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DESY MMC System on Module and its application on a low-cost FMC carrier

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A complete MMC System-on-Module was developed. It is s a small stamp-sized (25x29x2.3 mm) component which can be mounted on top or bottom side of any AMC card.
The module handles the complete communication to the MCH. For basic operation, the user boards needs virtually no additional components to allow management and power delivery from the system. The SoM is pre-programmed and contains an ARM Cortex-M4 microcontroller and a CPLD.
It provides advanced features such as JTAG arbitration (allows acces from JTAG switch module), in-system programming (via IPMI/HPM) of the module and up to two user FPGAs, PMBUS power management, RTM handling and RTM power delivery.

The Low-Cost Zynq-7000 based FMC Carrier DFMC-FMC1Z7O is based on this MMC module. It contains a XC7Z030 or XC7Z045 FPGA and 1 GB on-board DDR3 memory. The board is designed for controlling RTMs, offers 48 digtal IOs (selectable 3.3V and 5V I/O) on the front panel and provides an FMC slot for expansion with up to four high-speed transceivers (MGTs) with up to 10Gbps data rate.

Presenter: Mr FENNER, Michael (DESY)

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