EnsembleSeries™ RTM-30P

OpenVPX™ Rear Transition Module (RTM)

- **Companion RTM for 3U OpenVPX Xeon® D-series processor modules**

- **Field replacement unit (FRU) capability**

- **Includes serial port breakout cable**

The EnsembleSeries® RTM-30P rear transition module (RTM) is designed as a VITA 46 VPX-compliant module in a 3U form-factor. This module is a companion RTM for the EnsembleSeries LDS3506 and LDS3517, allowing the translation of backplane I/O interfaces to standard connectors. The following features are included on the RTM-30P:

- One USB 2.0/3.0 port (with redriver)

- One eSATA port (with redriver)

- Two external serial (RS-232) interfaces (without flow control) on a single uDB9 connector

- One copper Gigabit 10/100/1000 BASE-T RJ45 Ethernet port

- Power good LED

The following interconnects are provided as topside board accessible connectors:

- 2nd eSATA port (with redriver)

- FPGA test port 26 pin connector

- Discrete connectors

- OpenVPX bussed signal connectors

Rear-panel Connectors

The rear-panel connectors on the RTM-30P provide access to I/O from the front payload module. The RS-232 Ethernet and FPGA I/O connections are made directly between the front-panel and the backplane. The USB 3.0 and SATA ports are buffered.

Standard Ethernet and Serial I/O

The EnsembleSeries RTM-30P uses a µDB9 connector and an included breakout cable to provide access to RS-232 serial interfaces. Each RTM-30P provides two serial interfaces via the breakout cable that support the available interfaces provided on Mercury's Ensemble 3000 Series of 3U VPX payload modules. Ethernet connectivity to the Xeon D-series processor is provided by the RTM-30P's RJ45 Ethernet connector.

Other Capabilities

EnsembleSeries RTM-30P modules have the required interface that enables its associated payload module to manage it as an unintelligent FRU. Each RTM-30P provides its FRU information, including module name, model and serial numbers to the managing payload module.

Mercury Systems is the better alternative for affordable, secure processing subsystems designed and made in the USA. These capabilities make us the first commercially based defense electronics company built to meet rapidly evolving next-generation defense challenges.

ACQUIRE   DIGITIZE   PROCESS   STORAGE   EXPLOIT   DISSEMINATE

Mercury's OpenVPX Ecosystem

Sensor chain awareness is having the technical expertise and resources to design and build capable, interoperable solutions along the whole sensor processor chain. From RF, digital/analog signal manipulation to dense, SWaP optimized processing resources to actionable intelligence dissemination. Mercury's rugged processing subassemblies leverage the best commercial-item technology, enabling prime contractors to win more business. Modern sensor processing subassemblies are custom-ized assemblies of interoperable building blocks built to open standard architectures. Mercury's hardware and software portfolio of building blocks are physically and electrically interoperable as defined by inter-national industrial standards, including OpenVPX.

Specifications

Module

Compliant with the VITA 46.0 VPX standard VITA 46.10 RTM standards

Serial and Ethernet I/O

Two RS-232 available via an included breakout cable
One 10/100/1000BASE-T RJ45 Ethernet interface

Additional I/O

One rear-panel USB 2.0/3.0 interface
One rear-panel SATA interface
One additional SATA interface available as a topside pin connector
FPGA and GPIO interfaces available as topside pin connectors

Environmental

Temperature Operating

0°C to 40°C inlet air temperatures

Temperature Storage

-40°C to 85°C

Humidity

10% to 90% non-condensing

Vibration

Random 0.003 G2/Hz, 100-1000 Hz,1 hr/axis
Sine - N/A

Shock

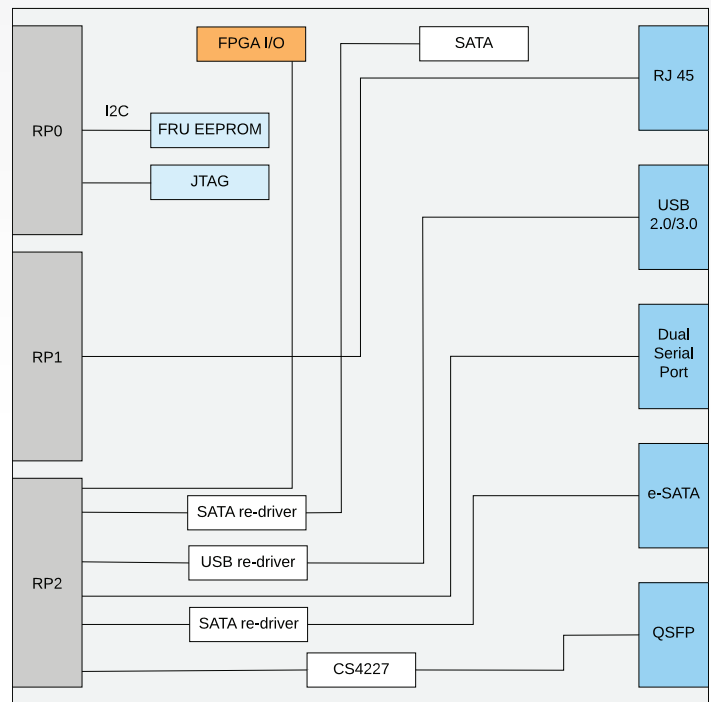20G Z-axis; 32G X-axis; 32G Y-axis; 11 msec, half sine pulse; 3 positive and 3 negative

Altitude – Operating

0 to 10,000 feet

Altitude – Storage

0 to 30,000 feet

Salt Fog - N/A

Ensemble RTM-30P Functional Block Diagram

3137.03E-0419-ds-RTM-30P

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