

XS-AMC6

QUAD 10G ETHERNET AMC

Applications

- ▶ Networking - TCP & UDP Offload
- ▶ Storage - iSCSI & FCoE
- ▶ High Performance Computing (RDMA & User-Space I/O)
- ▶ Security and Firewalls
- ▶ Network Analytics and Monitoring
- ▶ Virtualization

Main Features

- ▶ 4 x SFP+ Network Interface
 - ▶ 1G (1000BASE-X), or
 - ▶ 10G (10GBASE-R)
- ▶ Ethernet
- ▶ iSCSI
- ▶ FCoE
- ▶ PCIe Gen3 x8
- ▶ Based on Chelsio T5
- ▶ PICMG® AMC.0 R2.0, AMC.1, AMC.2



XS-AMC6 is a high performance Ethernet multi-rate multi-protocol Advanced Mezzanine Card (AMC) supporting offload mechanisms and virtualization.

XS-AMC6 provides four SFP+ interface supporting 1G and 10G low-latency & high-throughput Ethernet.

The AMC is controlled from an external processor over a PCI Express interface. Comprehensive software is provided to control and monitor the card.

Drivers are available for Linux, Windows, Solaris and VMware.

Compliant with PICMG Advanced Mezzanine Card AMC.0, AMC.1 and AMC.2, XS-AMC6 can be used on AdvancedTCA™, MicroTCA and proprietary platforms.

Ordering Information

XS-AMC6

QUAD 10G ETHERNET AMC

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XS-AMC6

QUAD 10G ETHERNET AMC

AMC

- ▶ PICMG® AMC.0 Rev 2, AMC.1 and AMC.2 compliant
- ▶ Single width
- ▶ Mid-size or Full-size
- ▶ Intelligent Platform Management Interface (IPMI)
- ▶ Hot-Swap
- ▶ 24W Max.

Ethernet

- ▶ IEEE 802.3ae (10 GbE)
- ▶ IEEE 802.3z (1 GbE)
- ▶ IEEE 802.Ip Priority
- ▶ IEEE 802.IQ VLAN tagging
- ▶ IEEE 802.3x Flow Control
- ▶ IEEE 802.3ad Link Aggregation
- ▶ IEEE 802.3ba (40GbE)
- ▶ IEEE 802.1Qau Congestion Notification
- ▶ IEEE 802.1Qbg/h Virtual Bridging
- ▶ Ether II and 802.3 encapsulated Frames
- ▶ Multiple MAC Addresses per Interface
- ▶ Jumbo Frames up to 9.6 Kbytes

Host Interface

- PCI Express
 - ▶ Gen3
 - ▶ x8 (lanes 4-11)
 - ▶ Endpoint
 - ▶ MSI-X, MSI & Legacy Pin Interrupts

