AMC Quad Channel ADC
AMC511

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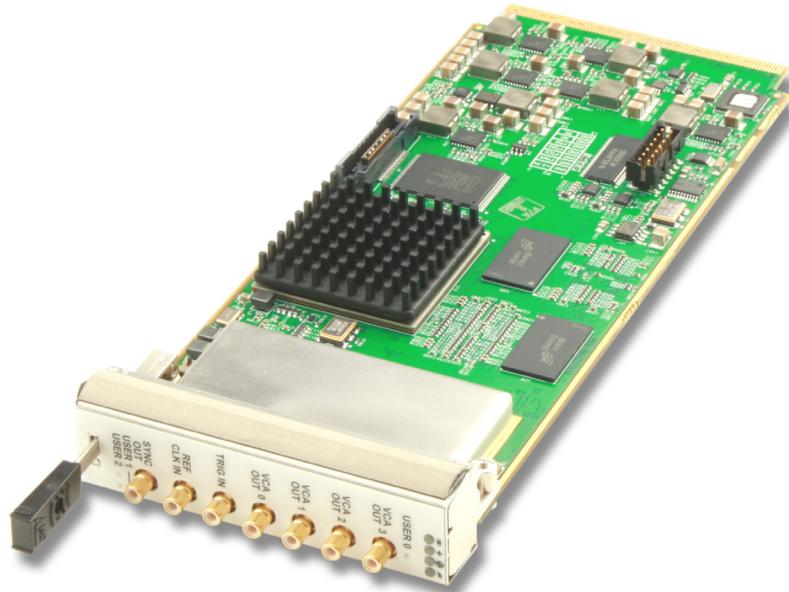
KEY FEATURES

- Four channel ADC
- LTC2209 180 MSPS @ 16-bit resolution
- Clock in/out configurable by software
- Trig in/out configurable by software
- PCIe x4 or x8, GbE (FPGA programmable)
- Aurora/SRIO option on lanes 8 to 11 if the PCIe x8 is not utilized
- Xilinx Virtex-5 FPGA in FF1136 package
- Option for QDR-II
- AMC.1 and/or AMC.2 (FPGA programmable)
- RoHS compliant
- OS support for:
  — Linux
  — Windows
  — Solaris
  — VxWorks

The AMC511 is a Quad ADC (Analog to Digital Converter) module compliant to the AMC.1[*] and AMC.2 specification. The unit has an on-board, re-configurable FPGA which interfaces directly to the GbE or PCIe bus. The FPGA has an interface to the QDR-II memory (36 and 72-bit wide). This allows for large buffer sizes to be stored during processing as well as for queuing the data to the host.

The AMC511 allows for external clocking as well as internal clocking. The clock goes through an on-board PLL for buffering/multiplying and jitter cleaner. The AMC511 has a Trig in/out signal.

Each input/output is via an SMB style connector and each of the ADC single ended inputs are converted to differential.

The FPGA interfaces directly to the AMC per AMC.1 and/or AMC.2. These interfaces allow customers to use the core to interface to the host with multiple protocols[*].

VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).

[*]Default configuration is AMC.1 x4 with GbE.

