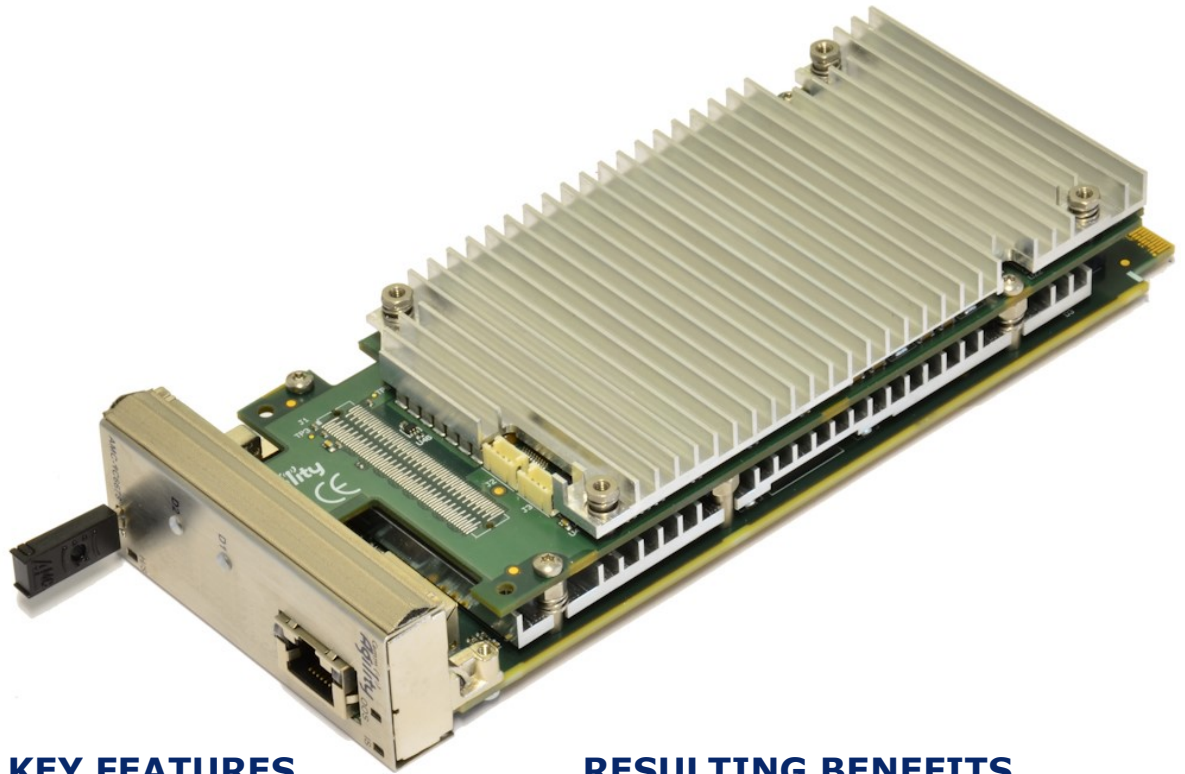# AMC-4C6678-SRIO

## DATASHEET



**Extremely high performance AMC card featuring four TMS320C6678 DSPs with high speed, flexible I/O**

**32 floating and fixed point DSP cores, ideal for a wide range of high performance DSP applications**

**High bandwidth, flexible backplane communications plus front panel Gigabit Ethernet**

**A total of 8GB DDR3 SDRAM as standard, 2GB per DSP**

## KEY FEATURES

- Four TMS320C6678 octal-core DSPs

- DDR3 SDRAM for each DSP

- Flash memory

- Backplane Serial RapidIO and switch

- Broadcom BCM5389 Ethernet switch

- Single width Full Size PICMG AMC.0 R2.0 Advanced Mezzanine Card

## RESULTING BENEFITS

⇒ High performance TI SoC DSPs with a total of 32 floating-point cores

⇒ Latest external memory technology with multiple high bandwidth buses

⇒ Stores DSP boot code

⇒ High bandwidth data transfers to and from any DSP to other AMC card

⇒ Gigabit Ethernet to all main devices, backplane and front panel

⇒ Works with industry standard MicroTCA chassis; can also run standalone

The AMC-4C6678-SRIO is a new high performance DSP processing card from CommAgility in the extremely compact Advanced Mezzanine Card form factor. It is powered by four of the latest Texas Instruments TMS320C6678 fixed and floating point octal core DSPs running at 1.25 GHz core speed, giving a total performance of 640 GFLOPS and 1280 GMACS, and is ideal for a range of high performance DSP applications including image sensor processing, telecoms and stepper control.

