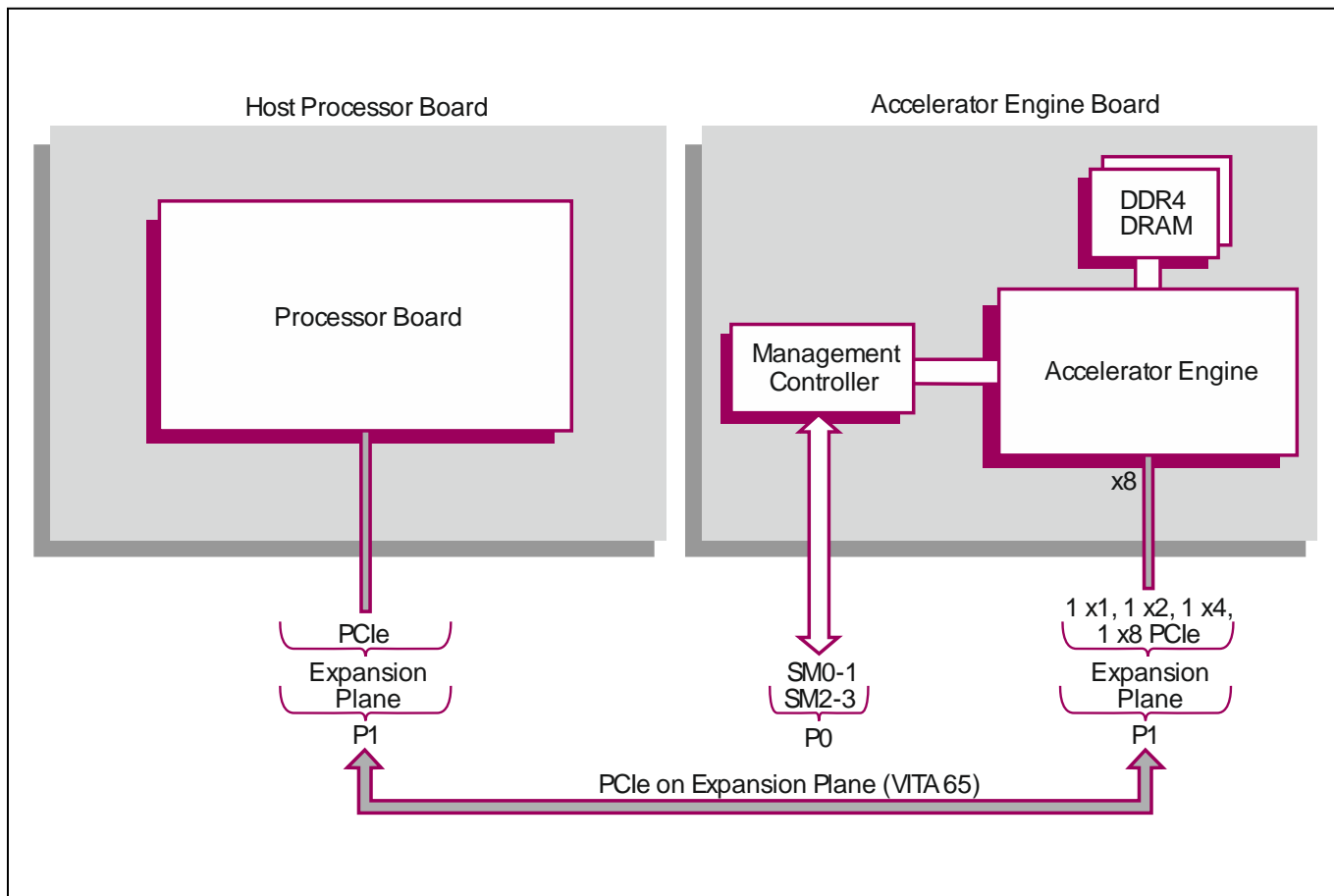


3U VPX-REDI™ Accelerator Engine Board

Key Features

TR AEx/6sd-RCx is a rugged, conduction-cooled 3U VPX accelerator engine board. Paired with a Concurrent Technologies processor board, TR AEx/6sd-RCx is designed to boost performance of inference at the edge applications in the defence, exploration and transportation markets.

- Paired with a Concurrent Technologies processor board
- OpenCL, e.g. for custom acceleration platforms
- Multiple OpenVINO™ Deep Learning Accelerators (DLA)
- Includes pre-trained models
- Supports popular frameworks like Caffe, TensorFlow, MXNet



VPX-REDI Accelerator Engine Board

- conduction-cooled 3U VPX-REDI Accelerator Engine board utilizing the Intel® Arria 10 GX FPGA family
- OpenVPX profile PCIe on Expansion Plane compatible with:
 - SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11-0
 - SLT3-PER-1Q-14.3.4
 - based on ANSI/VITA 65.0-2019 and ANSI/VITA 65.1-2019

Processing Element

- Intel® Arria 10 GX FPGA:
 - 10AX115N2F40I2SG

DRAM

- 8 Gbytes soldered DDR4 ECC DRAM:
 - dual channel architecture

Optional Maintenance Serial Port

- 1 x maintenance port configurable via P1 utility plane:
 - supports RS232 Tx/Rx signals
 - 16550 compatible UARTs
 - option: pins configurable as 2xGPIO

VPX Expansion Plane, PCI Express

- PCIe VPX Expansion Plane interface (VITA 65) supports:
 - 1 x1, or 1 x2 or 1 x4 or 1 x8 PCIe port
 - compatible with OpenVPX module profiles
- PCIe interface supports Gen 1, Gen 2 and Gen 3

Management

- VITA 46.11 IPMC on board controller:
 - SM0-1 and SM2-3
 - temperature, voltage and current sensors accessed via System Management interface

Board Security Features

- option for proprietary board-level security features

Software Support

- FPGA Board Support Package using OpenCL, e.g. for custom acceleration platforms
- multiple OpenVINO™ Deep Learning Accelerators (DLA) are available
- support for Linux®
- contact Concurrent Technologies for further information

Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

Electrical Specification (Estimated)

- typical current consumption for Accelerator Engine board, 8 Gbytes DRAM:
 - +12V VS1 @ 4.5 A
 - +3.3V AUX @ 0.5A

Environmental Specification

- conduction-cooled (VITA 48.2)
- operating temperature at card edge:
 - VITA 47 Class CC4, -40°C to +85°C
- non-operating temperature:
 - VITA 47 Class C4, -55°C to +105°C
- operating altitude:
 - -1,000 to 50,000 feet (-305 to 15,240 meters)
- 5% to 95% Relative Humidity, non-condensing

Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0):
 - 3.9 inches x 6.3 inches (100mm x 160mm)
- slot width (VITA 48.0):
 - 1.0 inch VPX-REDI Type 1, RCR-Series Type 1 Extended Covers Two Level Maintenance (VITA 48.2)
- connectors to VITA 46.0 for P0 and P1
- captive screws available to secure front handles
- operating mechanical:
 - shock - VITA 47 Class OS2, 40g
 - random vibration - VITA 47 Class V3, 0.1g²/Hz