mandatory
Rear Panel	

Interfaces	• AMC Ports 0/1: 2x 1GbE via RJ45
	• AMC Ports 2/3: 2x SAS/SATA via Dual Port SATA Connector including SSD power in/out
	• AMC Ports 4-7 / 8-11: 8 lanes to QSFP-DD for PCIe or 10G/40G/100G Ethernet
	• AMC Ports 12-15 / 17-20: 8 lanes to QSFP-DD for PCIe or 10G/40G/100G Ethernet
	• TCLK 1-4: single-ended TCLK A-D via SMA
	• UART interface via USB Type A
	• LEDs for:
	  • Power / Fan Status
	  • Temperature
	  • MMC Status

Compliance	
	• PICMG AMC.0 Rev. 2.0 • PICMG µTCA.0 Rev. 3 • CE, RoHS • EN55032:2015, EN 55024:2010+A1:2015, EN IEC 62368-1:2020 + A11:2020
Environmental	
Ambient Temperature	• 0°C to +45°C (long term)* • 0°C to +55°C (short term)*
Humidity	• 5% to 85%, non-condensing

Please note: These values are only valid with **closed housing** and **managed cooling** functionality! During operation with open sliding cover(s) or if the fan speed is set via Dip switch, the board temperature must be **supervised** by the user **manually**!