

# NAT-AMC-ZYNQUP-ECO

The **NAT-AMC-ZYNQUP-ECO** is an FMC carrier for cost-sensitive applications. Depending on the number of installed mezzanines, the board comes in single mid-size (one FMC) or single full-size (two FMCs) AMC form factor.

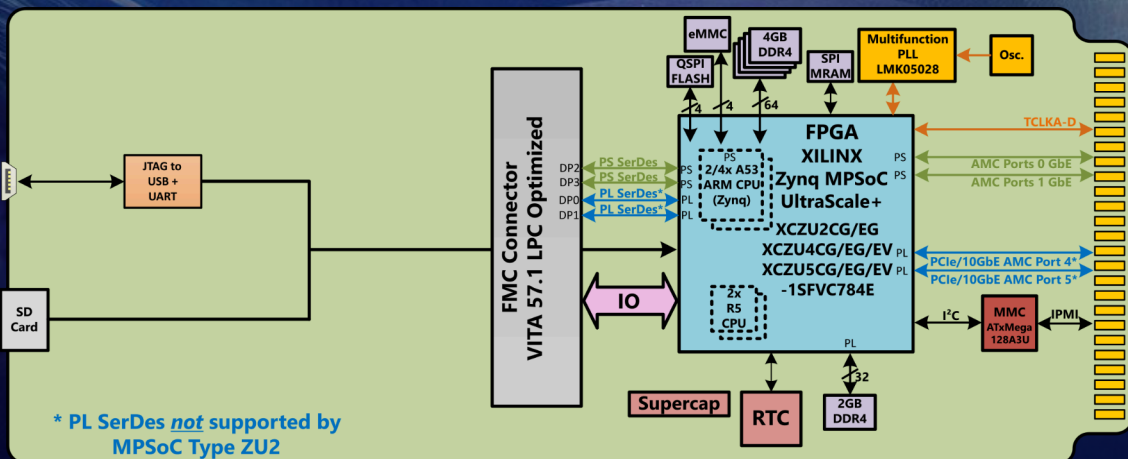
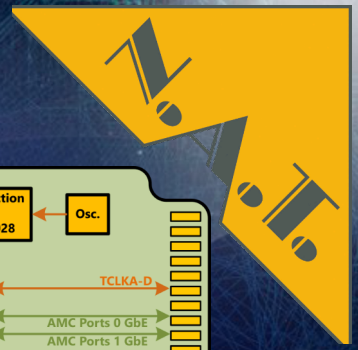
Heart of the **NAT-AMC-ZYNQUP-ECO** is a Xilinx Zynq UltraScale+ (for better readability: ZynqUP) FPGA. This so-called MPSoC combines the best of two worlds: a programmable logic (PL) engine for time-critical, massive parallel processing, and a processing system (PS) engine based on ARM CPU cores for higher-level software tasks. By assembly options, the AMC is available in various FPGA configurations.

The PS is equipped by 4GB external DDR4 RAM while the PL comes with 2GB DDR4 RAM. Flexible I/Os including high speed SerDes interconnects make it ready for operation in many domains. A versatile on-board PLL (programmable by the MPSoC) provides a basis for timing and clock synchronization.

As the board's functionality is determined mainly by the installed FMC card, it offers many options to meet the customer's specific demands: in combination with the **NAT-FMC-PoE**, the **NAT-AMC-ZYNQUP-ECO** targets on applications like aggregation and processing of video streams, i.e. **NATvision**.

The cost-sensitive design supports both VITA 57.1 High Pin Count (HPC) and Low Pin Count (LPC) connectors for FMCs. This allows the use of standard off-the-shelf FMCs i.e., for industrial busses, industrial serial I/O etc.

The **NAT-AMC-ZYNQUP-ECO** features an MicroSD-Card slot to allow an easyswap of software configurations during development or maintenance, or as an extra security feature.



## Key Features

### Processing Resources

- Xilinx ZynqUP MPSoC
- ZU2 - ZU5 (assembly options)
- 2x/4x ARM A53
- 2x R5 CPU
- 4 GB DDR4 RAM (PS)
- 2 GB DDR4 RAM (PL)
- QSPI FLASH
- Atmel Atxmega128 as MMC

### Miscellaneous

- Single, mid- or full-size AMC form factor
- PetaLinux running on PS
- Stratum III oscillator
- Multifunctional PLL
- FMC Connector VITA 57.1
- Compliant with AMC.0, AMC.1, AMC.2
- Compliant with CE, RoHS, REACH

## Front Panel Connectivity Backplane Connectivity

- Console via USB
- MicroSD-Card
- Standard AMC LEDs for Status, Fault, Hot-Swap
- IPMI
- TCLKA-D, FCLKA
- AMC Ports 0/1: 1G-KX
- AMC Ports 4/8: PCIe x1/x2 or 10G-KR, depending on FPGA type

## Order Codes

NAT-AMC-ZYNQUP-ECO - <FPGA> - <speed grade + version + temp range> - <front panel>

<FPGA>	04: KZU4
<Speed Grade>	A: Speed Grade 1 C: Speed Grade 2
<Version>	2:EG
<Temp>	E: Extended (operating temperature -40°C - +55°C)
<Front Panel>	0: no Front Panel 1: Single full-size 2: Single mid-size

For other versions / assembly options, please contact NAT

**NAT** - Gesellschaft für Netzwerk- und Automatisierungs-Technologie mbH  
 Konrad-Zuse-Platz 9 | 53227 Bonn, Germany  
 Phone: +49 228 965 864 - 0  
 Sales\_team@nateurope.com  
 www.nateurope.com