GE Fanuc
Embedded Systems

Telum™ 1004-O3

High Performance 4-Port OC-3 ATM AdvancedMC™ with Traffic Management

Features
Performance

- 4-port OC-3 with 155Mb/s per port for full duplex/line speed (aggregates 622Mb/s)
- PCI Express Interface Rev 1.0 compliant with lanes of PCI
- 4MB local memory; supports up to 16,000 VCCs
- Segmentation and reassembly of AAL0, AAL3/4, and AAL5 cells
- Traffic management supported: ABR, CBR, UBR, and VBR
- Supports ATM Forum UNI 3.1 and TM 4.0
- On-board microcontroller based subsystem; AMC.1 compliant for Intelligent Platform Management Interface
- Optional Automatic Protection Switching port
- Module Hot Swap; AMC.0 compliant

Software Support

- Support available for:
- Carrier Grade Linux
- API
- Comprehensive Driver Development Kit

Applications

- Edge & core switch/routers
- Wireless base stations
- DSLAM
- Server platforms
- Test & measurement

Product Reliability

- High MTBF
- Technical support for OEM customers and resellers

Telum 1004-O3 is a high performance, single wide, full height, AMC.1 compliant ATM adapter featuring a 4 port front I/O full duplex OC-3 interface intended for high availability Telecom applications. Available with single mode or multi-mode optics, the Telum 1004-O3 is designed using the AMC.0/AMC.1 and ATM Forum standards to reduce cost and to improve the system designer's time-to-market for new revenue generating applications. The Telum 1004-O3 uses the high speed x4 PCI Express (PCIe) Bus to communicate with the host processor on an Advanced Telecom Computing Architecture (ATCA) system as well as other architectures. The Telum 1004-O3 complies with ATM Forum UNI 3.1 and TM 4.0 and is based on an advanced ATM Segmentation and Reassembly (SAR) Controller designed to optimize the PCIe Bus interface. The SAR segments and reassembles AAL0, AAL3/4, and AAL5 cells. This AdvancedMC supports four full duplex OC-3 ports for protocol data unit sizes as small as two cells.

Traffic Management

The traffic management co-processor within the SAR supports Constant Bit Rate (CBR), Variable Bit Rate (VBR), Unspecific Bit Rate (UBR), Available Bit Rate (ABR), Guaranteed Frame Rate (GFR), and Generic Flow Control (GFC). To maximize line utilization, the xBR traffic management block automatically schedules each VCC according to user assigned parameters.

Intelligent Platform Management System & Hot Swap Compliance

The Intelligent Platform Management Interface (IPMI) subsystem initializes board level parameters, monitors board voltage and temperature conditions, maintains system status, and manages hot swap operation. A microcontroller is used as the IPMI intelligence and connects to the ATCA System Management bus and the local PCIe Bridge device. The Telum 1004-O3 is hot swappable and field-replaceable in accordance with AMC.0.

Automatic Protection Switching

Automatic Protection Switching (APS) initiation time requirements are supported as required in Bellcore Standard GR-253-CORE. If a network failure condition is detected, this network port can be shut down and network termination switched to the second port. This APS function can be performed automatically or under host control to ensure high availability of services.

Software

To simplify system integration, the Telum 1004-O3 employs a comprehensive set of software drivers that are compatible with Carrier Grade Linux operating systems. Additional software includes: a user friendly Application Programmers Interface (API), and a Driver Development Kit (DDK) that provides a common development environment for multiple interfaces.

