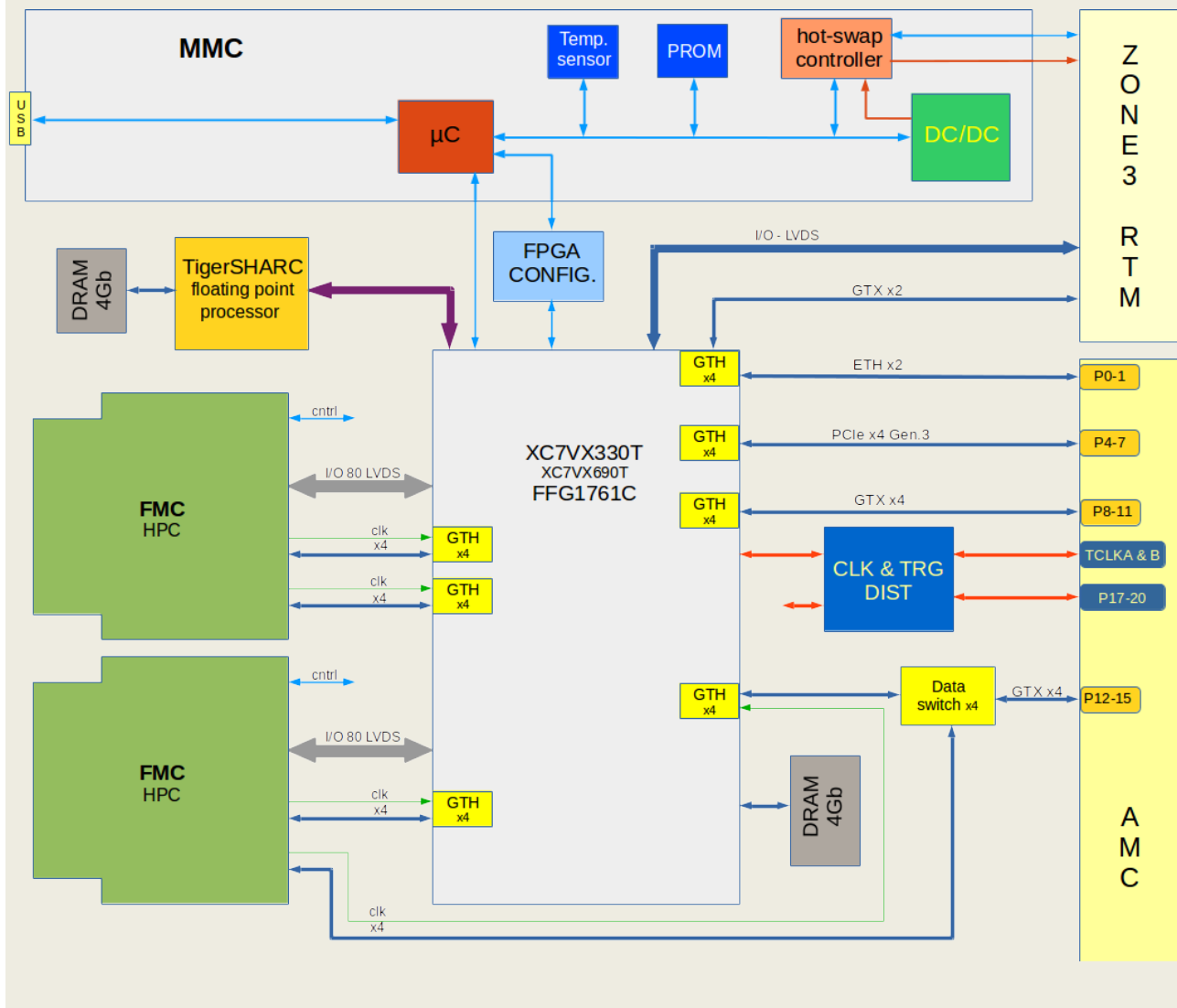# eicSys GmbH
Embedded Integrated Control Systems

EAMC-FMC270 FMC Carrier Board

General Description:

The EAMC-FMC270 is an AMC FPGA Carrier with two FMC (VITA 57) interfaces. The EAMC-F270 is compliant to the AMC.4 specification. The unit has an on-board, reconfigurable FPGA Xilinx Virtex 7 which interfaces directly to AMC backplane, FMCs, DRAM, and floating point processor TigerSHARC. The board provides 2 PCIe Gen.3 endpoints for redundant operation and fats links to ports P12-15. Provided hardware and software (firmware, drivers, EPICS interface, example applications) accelerate integration of the board into a data acquisition or control system.

eicSys offers customization of software/firmware according to customer specification.

