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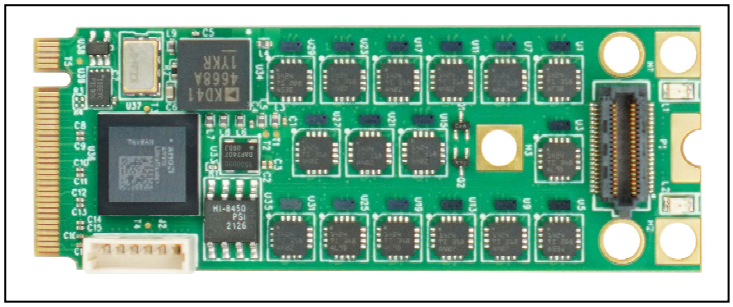
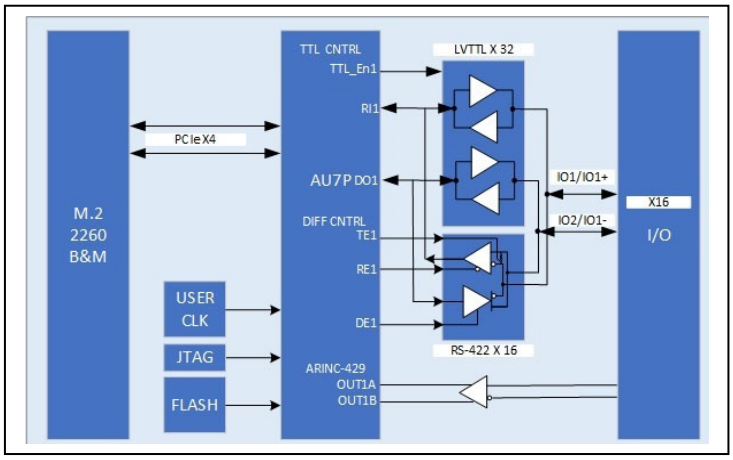
M.2-XCAU7P-FPGA

M.2 Module

M.2 PCIe x4
USER RECONFIGURABLE AMD-XILINX ARTIX ULTRASCALE+ FPGA
16 Channels RS-422/485 OR 32 Channels LVTTL





Features

- M.2 PCI Express x4 lane interface
- M.2 2260 support Key M & B
- User-reconfigurable AMD-Xilinx Artix UltraScale+ FPGA
- Up to 16 Pairs RS-422/485 bidirectional channels, 20Mb/s data rate per channel, software-selectable half or full duplex, or Up to 32 Channels LVTTL
- Software-selectable 120Ω termination
- Software-programmable interrupts for Change-of-State/Level detection
- High Precision User Clock PPB Input on Board

Block Diagram and Operational Overview

The ***M.2-XCAU7P-FPGA*** has 32 I/O channels that can monitor or control the on/off (high/low) status of up to 16 differential devices or up to 32 channels LVTTL, software selectable in groups of 2. Each channel can be used as an input or output. The Input channels can be configured with interrupts to detect a change of state, or level detection of any bit. The RS-422/485 input threshold includes hysteresis for increased noise immunity.

Applications

This is an ideal solution for:

- Process control
- Industrial control
- Precision instrumentation
- Data acquisition systems (DAS)
- Multiaxis positioning systems

Digital I/O Specifications

- Up to 16 channel pairs RS-422/485, or Up to 32 channels LVTTL
- 20Mb/s data rate per RS422/485 channel
- Optional 1 Ch ARINC-429 RX Driver
- Optional *High Precision PPB User Clock*
- Half or full duplex and 120Ω on-board termination, software-selectable
- High input impedance supports 256 nodes
- Enhanced ESD protection to ±25kV

Available Software Drivers

- C library dll's
- Linux® drivers
- Windows® drivers
- VxWorks® drivers

Mechanical

- Size: M.2 Module 22mm x 80mm
- Power: tbd
- Front panel I/O
- Vibration: 0.5G, 20-2000Hz rand
- Shock: 20G, 11msec, ½ sine
- Weight: tbd
- MTBF: >250,000 hours

Operating Environment

- Operating temperature Industrial: -40ºC to +85ºC
- Airflow requirement: 5CFM
- Humidity: 5 to 90% (non-cond)
- Altitude: 0 to 10,000 feet

Ordering Information

M.2-XCAU7P-FPGA	:16 Channels differential RS-422/485 or 32 LVTTL, Industrial Temp: -40ºC to +85
M.2-XCAU7P-FPGA-1	:16 Channels differential RS-422/485 or 32 LVTTL,1 Ch RX ARINC-429, *High Precision 50MHZ Clock Input*, Industrial Temp: -40ºC to +85ºC

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