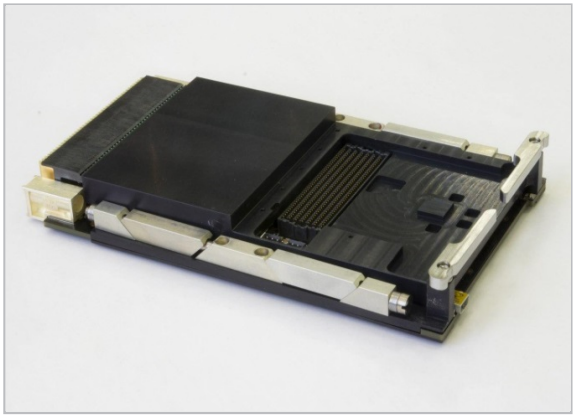
FPU1502
OpenVPX 3U ANSI/VITA 46 Reconfigurable Computation Module



Features

- Mezzanine interface: full support of the FMC+ ANSI/VITA 57.4;
- FPGA XCKU060 (XCKU085, XCKU115) supports several configs;
- VPX interface;
- Power consumption: no more than 80W;
- RAM: KINTEX Ultrascale FPGA – 64GB DDR4 RAM, MPSoC Zynq UltraScale - 32GB DDR4 RAM;
- Power supply requirements: Supply voltages and tolerances comply with the ANSI/VITA 46.0 requirements;
- Operating temperature range: from -40°C to +85°C;
- Humidity: from 0% to 80%, non-condensing;
- Dimensions: 201.6 x 130.7 x 25.4 mm (for the version - 01) and 178.3 x 100 x 21 mm (for the version - 02);

Overview

FPU1502 Reconfigurable Computation Module is designed for high-performance onboard systems for signal acquisition and digital processing, including real-time in standard OpenVXP 3U ANSI/VITA 46. The computing core of the FPU1502 is the KINTEX Ultrascale FPGA with 64GB DDR4 RAM and the MPSoC Zynq UltraScale+ 32GB DDR4 RAM. In order to input signals into the system, it is possible to install FMC + mezzanine modules for various functional purposes that are compatible with the ANSI/VITA 57.4 specification. Typical applications of the FPU1502 are digital signal processing systems, radar and sonar systems, onboard avionics, etc.

Technical Specifications

FPGA XCKU060 (XCKU085, XCKU115)

- Support of several configurations;
- Reconfigurability and possibility of debugging via JTAG interface;
- Reconfigurability via Ethernet interface;
- 2 x 32GB x 64bit DDR4;
- 2GB FLASH;

SoC XCZU2EV (XCZU3EV, XCZU4EV, XCZU5EV)

- Support of several configurations;
- Reconfigurability and possibility of debugging via JTAG interface;
- Reconfigurability via Ethernet interface;
- 32GB x 64 bit DDR4;
- MicroSD slot;

Mezzanine interface

- Module ensures full support of the FMC+ ANSI/VITA 57.4 specification;

VPX interface

- The module design, along with the corresponding FPGA configuration, enables you to implement a VPX interface that complies with the specifications:

Payload Module Profile ANSI/VITA 65:
MOD3-PAY-2F2U-14.2.3
MOD3-PAY-1F1F2U-14.2.4
MOD3-PAY-2F2T-14.2.5
MOD3-PAY-1D-14.2.6
MOD3-PAY-2F-14.2.7
MOD3-PAY-1F4U-14.2.8
MOD3-PAY-8U-14.2.9
MOD3-PAY-1F2U-14.2.12

Peripheral Module Profile ANSI/VITA 65:
MOD3-PER-2F-14.3.1
MOD3-PER-1F-14.3.2
MOD3-PER-1U-14.3.3

Monitoring and control system

- Monitoring power consumption, temperature of FPGA and SoC crystals, voltage and current consumption of power supplies;
- LED display of module operation modes on the front panel;
- I2C bus for control and transmission of telemetric information to the system controller;

Module power supply requirements

- Supply voltages and tolerances - compliant with the ANSI/VITA 46.0 requirements;
- Power consumption: no more than 80W;

Operating temperature range

- from -40°C to +85°C;

Humidity

- from 0% to 80%, non-condensing;

Dimensions

- 201.6 x 130.7 x 25.4 mm (for the version - 01);
- 178.3 x 100 x 21 mm (for the version - 02);