The card features a wide range of connectivity to the backplane and front panel. The RapidIO and Gigabit Ethernet connectivity use on-board switches for maximum flexibility and access to all DSPs on the card.

Additional debug support is provided via on-board serial port connectors, plus RS-232 and JTAG debug via the CommAgility AMC-BB Debug Breakout Board.

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TEXAS INSTRUMENTS
Design Network

CommAgility Ltd
sales@commagility.com
www.commagility.com
Tel: +44 1509 228866

CommAgility

# HARDWARE SPECIFICATIONS

**DSP:** 4x TMS320C6678 DSPs, each with:

- 8x C66x DSP cores
- 1.25 GHz core clock speed
- 2 Gbyte x64 DDR3-1600 SDRAM
- Single Gigabit Ethernet link to switch
- 8 Gbit/s, 2x RapidIO link to switch
- JTAG debug and RS-232 ports
- 128 Mbyte of x16 FLASH (DSP0 only)

**Backplane I/O:**

- AMC.2 compliant Gigabit Ethernet to AMC Ports 0 and 1 using Broadcom BCM5389 switch
- AMC.4 compliant 2x SRIO Gen 2.1 link to AMC ports 4-7 and 8-11, up to 16 Gbit/s, using IDT CPS switch
- AMC TCLKs routed to DSPs via glue logic

**Front panel I/O:**

- RJ-45 port for Gigabit Ethernet

**Form Factor:**

- Single-width full-size AMC (Advanced Mezzanine Card)
- AMC.0 Rev 2.0 compliant

**Debug:**

- Breakout board for JTAG debug and DSP/MMC RS-232 ports
- RS-232 connections for DSPs, via headers or breakout board

**Module Management Controller:**

- AMC.0 IPMB_L, FRU EEPROM data
- Power & reset, health monitoring
- Full Hot swap and e-keying support

# ENVIRONMENT/EMC/SAFETY

- Operating temp: 0-45°C ambient
- Power consumption: up to 60W max
- Designed for NEBS/ETSI compliance when used in appropriate chassis
- 2014/30/EU and FCC EMC compliant
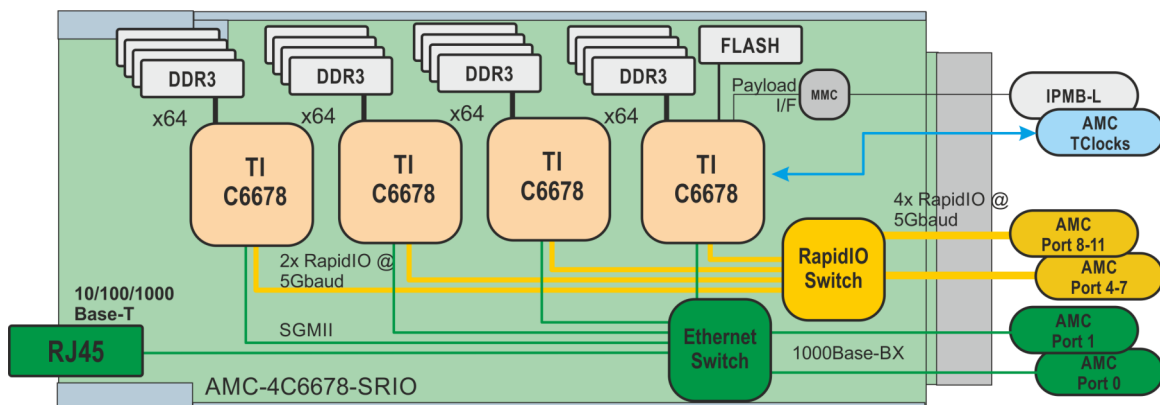- 2011/65/EU RoHS and 2012/19/EU WEEE compliant

# SOFTWARE

**DSP:**

- Full Board Support Libraries; IP stack with Telnet/TFTP for Ethernet based board control and upgrade.

**Management:** Full embedded suite based on Pigeon Point™ Software.

Contact CommAgility for further details of software partners.

**OEM PARTNERSHIP SERVICES:**

**IN DEVELOPMENT:** Support and training; hardware customisation; software and FPGA development.

**IN PRODUCTION:** lead-time reduction; extended warranty; and repair; quick turn repairs and/or spares stocking.

**EXTENDED LIFE:** obsolescence management; guaranteed lifecycle; Escrow.

**LICENSING** is offered for high volume projects.



AdvancedMC™ µTCA® AdvancedTCA®

THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2016

CommAgility Ltd, Loughborough, UK
Tel: +44 1509 228866

sales@commagility.com
www.commagility.com