

# V1144

## 12-Port 1394b AS5643 PMC/XMC FPGA Card

### Benefits

FPGA-based PMC/XMC card for SAE-AS5643 aerospace applications  
 Supports transformer-coupled S100/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 diagnostics

### Features

Twelve transformer-coupled ports, ports are configurable to up to nine different 1394 nodes  
 Microsemi SmartFusion2 M2S150 FPGA  
 Supports a PCIe Gen2 x 4 host interface  
 PPS time synchronization with  $\mu$ Sec resolution  
 Thermal sensors for monitoring card temperature  
 Robust FPGA development framework  
 Available in air- and conduction-cooled PMC/XMC form factors

### Overview

The V1144 provides a complete 1394b AS5643 high-density interface solution in an industry standard PMC/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.

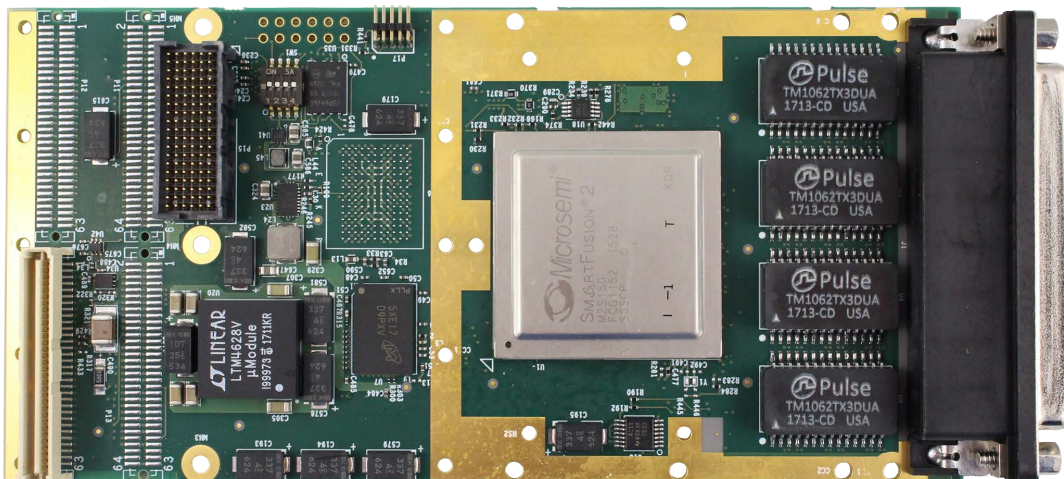
In addition, by using a single FPGA, New Wave provides a solution that used to be performed in eight chips into a single chip. This allows for higher port density solutions while reducing the size, weight, and power of the interface.

The V1144 provides twelve front panel transformer-coupled 1394b ports. The host interface provided can be Gen2 PCIe or 64-bit PCI, based on user selection.

The twelve front panel ports are perfect for lab environments, emulation environments, or developments where front panel ports are desired.

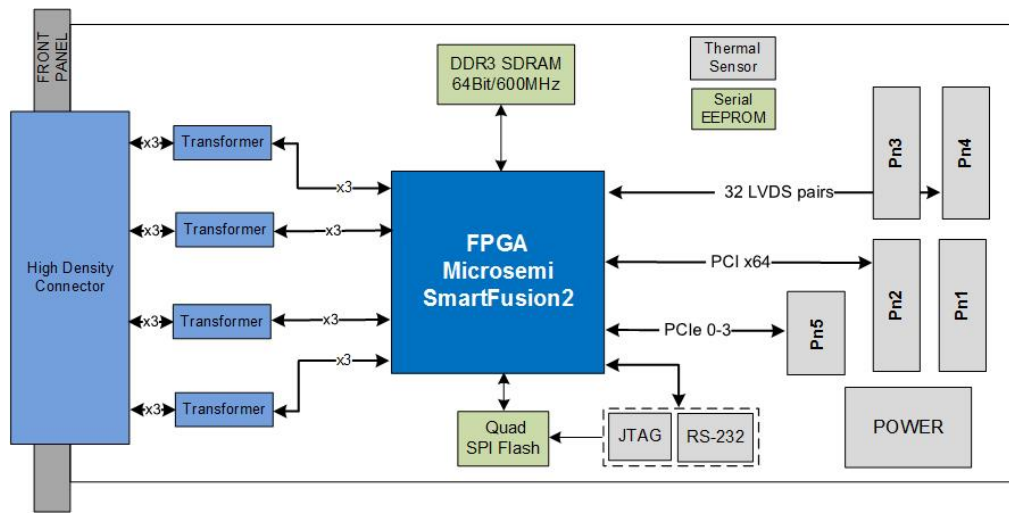
### Operation Customization

The V1144 is an FPGA-based network card that can be customized to fit your requirements. New Wave provides access to the FPGA for customers to tailor operations, 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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## 12-Port 1394b AS5643 PMC/XMC FPGA Card



> V1144 PMC/XMC Block Diagram

## Technical Specifications

### INTERFACE

Twelve transformer-coupled 1394b ports on front panel

### 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  $\mu$ second resolution

RS-232 serial interface for debug

### THERMAL SENSORS

1 digital temperature sensors

### 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)

Operating: -40°C to 70°C (conduction 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

400-01144-00-01: V1144 XMC Network Card, Microsemi M2S150T FPGA, Air Cooled, 12-Port S400, 1394 PCIe OHCI Configuration

Other product configurations are available. Please contact us.

### FOR MORE INFORMATION

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