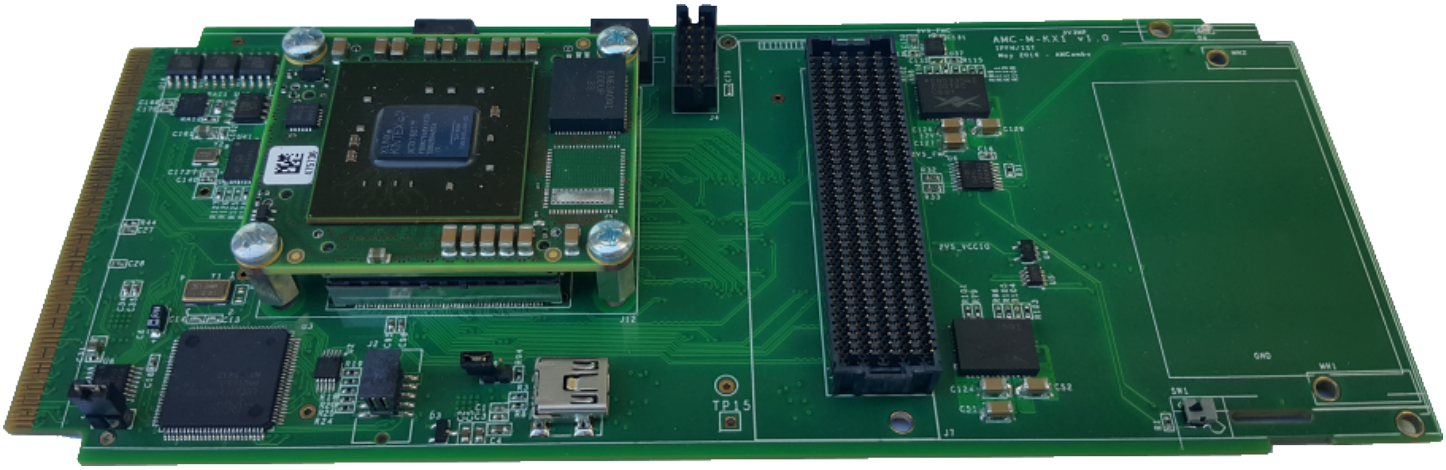
TOC

Development and production:

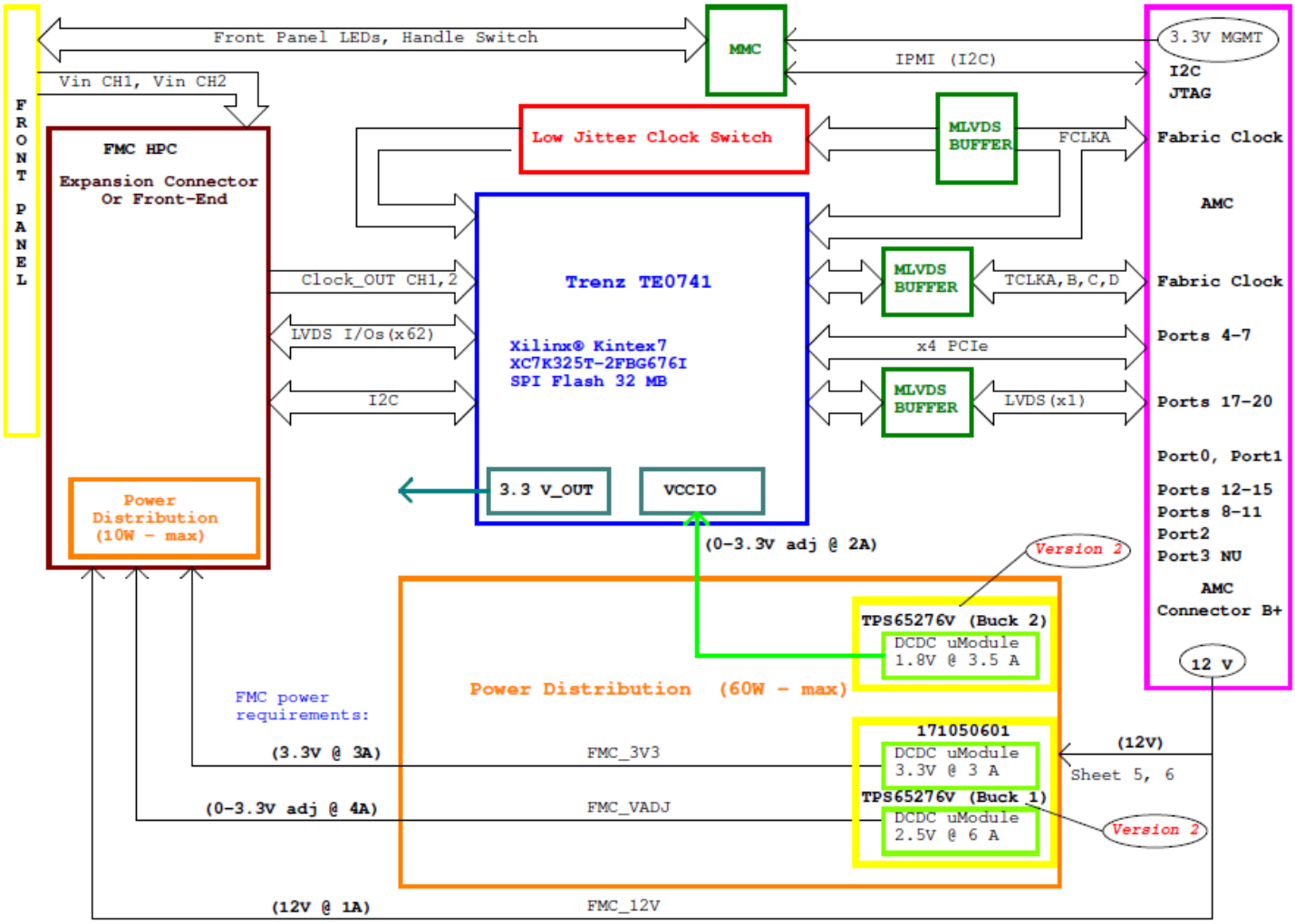
Datasheet

- Mid-size, single width AMC for mTCA and AdvancedTCA
- Xilinx® Kintex™-7 FPGA family (XC7K325T-2FBG676I)
- Supports AMC.1 PCI Express Gen1, Gen2
- High-pin-count VITA 57.1 FMC expansion for I/Os



The AMC-MKX2 module is a mid-size AMC card suitable for use in mATCA and AdvancedTCA platforms, designed to meet the processing needs of high-performance applications in demanding nuclear fusion data acquisition applications and compliant to the ATCA-PTSW-AMC4 AMC carrier. The AMC-MKX2 is based on the Trenz Kintex FPGA module (TE0741) which provides large processing power on the inboard Xilinx® Kintex™-7 FPGA (XC7K325T). The TE0741 module is accommodated in the AMC card through two Samtec 100 pin connectors and one 60-pin connector. AMC-KX2 is intended for high-performance, high-bandwidth, and low-latency processing applications.

AMC-MKX2 Functional Block Diagram



Specifications

FPGA	• Xilinx Kintex-7T FPGA XC7K325T-2FBG676I
Memory	• 32 MBytes Quad SPI Flash
AMC **Connectivity**	• TCLK A/B/C/D clock support for AMC R2.0 through onboard clock switch • Fabric clock — RX or TX (100 MHz PCIe, default) • AMC.1 PCI Express: x4 PCIe Gen2 on ports 4-7 • User LVDS I/Os (ports 17–20)
Front Panel	• Board Mounted LEDs • FMC slot

I/O expansion capabilities	• High-pin-count VITA 57. FMC sit ◦ 78 differential user defined pairs: 34 LA pair; 24 HA pair; HB pairs ◦ 2 differential clocks ◦ 8 MGTs	
Mechanical	• Full-size, Single width AMC • AMC B+ edge connector	
IPMI **Controller**	• Voltage monitor • Geographical address monitor • Temperatures monitors	• Power/Reset controller • UART
Standards **Compliance**	• AdvancedTCA base 3.0 (PICMG 3.0/3.4) • AdvancedMC R2.0 (PICMG AMC.0/AMC.1) • Support for AdvancedMC R1.0 also available	• MTCA.0 • VITA 57.1 FMC HPC • Hot-plug • IPMI
Electrical	• AMC 12 V mains source • 3.3V IPMI	
Testing and development interfaces	• FPGA JTAG • IPMI JTAG, mini-B USB serial port	• Test points • Jumpers • LEDs
FMC Module Options IST	**FMC-AD-1Gx** • 2 channels @ 1.6 GHz 12-bit; or 1 channel @ 3.2 GHz 12-bit • AC/DC coupling and Single-Ended/Differential Input **FMC-AD4X-500M-14b** • 4 channels @ 500 MSPS, 14-bit (AD9864) • AC/DC coupling and Single-Ended/Differential Input	

Datasheet in PDF format.