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V1142

Quad-Port 1394b AS5643 XMC FPGA Card

Benefits

FPGA-based XMC card for SAE-AS5643 aerospace applications

Supports transformer-coupled S200/S400 data rates

A COTS solution optimized for SWaP (size, weight and power)

A programmable FPGA with a powerful development framework

Integrated system-on-chip features for small form-factor applications

Features

Four transformer-coupled ports, configurable to up to four different 1394 nodes

Microsemi SmartFusion2 M2S150 FPGA

Supports a PCIe Gen2 x 4 host interface

PPS time synchronization with µSec resolution

Thermal sensors for monitoring card temperature

Robust FPGA development framework

Available in conduction-cooled XMC form factor; Carrier cards also available

Overview

The V1142 provides a complete 1394b AS5643 interface solution in an industry standard XMC form-factor. The entire 1394b solution is implemented in the on-board FPGA, providing bus control, diagnostics information, interface choices, and customization options not previously available.

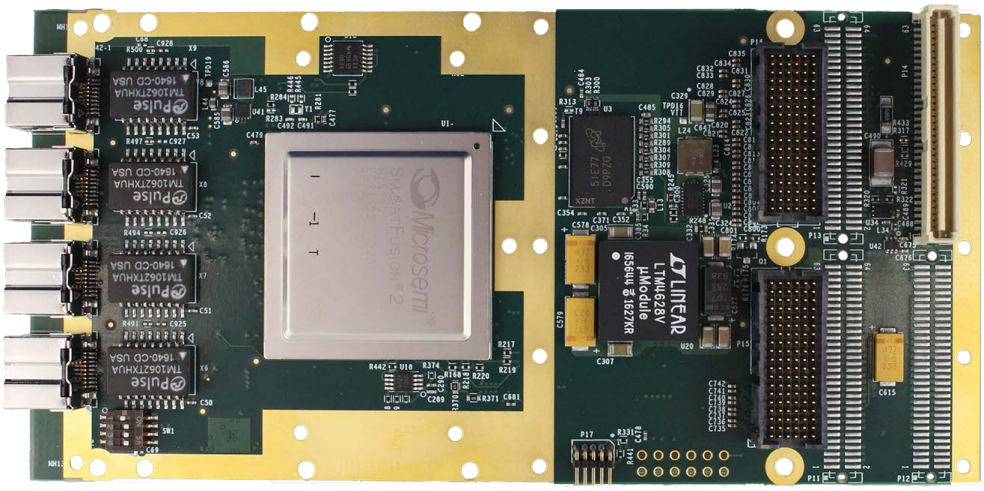
In addition, by using a single FPGA New Wave provides a solution that used to be performed in four chips into a single chip. This allows for higher port density solutions while reducing the size, weight, and power of the interface.

The V1142 provides four front panel transformer-coupled 1394b ports as well as eight rear panel non-transformer-coupled ports are provided. The host interface provided can be Gen2 PCIe or 64-bit PCI, based on user selection.

The four front panel ports are perfect for lab environments or developments where front panel ports are desired. The eight rear panel ports provide a convenient option for rugged applications or designs where front panel access is not an option.

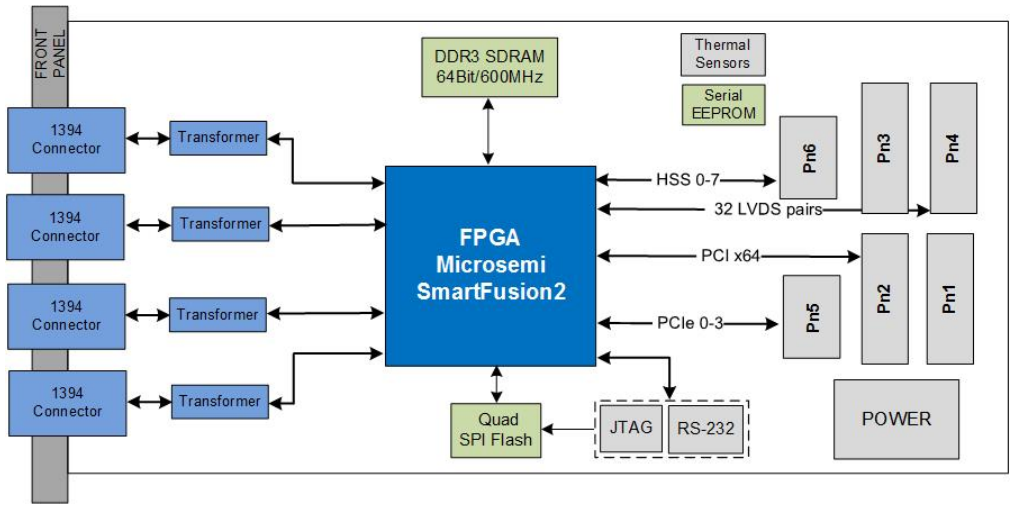
Operation Customization

The V1142 is an FPGA-based network card that can be customized to fit your requirements. New Wave provides access to the FPGA for customers to customize, however New Wave can also modify existing cores or develop new cores for your applications. If you have specific requirements, New Wave can help you accomplish your goals.



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> V1142 XMC Block Diagram

Technical Specifications

NETWORK INTERFACE
Four transformer-coupled 1394b ports on front panel
Eight non-transformer-coupled 1394 ports on rear panel connector

FPGA DEVICE
Microsemi SmartFusion2 M2S150

MEMORY
One bank of 1GB DDR3 SDRAM

FLASH
One 32MB memory for storing a default configuration image

HOST INTERFACE
PCI Express Gen2 x4 (Pn5)
PCI 64-bit (Pn1, Pn2, Pn3)

EXTERNAL INTERFACE
32 differential pairs (user configurable)
PPS Interface for time synchronization with µsecond resolution
RS-232 serial interface for debug

THERMAL SENSORS
1 digital temperature sensor

COMPLIANCE
VITA 42.2
VITA 61.0

Technical Specifications Cont.

DIMENSIONS
74 mm (width) x 149 mm (length)

POWER REQUIREMENTS
Maximum 15W (preliminary)

TEMPERATURE
Operating: 0˚C to 45˚C at 600 LFM (air cooled)
Storage: -40˚C to 85˚ C

Our Commitment

New Wave DV is committed to providing the latest innovations in technology, architectures, and techniques to keep our customers one step ahead of the rest. Our products, complete with the Development Framework, are intended to offer our customers an entirely unique out-of-the-box experience.

Ordering Information

400-01142-00-01: V1142 XMC Network Card, Microsemi M2S150T FPGA, Air-Cooled, 4-Port S400, 1394 PCIe OHCI Configuration

Other product configurations are available. Please contact us.

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