Block Diagram:

Specification subject to change without notice
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| Description	
Dimensions	Double width RTM Module compliant to PICMG Specification MTCA.4
Chipset	XILINX, **Virtex 7,** XC7VX330T-2 or XC7VX690T-2 Analog Devices **TigerSHARC** floating point processor
FMC Slots	High Pin Count Connector 8 x GTH Links (10 Gbps) I/O – 80 LVDS control signals (3.3V)
Clock Signals	TCLKA, TCLKB, RTM, FCLK
Interfaces	Ports 0 and 1 GbEth Ports 4-7 PCIe x4 Gen.3 Ports 8-11 PCIe x4 Gen.3 / fast links 10 Gbps Ports 12-15 fast links / 10 Gbps
Clock Signals	TCLKA, TCLKB, RTM, FCLK
Compatible products:	EFMC-D081 EFMC-D082 EFMC-DIO1 EFMC-D041
Environmental	Operation: Temperature Range: 0°C to +55°C Storage: Temperature Range: –40°C to +85°C Humidity: 5-90%, non-condensing
Ordering Information	EAMC-FMC270-32 - XC7VX330T-2 EAMC-FMC270-92 - XC7VX690T-2

Datasheet: 06.08.2015 Rev. 1.0

Developed by: eicSys Hamburg

Example Applications

In a Low Level RF system the EAMC-F270 board acts as a data concentrator and processing unit. GTH links routed to FMC modules connect the concentrator board with other **subsystem. Data processing is divided between FPGA and a floating point processor** (TigerSHARC). Floating point processor is used for matrix calculation e.g. for cavity detuning.
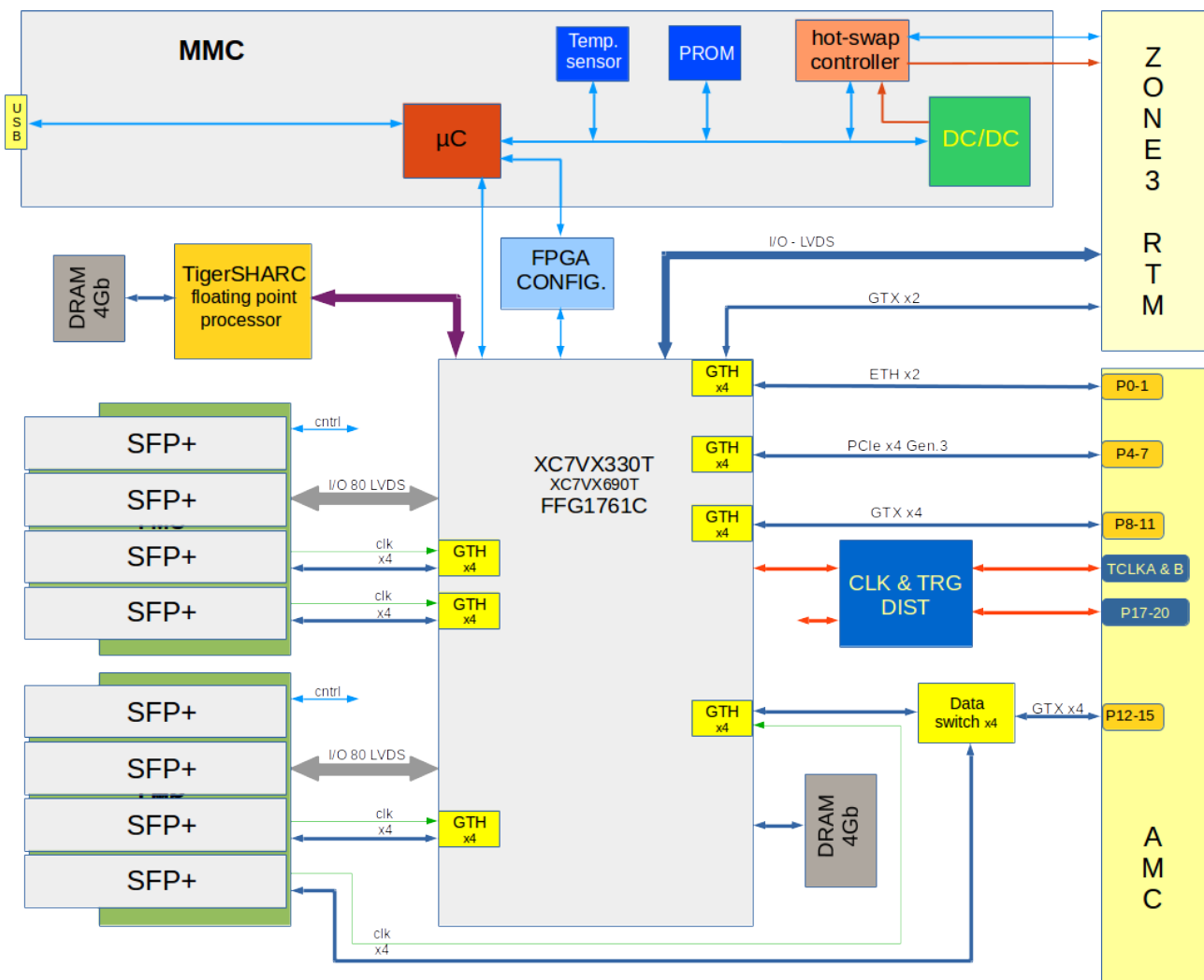
Datasheet – 07.08.2015, Rev. 1.0

Developed by: *eicSys GmbH*