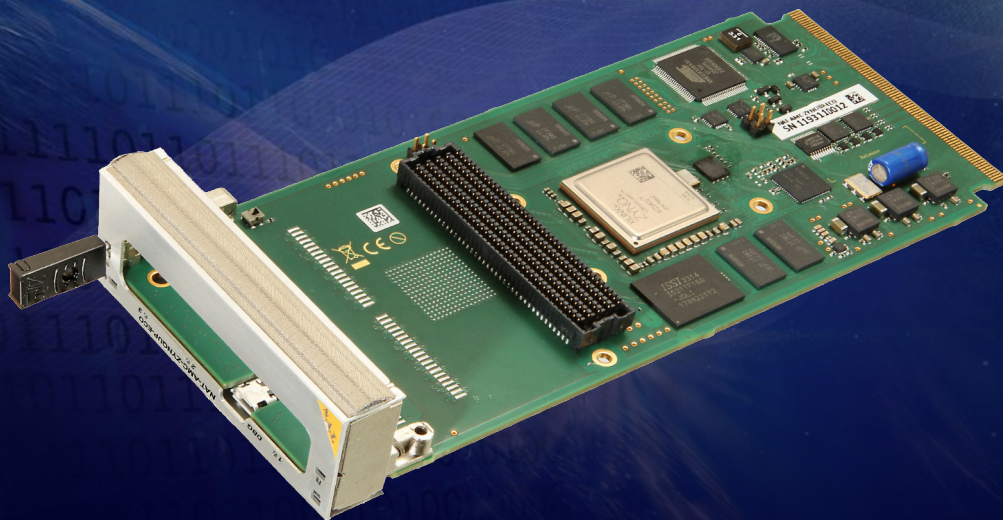




# NAT-AMC-ZYNQUP-ADV

The **NAT-AMC-ZYNQUP-ADV** features a Xilinx Zynq UltraScale+ (for better readability: ZynqUP) FPGA on a superior FMC carrier. This so-called MPSoC combines the best of two worlds: an FPGA portion for time-critical, massive parallel processing and ARM CPU cores for higher-level software tasks. The board is available in two FPGA configurations, either ZU7EG or ZU11EG.

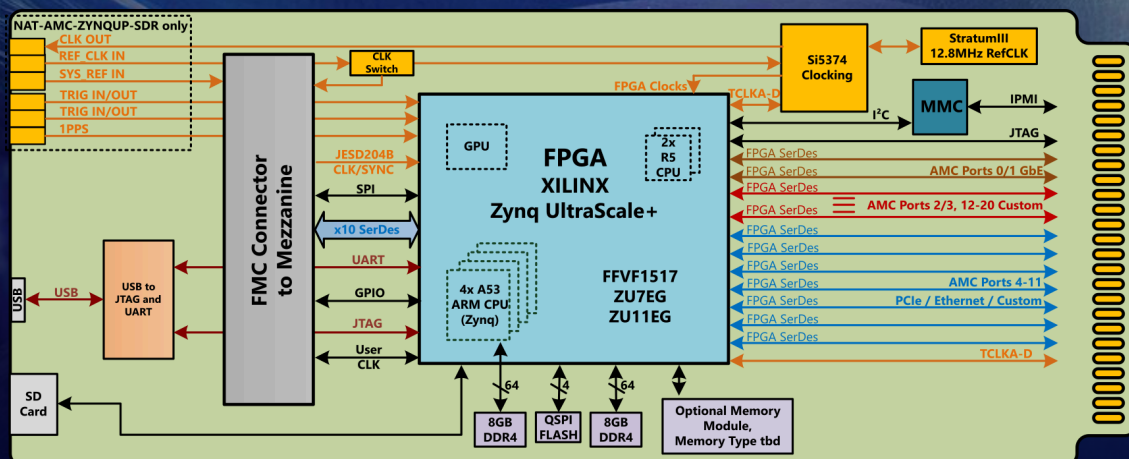
Both, PS (Processing System – CPU part) and PL (Programmable Logic – FPGA part), are accompanied by 8GB DDR4 RAM. Moreover, a memory connector offers the option to customize the **NAT-AMC-ZYNQUP-ADV** to personal needs e.g., with RDRAM3 or QDR4 SRAM. A broad range of flexible I/Os including high speed SerDes interconnects makes it ready for operation in many domains. An optional coax clock input / output and a versatile on-board PLL (programmable by the MPSoC) provide a basis for timing and clock synchronization.

As the **NAT-AMC-ZYNQUP-ADV** carrier's functionality is determined mainly by the installed FMC card, it aims on a broad range of applications and offers many options to meet the customer's specific demands.

Two prominent fields of application are **NATwireless** and **NATvision**. If equipped with one or two **NAT-FMC-SDR4** mezzanines, the so-called **NAT-AMC-ZYNQUP-SDR** is an ideal unified SDR platform for wireless communications. In combination with the NAT-FMC-PoE, it targets on applications like aggregation and processing of video streams.

The FMC carrier AMC supports High and Low Pin Count connectors (HPC or LPC) as defined by VITA 57.1. Thus, it allows the use of standard-off-the shelf FMCs i.e., for industrial busses or industrial serial I/O.

The **NAT-AMC-ZYNQUP-ADV** features an MicroSD-Card slot. So it allows an easy change of software configurations during development or maintenance, or extra security features.



## Key Features

### Processing Resources

- Xilinx ZynqUP MPSoC
- ZU7EG or ZU11EG
- 4x ARM A53
- 2x R5 CPU
- 8 GB DDR4 RAM (PS)
- 8 GB DDR4 RAM (PL)
- QSPI FLASH or eMMC boot flash memory
- Atmel Atxmega128 as MMC

### Miscellaneous

- Single, mid- or full-size AMC form factor
- Stratum III oscillator
- Multifunctional PLL
- FMC Connector VITA 57.1
- Compliant with AMC.0, AMC.1, AMC.2, AMC.3, AMC.4, IMPI V1.5, HPM.1
- 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 4-15: PCIe / Ethernet / custom
- AMC Ports 17-20: FPGA-LVDS-I/O - RX only

## Order Codes

NAT-AMC-ZYNQUP-ADV - <FPGA> - <sync/trigger> - <front panel>

|                |                                                                                                             |
|----------------|-------------------------------------------------------------------------------------------------------------|
| <FPGA>         | ZU7: Xilinx MPSoC Ultrascale+ ZU7EG<br>ZU11: Xilinx MPSoC Ultrascale+ ZU11EG                                |
| <sync/trigger> | 0: no option assembled<br>1: Rosenberger 6-port mini-coax connector for synchronization and trigger signals |
| <Front Panel>  | 1: Single mid-size<br>2: Single full-size                                                                   |

For other versions / assembly options, please contact NAT

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