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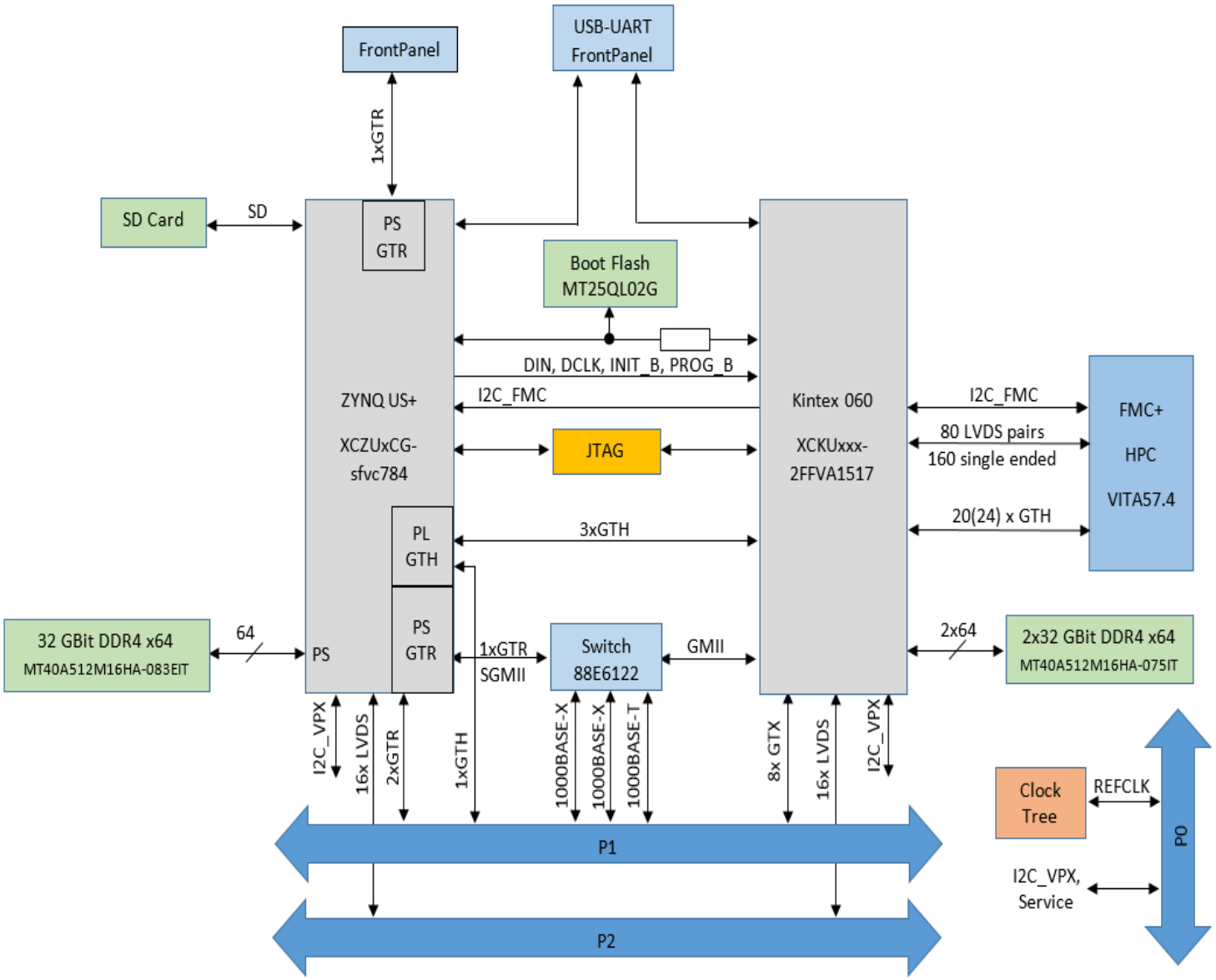
Board Layout



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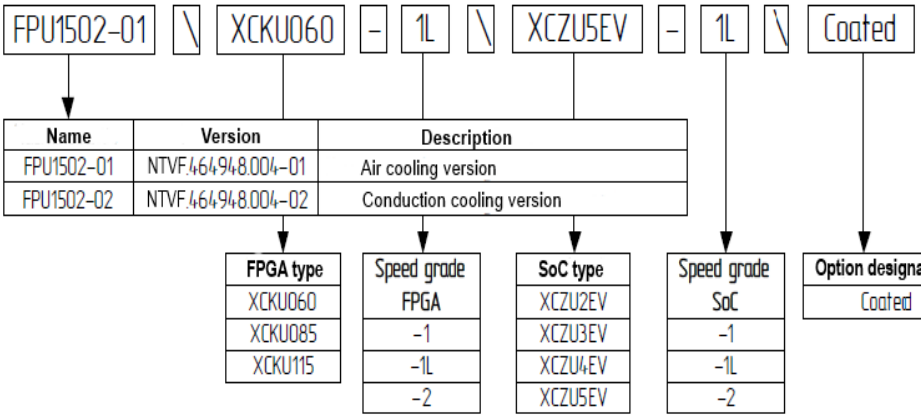
Ordering information

FPU1502 Configuration

FPU1502\Options

Configurations

FPU1500 is supplied in various versions. The following options can be defined: module's cooling method, availability / lack of conformal coating



Name	Version	Description
FPU1502-01	NTVF.464948.004-01	Air cooling version
FPU1502-02	NTVF.464948.004-02	Conduction cooling version

FPGA type
XCKU060
XCKU085
XCKU115

Speed grade FPGA
-1
-1L
-2

SoC type
XCZU2EV
XCZU3EV
XCZU4EV
XCZU5EV

Speed grade SoC
-1
-1L
-2

Option designation	Description
Coated	Conformal coating

Delivery checklist

PSU1500 delivery checklist contains:

1. FPU1502 (Advantix – powered by Fastwel) Reconfigurable Computation Module
2. Label
3. Packaging.

Ver.1.11.2020

Product specifications are subject to change without notice

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