# XMC501

## XMC Dual HDMI Video Capture with Xilinx Zynq Ultrascale+

XMC501

## Key Features

- Single width XMC per VITA 42
- Xilinx Zynq Ultrascale+ (XCZU7EV)
- I/O to the XMC P16 per VITA46.9 as X8d+X12d

## Benefits

- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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# XMC501

The XMC501 is an Dual HDMI video capture XMC per VITA 42 specification and based on the Xilinx Zynq Ultrascale+ FPGA XCZU7EV. The XMC501 interfaces to the host via PCIe Gen3 x4 (other protocols such as 1G/10G/40G, Aurora, SRIO, etc. are possible by programming the FPGA).

The module follows the VITA 46.9 and routes I/O to XMC P16 as X8d+X12d. The P16 inputs/are defined as:

- Dual HDMI Sink
- Single GbE 1000Base-T
- RS-232

The FPGA module can capture dual 4K HDMI video resolution at 60 FPS (Frame Per Second). The XMC501 FPGA has an on-board H.265/264 Encoder/Decoder (CODEC).

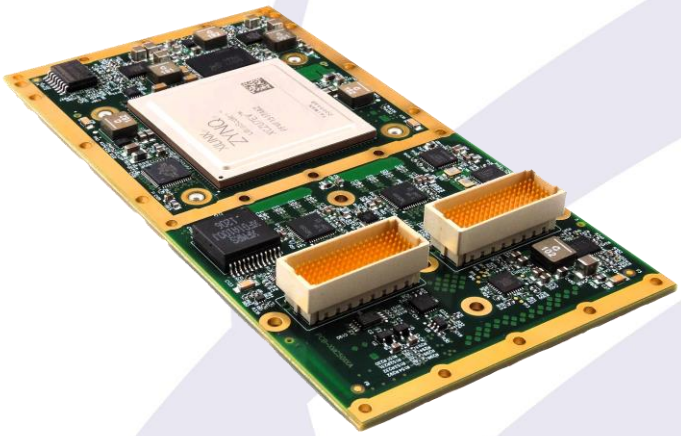

*Figure 1: XMC501*

*Figure 2: XMC501 Top View*

# Block Diagram

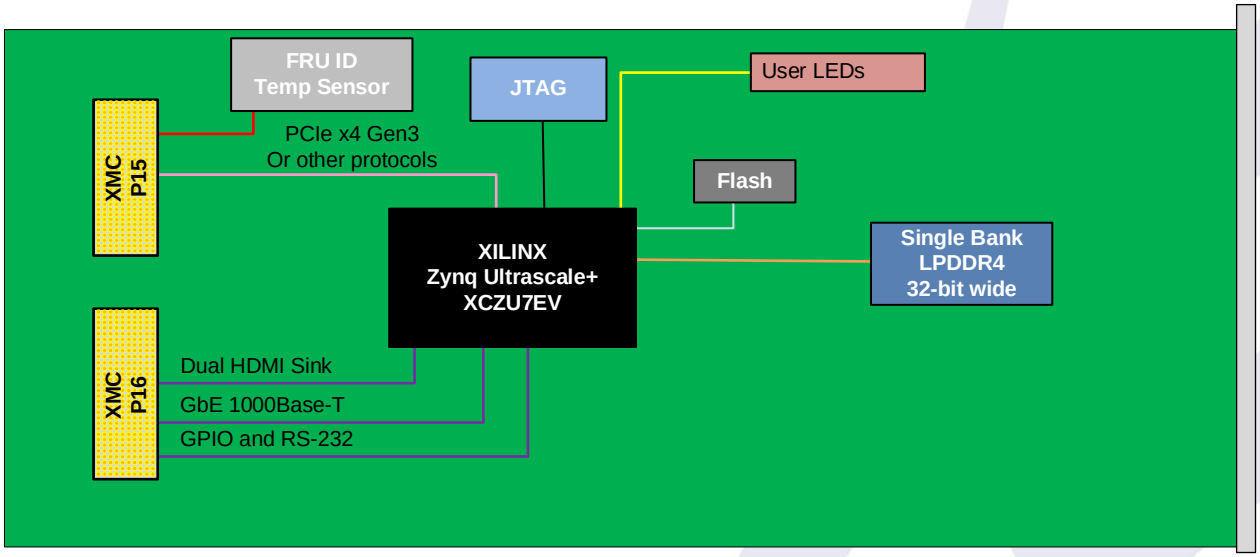


*Figure 3: Functional block diagram*

Specifications

| | | |
|---|---|---|
| **Architecture** | | |
| **Physical** | **Dimensions** | Single-Width, per VITA 42.0 specification |
| **Type** | **XMC FPGA** | Zynq Ultrascale+ |
| **Standards** | | |
| **XMC** | **Type** | PCIe/1G/10G/40G, Aurora, SRIO, etc. |
| **Module Management** | **Sensors** | FRU info and Temp sensor |
| **Configuration** | | |
| **Power** | **XMC501** | 15W (FPGA load dependent) |
| **Environmental** | **Temperature** | See Ordering Options and Environmental Spec Sheet |
| | **Interface Connectors** | To P16 of XMC |
| | **LEDs** | Total of 8 user defined |
| **Software Support** | **Operating System** | Agnostic |
| **Other** | | |
| **MTBF** | MIL Hand book 217-F@ TBD hrs | |
| **Certifications** | Designed to meet FCC, CE and UL certifications, where applicable | |
| **Standards** | VadaTech is certified to both the ISO9001:2015 and AS9100D standards | |
