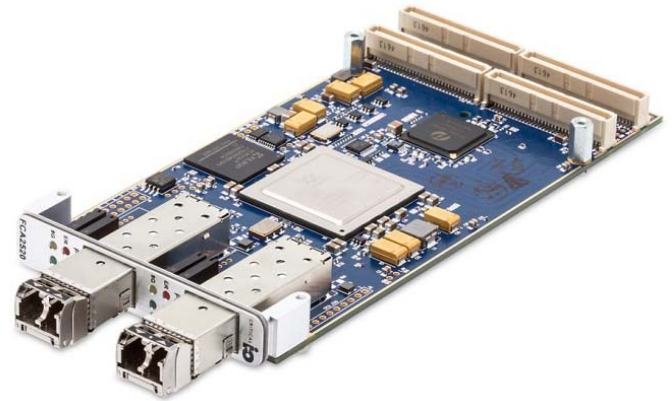# Fibre Channel

FCA2520LS-PMC-FF-G Data Sheet: Dual Channel 4 Gbit/sec Fibre Channel PMC

FCA2520 PMC

The FCA2520 PMC is the 7th generation of Fibre Channel interfaces from Critical I/O. Critical I/O's Fibre Channel interfaces allow system designers to easily integrate Fibre Channel into storage and networking I/O (processor to processor) applications. Critical I/O Fibre Channel products employ a Silicon Stack architecture which completely offloads all protocol processing into dedicated silicon, unlike FPGA-based Fibre Channel products which push the upper layer protocol processing (e.g. FC-SCSI) back onto the host ("software stack"). With industry-leading software capability, a Silicon Stack architecture, and support for industry standard protocols such as SCSI, RDMA, FXLP & ASM. Critical I/O Fibre Channel solutions provide high sustained throughput, ultra-low host processor overhead and very low latency.

Fibre Channel for Storage & Networking Applications

High Performance / Low Host Overhead

Transfer 1000 MBytes per second of data over a Fibre Channel network with minimal host CPU loading and ultra-low latency with the FCA2520 Fibre Channel PMC. The FCA2520 offers two independent channels of 4/2/1 Gbps Fibre Channel in a PMC. Each channel is capable of 800 MBytes/sec and an overall sustained transfer rate of 1000 MBytes/sec. The Critical I/O Fibre Channel Accelerator product family also provides simultaneous support for a multitude of protocols (both networking & storage) and Class 1, 2 & 3 FC Service.

FCA2520LS-PMC-FF-G Features:

- **4/2/1 Gbps dual channel (auto negotiation)**
- **PCI/PCI-X host interface**
- **800 MBytes/sec (full-duplex) max rate per channel**
- **Hardware BIT (Built in Test)**
- **Low power consumption**
- **Optical front panel connectors (SFP transceivers)**
- **Comprehensive software library & driver support**
- **Commercial and rugged versions available**
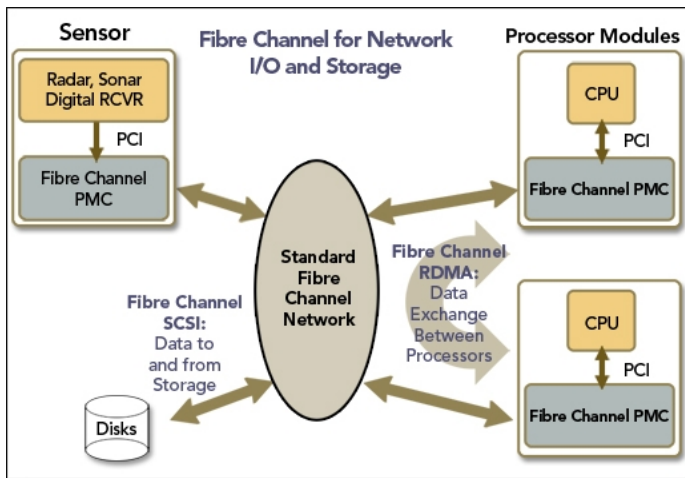- **RoHS Lead Free assembly**

Network Features:

- **FC-RDMA protocol support**
- **FC-FCLP support (messaging)**
- **FC-ASM support**
- **FC-AV support**
- **FC-IP support**

Storage Features:

- **SCSI protocol support**
- **Initiator & target support**

Extensive Software Support & Capability

Critical I/O supplies the hardware, drivers, libraries, and protocol support you'll need for rapid system development without wasting time debugging drivers.   The FCA2520 hardware is accompanied by an extensive offering of software library and driver software products with support for real-time OS platforms (as well as mainstream OS platforms) running on a variety of embedded processors (PowerPC, DSP, Intel, etc.).