AdvancedMC™

SPECIFICATIONS

Architecture		
Physical	**Dimensions**	Single-width, Half-Height, with Mid-Height and Full-Height option)
		Width: 2.89 in. (73.5 mm)
		Depth: 7.11 in. (180.6 mm)
Type	**AMC ADC**	Quad ADC
		16-bit resolution per port
		External clock with Trig in/out
		QDR-II
Standards		
AMC	**Type**	AMC.1 and AMC.2 (FPGA programmable)
Module Management	**IPMI**	IPMI Version 2.0
PCIe	**Lanes**	x4 or x8
Aurora/SRIO	**Lanes**	x4 (if the x8 PCI is not utilized)
Ethernet	**GbE**	1000-BaseBX
Configuration		
Power	**AMC511**	Estimated 8W, application specific (up to 20W)
Environmental	**Temperature**	Operating Temperature: 0° to 65° C (Air flow requirement is to be greater than 400 LFM)
		Storage Temperature: -40° to +90° C
	Vibration	1G, 5-500Hz each axis
	Shock	30Gs each axis
	Relative Humidity	5 to 95 percent, non-condensing
Front Panel	**Interface Connectors**	Seven SMB style
	LEDs	IPMI Management Control
		Eight user defined LED
	Mechanical	Hot Swap Ejector Handle
Software Support	**Operating Systems**	Linux, Windows, Solaris and VxWorks
Other		
MTBF	MIL Spec 217-F > TBD.	
Certifications	Designed to meet FCC, CE and UL certifications where applicable	
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards	
Compliance	RoHS and NEBS	
Warranty	Two (2) years.	
Trademarks and Logos	The VadaTech logo is a registered trademark of VadaTech, Inc. Other registered trademarks are the property of their respective owners. AdvancedMC^{TM} and the AdvancedTCA^{TM} logo are trademarks of the PCI Industrial Computers Manufacturers Group. All rights reserved. Specification subject to change without notice.	
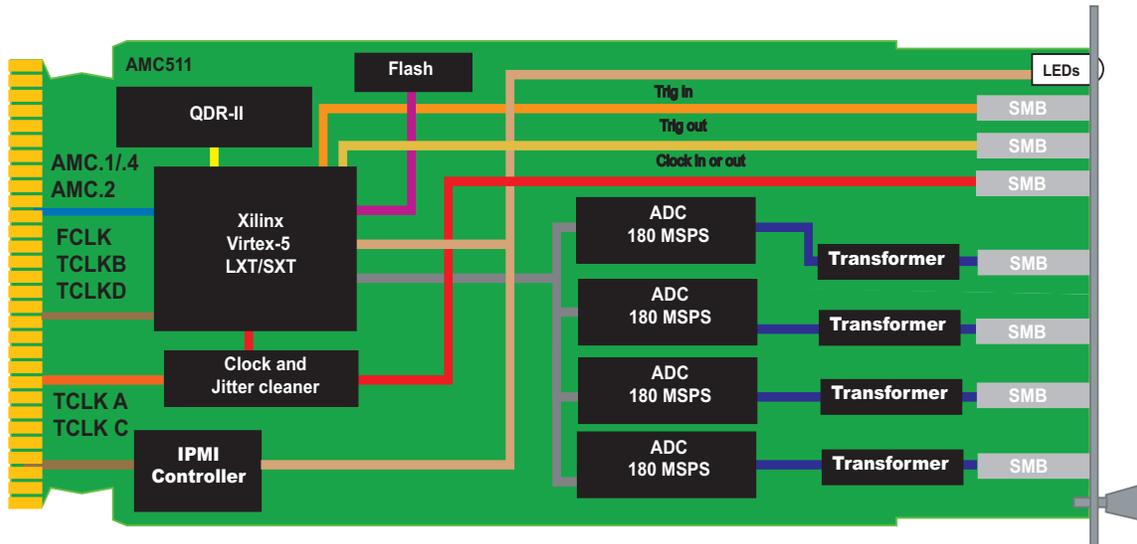
FIGURE 1. AMC511 Functional Block Diagram

ORDERING OPTIONS

AMC511 - AOC - DEF - OOJ

A = QDR-II Memory

0 = None
1 = 2 x 36 (single chip)
2 = 2 x 72 (two chips)
3 = Reserved

D = FPGA

1 = Reserved
2 = Reserved
3 = Reserved
4 = XC5VSX95T
5 = XC5VLX110T
6 = XC5VLX155T
7 = Reserved

E = FPGA SPEED

1 = Low
2 = High

J = Conformal Coating

0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

C = Front Panel

1 = Half-height
2 = Mid-Height
3 = Full-Height

F = ADC

1 = Reserved
2 = 107.52 MSPS @ 16-bit
3 = 180 MSPS @ 16-bit