| **Warranty** | Two (2) years, see VadaTech Terms and Conditions | |

## INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

# Ordering Options

## XMC501 – A0C-0E0-0HJ

| A = XMC interface to host | | |
|---|---|---|
| 0 = Other protocols<br>1 = PCIe | | |
| | **E = FPGA Speed** | **H = Environmental** |
| | 1 = Reserved<br>2 = High<br>3 = Highest | See Environmental Specification |
| **C = XMC Connectors** | | **J = Conformal Coating** |
| 0 = VITA 42<br>1 = VITA 61 | | 0 = No coating<br>1 = Humiseal 1A33 Polyurethane<br>2 = Humiseal 1B31 Acrylic |

## Environmental Specification

| | Air Cooled | | Conduction Cooled | | |
|---|---|---|---|---|---|
| **Option H** | **H = 0** | **H = 1** | **H = 2** | **H = 3** | **H = 4** |
| **Operating Temperature** | AC1* (0°C to +55°C) | AC3* (-40°C to +70°C) | CC1* (0°C to +55°C) | CC3* (-40°C to +70°C) | CC4* (-40°C to +85°C) |
| **Storage Temperature** | C1* (-40°C to +85°C) | C3* (-50°C to +100°C) | C1* (-40°C to +85°C) | C3* (-50°C to +100°C) | C3* (-50°C to +100°C) |
| **Operating Vibration** | V2* (0.04 g2/Hz max) | V2* (0.04 g2/Hz max) | V3* (0.1 g2/Hz max) | V3* (0.1 g2/Hz max) | V3 (0.1 g2/Hz max) |
| **Storage Vibration** | OS1* (20g) | OS1* (20g) | OS2* (40g) | OS2* (40g) | OS2* (40g) |
| **Humidity** | 95% non-condensing | 95% non-condensing | 95% non-condensing | 95% non-condensing | 95% non-condensing |

**Notes:**

*Nomenclature per ANSI/VITA 47. Contact local sales office for conduction cooled (H = 2, 3, 4).

# Related Products

VPX762

- 6U VPX module Xeon-D SoC (Skylake-D) 6th-Generation
- Single XMC site with I/O expansion going to P5/P6 per VITA46.9 Pin Field P5W1-P64s+X12d+X8d
- PCIe Gen3 x16 (bifurcation to dual x8 or quad x4)

VPX752

- 6U VPX module Intel 5th Generation Xeon-D SoC
- Single XMC site with I/O expansion going to P5/P6
- PCIe Gen3 x16 (dual x8 or quad x4)

# Contact

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**DOC NO. 4FM737-12 REV 01 | VERSION 1.2 – SEP/23**