Telum™ 1004-O3 High Performance 4-Port OC-3 ATM AdvancedMC™

Specifications

Bus Connect
- PCI Express
- AMC.1 compliant

Board Resources
- CN8237 OC-12 SAR
- CX29704 4-port PHYs
- PLX PEX8114 x4 PCIe Bridge
- 8051-based IPMI subsystem
- OC-3 SFP optical transceiver; single and multi-mode support

Power Requirements
- Typical: +12.0V @ 1.2A
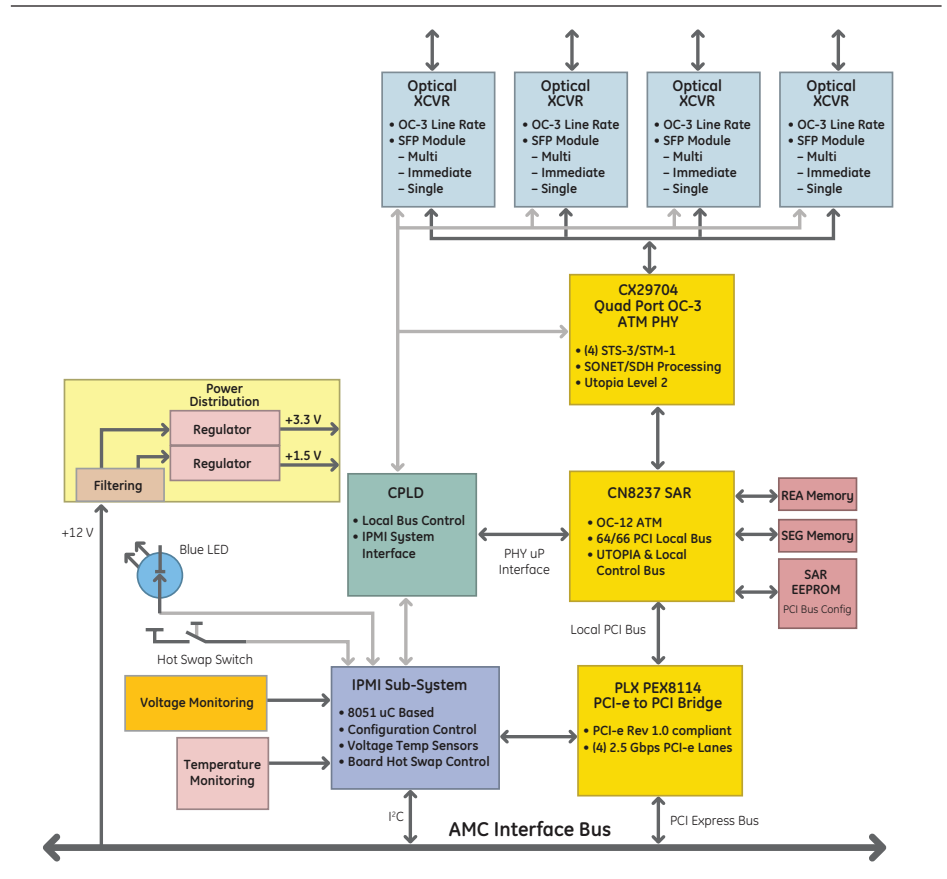
Form Factor
- AMC.1 compliant

Environmental
- Operating temperature: 0º to +55º C
- Storage temperature: -45º to +85º C
- Humidity (R.H. non-condensing): Min. 20% Max. 95%

Regulatory Compliance
- FCC Part 15 Class "A"
- UL6095L-1
- CSA22.2 No. 60950-1
- CE Mark
  - EN55022
  - EN55024
  - EN60950-1

Block Diagram

Ordering Information

23004-701:	Telum 1004-O3M 4MB (4 Port, Multi-Mode Optics, SFP connectors)
23004-702:	Telum 1004-O3S 4MB (4 Port Single Mode Optics, SFP connectors)

About GE Fanuc Embedded Systems

GE Fanuc Embedded Systems is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is head-quartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Embedded Systems has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanucembedded.com.

GE Fanuc Embedded Systems Information Centers

Americas:
1 800 322 3616 or 1 256 880 0444

Asia Pacific:
86 10 6561 1561

Europe, Middle East and Africa:
+49 821 5034-0

Additional Resources

For more information, please visit the GE Fanuc Embedded Systems web site at:

www.gefanucembedded.com