

AMC Dual FMC Carrier Board

DAMC-FMC20

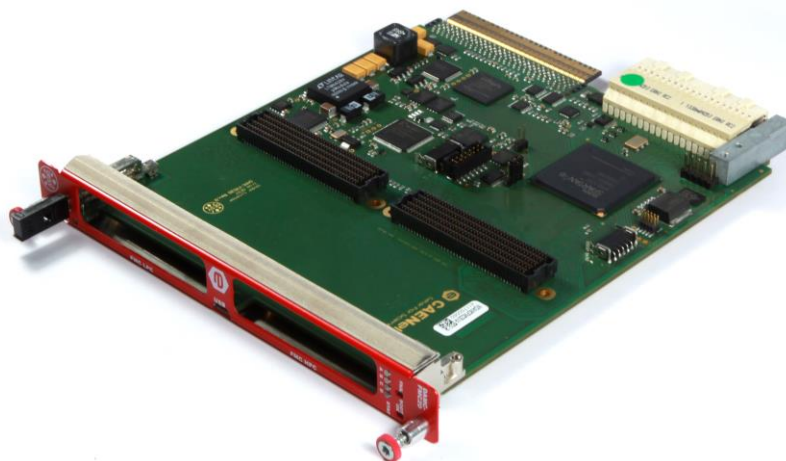
HIGHLIGHTS

Two Spartan-6 FPGAs

Two FMC slots

IPMI firmware update support

MGT cross print switch



FEATURES

Double width, mid-size MTCA.4 form factor Advanced Mezzanine Card (AMC)

Dual-FPGA processing

- XC6SLX45T for serial communication including PCIe
- XC6SLX150 for signal processing and connectivity to RTM and FMCs

Rear IO connected to FPGA, Class D1.0 compatible

Supports 2 FMCs: One HPC module and one LPC module

4 Megabytes PSRAM

ANSI/VITA 57.1 compliant

Extra power connector for FMCs

IPMI 1.1 compliant MMC

RoHS compliant

The DAMC-FMC20 is a cost-efficient FPGA mezzanine card (FMC) carrier designed according to MTCA.4. It is equipped with two Spartan-6 FPGAs.

The carrier simultaneously supports one low pin count and one high pin count FMC module. One FPGA allows serial high-speed communication (PCIe, RTM, Backplane, FMCs). The other FPGA allows implementing large signal processing algorithms. The carrier supports one serial link (GTP) for each FMC module and in addition an extra 12V power connector for high current FMC applications. It provides one PCIe link that is AMC.1 type 1 compliant. The carrier is software-reconfigurable over PCIe and MMC. The AMC ports 12-15 are connected via cross-point switch to the FPGA.

The carrier management is compliant to the latest recommendation MMC V1.0. The carrier Zone 3 is compliant to the Class D1.0.

DESY offers the DAMC-FMC20 for licensing to industry. DESY can modify this product to meet special customer requirements.

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TECHNOLOGY LAB
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TECHNICAL SPECIFICATIONS

ARCHITECTURE

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The diagram illustrates the Zynq-7010 SoC architecture, which integrates a Xilinx Spartan-6 XC6SLX150 (Speed Grade 3) and a Xilinx Spartan-6 XC6SLX45T (Speed Grade 3) connected via a Crosspoint Switch. The XC6SLX150 is connected to various I/O and storage components, including a D1.0 interface (53 LVDS, I2C, JTAG), an MMC V1.0 Atxmega 128 (IPMI, TCLKA, B, PCIe clk), and an AMC Port 17-20 - MLVDS. The XC6SLX45T is connected to the Crosspoint Switch via GTPx2 interfaces. The Crosspoint Switch is connected to the XC6SLX150 via PCIe x1 and AMC Ports 12-15. The XC6SLX45T is also connected to an MMC/FPGA DEBUG interface, a USB UART, and a micro USB. The XC6SLX150 is connected to FMC 1 (HPC) and FMC 2 (LPC) via I2C+JTAG and LVDS interfaces. The XC6SLX45T is connected to FMC 2 (LPC) via GTPx2 and LVDS interfaces. The XC6SLX150 is also connected to a High Power Connector (optional) via a 12V supply. The XC6SLX45T is connected to a High Power Connector (optional) via a 12V supply. The XC6SLX150 is connected to a 12V supply via a 12V connector. The XC6SLX45T is connected to a 12V supply via a 12V connector. The XC6SLX150 is connected to a 12V supply via a 12V connector. The XC6SLX45T is connected to a 12V supply via a 12V connector.



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