FCA2520 PMC Technical Specifications

Controller Architecture	Highly integrated, low power, single chip dual channel Fibre Channel controller
Fibre Channel Rates	4/2/1 Gbps/channel auto negotiation
Data Transfer Rate	Up to 800 MBytes/sec (per channel, full-duplex) Up to 1000 MBytes/sec sustained data rate (aggregate for interface due to PCI bus limit)
Fibre Channel Topology	FC-AL, FC-AL2, point to point, switched fabric (FL_Port and F_Port)
Class of Service	Class 1, 2 and 3 Fibre Channel Service
Protocol Support	SCSI-FCP, FC-AE-RDMA; FC-AE-FCLP; FC-AE-ASM; FC-AE-AV; FC-IP
Host Bus Interface	33/66 MHz PCI 3.0; 66/100/133 MHz PCI-X 2.0a; 32/64 bit, master & slave, 3.3V signaling with 5V I/O tolerance
Ports	Two optical front panel ports
Connectors	Two optical multimode LC-style SFP transceivers
Form Factor	PMC, 64 bit PMC Specification; IEEE 1386-2001, IEEE 1386.1-2001
Power Requirements	+5VDC at 2.5A (max)
Power Consumption	8.5 Watts (typical)
Temperature	Operating: 0C to +55C; Storage: -40C to +85C
Humidity	Operating: 10-90%, non-condensing; Storage: 5-95%, non-condensing
Supported Host Processors	Intel, PowerPC, DSP, etc.
Software Support	OS Drivers: VxWorks & Linux; (Windows & Integrity drivers available, contact Critical I/O)
Model Number	FCA2520LS-PMC-FF-G
Model Description	Dual Channel Fibre Channel PMC, 4/2/1 Gbit/sec Fibre Channel, dual optical LC connectors, Commercial Temp (0-55C), air-cooled hardware, RoHS LEAD FREE (contact Critical I/O for non-RoHS product)
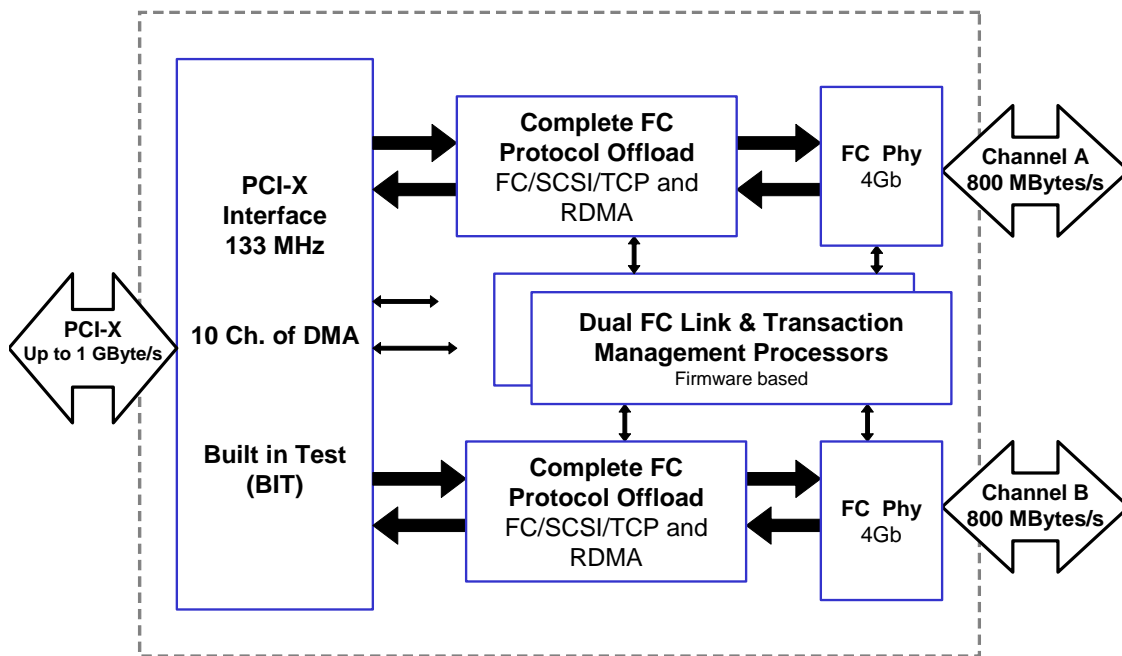
Block Diagram: *The FCA2520 PMC provides two independent 4/2/1 Gb Fibre Channel ports in a PMC form factor. Each channel employs a full silicon stack offload of the complete protocol stack delivering 800 MBytes/sec on each channel and 1000 MBytes/sec overall sustained throughput with minimal host overhead and ultra-low latencey.*

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