I/O Support

- SFP+
 - ▶ 4 x 1000BASE-X, or
 - ▶ 4 x 10GBASE-R

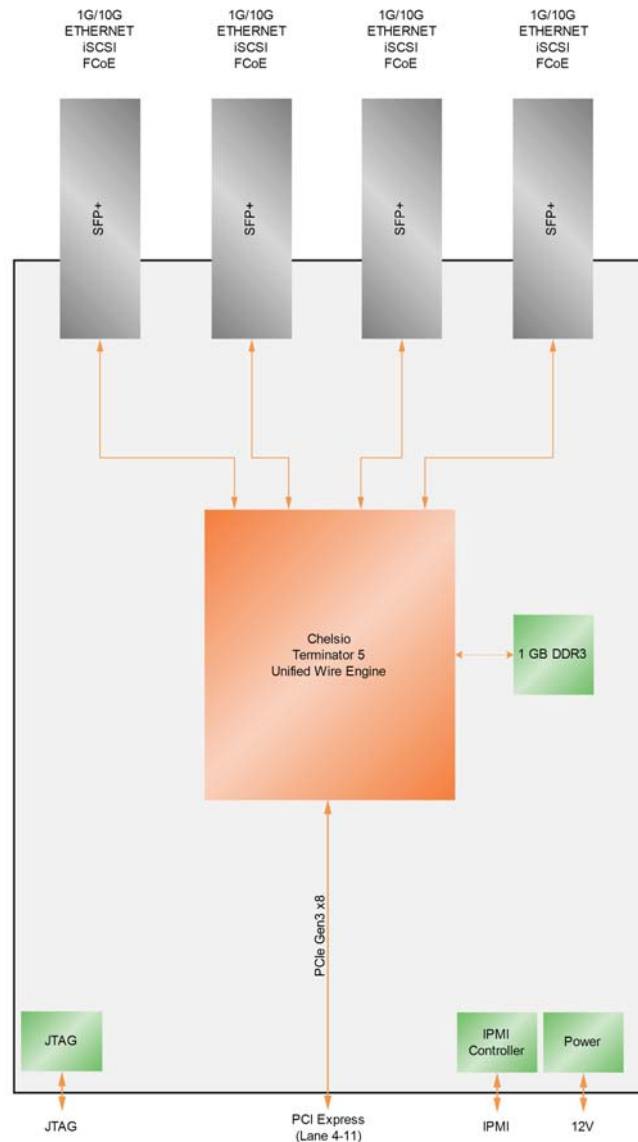
Virtualization

- ▶ VMQueue and NetQueue Support
- ▶ PCI-SIG SR-IOV, 128 VFs / 8 PFs
- ▶ Integrated 140 Port Virtual Switch (VEB)
- ▶ Multicast / Broadcast Replication
- ▶ VEPA
- ▶ Flex10
- ▶ 512 MAC Addresses
- ▶ Offloaded 802.1Qbg/h Support
- ▶ Complete Statistics per VF

High Availability

- ▶ Port Bonding with Failover between and across cards for all modes:
 - NIC, TOE, iSCSI, iWARP, FCoE
- ▶ T10-DIF & DIX Extensions

XS-AMC6 Block Diagram



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XS-AMC6

QUAD 10G ETHERNET AMC

Stateless Offload

- ▶ TCP/UDP Checksum Offload for IPv4/6
- ▶ Flexible Receive Side Steering for IPv4/6
- ▶ Large/Giant Send Offload for IPv4/6
- ▶ VLAN Filtering, Insertion & Extraction
- ▶ Line Rate Filtering and Attack Protection
- ▶ Fine Granularity Time Stamping (2 nsec)
- ▶ Ethernet Routing (Packet Header Rewrite)
- ▶ Packet Tracing and Sniffing

FCoE Offload

- ▶ Full Offload HBA FCoE (Initiator or Target)
- ▶ T10-DIF/DIX Support
- ▶ Open-FCoE Offload (Initiator)
- ▶ CRC32 Offload Generation & Verification
- ▶ Ingress & Egress ACL
- ▶ Direct Data Placement

iSCSI Offload

- ▶ Full iSCSI Initiator & Target Mode Stack
- ▶ T10-DIF/DIX Support
- ▶ CRC32C Offload Generation & Verification
- ▶ Direct Data Placement
- ▶ iSCSI Proxy Switching (SCSI CDB based)

TCP/IP Full Offload

- ▶ Full TCP Implementation including Exceptions for IPv4 & IPv6
- ▶ Extensive RFC Compliance, fully featured Stack
- ▶ Full TCP Proxy between any Set of Connections (Encapsulation, Bridging)
- ▶ Direct Data Placement
- ▶ Thousands Simultaneous Connections
- ▶ 1.5 µsec Latency, Line Rate Bandwidth

UDP Offload

- ▶ UDP Sockets API
- ▶ 1.5 µsec User-to-User Latency
- ▶ Multicast Replication on Ingress or Egress

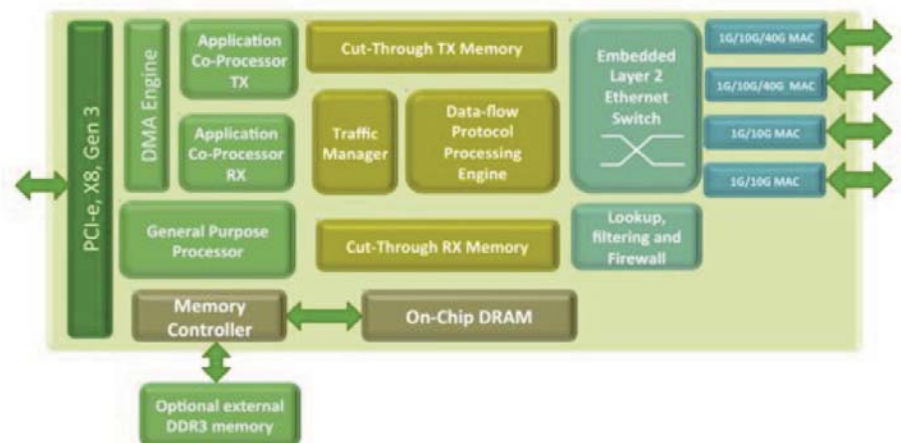
Firewall Offload

- ▶ Rule-based Packet Steering and Filtering
- ▶ Tens of Thousands of Steering and Filtering Rules
- ▶ Flexible Drop / Steer / Switch & Rewrite Actions

High Performance RDMA

- ▶ 1.5 µsec Latency, Line Rate Bandwidth
- ▶ iWARP support on Linux OFED
- ▶ Network Direct support
- ▶ Socket User-Space I/O (TCP and UDP, raw Ethernet)
- ▶ Transport for Microsoft SMB-Direct (3.0)

T5 Block Diagram



Terminator 5 Block Diagram

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