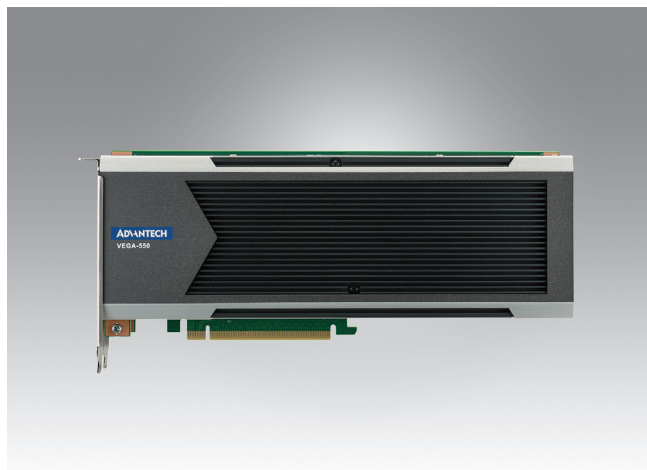


VEGA-550

Reconfigurable Video Content Intelligence Accelerator



Features

- Four high flexible Xilinx Zynq UltraScale+ ZU7EV MPSoC
- 8GB+8GB DDR4 w/ ECC for each FPGA device
- PCIe Gen 3 x16 host interface
- GPU card size form factor
- Up to 150W slot power consumption

Introduction

VEGA-550 is an FPGA (MPSoC-based) full height 10.5" GPU length double deck PCI Express card.

As user-generated video content and video surveillance becomes more and more pervasive, there is a corresponding service demand to analyze and classify this content in real time to ensure compliance and to allow further innovative applications to be developed. Advantech VEGA-500 series product, a Xilinx Ultrascale+ MPSoC solution, provides an ideal platform with video codec and programmable logics integrated for video intelligence, multi-stream transcoding video applications. VEGA-550 is capable of supporting up to four 4K streams of XAVC/HEVC/AVC encoding/decoding simultaneously and pass the decoded video to programmable logic for further video analytics usage by integrating Xilinx DPU into the design. It also supports Sony® XAVC and AVC-Intra codecs which can provide 4K live production solutions for the broadcasting market. The VEGA-550 is fully Xilinx VITIS supported, allowing developers to build their 3rd party IP using RTL/OpenCL and can be delivered already pre-integrated in a range of server platforms. Please contact your Advantech representative for more details.

Specification

	Device	Description	
FPGA	Zynq UltraScale+ XCZU7EV MPSoC	4 FPGA devices	
Physical Characteristic	Interfaces	PCI express Gen3 x16	
	FH/FL double slots	111 x 267 mm	
	Power consumption	<150W	
	Ext. power connector	2x3 pin	
Memory	DDR4	8GB DDR4-2400 64-bit + ECC to processing system(PS) per FPGA 8GB DDR4-2666 64-bit + ECC to programmable logic(PL) per FPGA	
Storage	eMMC	8GB x 1 per FPGA	
I/O	QSPI	32MB x 1 per FPGA	
	Ethernet port (RJ45)	1 to FPGA0	
	USB 3.0	1 to each FPGA	
	USB console (UART to USB)	1 per FPGA	
	JTAG	1 per FPGA	
	PCIe		Gen 3 x 16 to host VEGA-550-S (More PCIe to PS side): PCIe Gen 3 x 4 to PL side in FPGA 0 & 1 PCIe Gen 3 x 2 to PL side in FPGA 2 & 3 PCIe Gen 2 x 4 to PS side per FPGA VEGA-550-L (More PCIe to PL side): PCIe Gen 3 x 4 to PL side per FPGA PCIe Gen 2 x 4 to PS side in FPGA 0 & 1
Integrated IP	Video Codec Unit (VCU)	4:2:2 10-bit 4Kp60 per FPGA	
Environmental	Operating Temperature	0 to 50 degrees Celsius	
	Non-operating Temperature	-40 to 85 degrees Celsius	
	Operating Humidity	50 to 95% (non-condensing)	
	Non-operating Humidity	50 to 95% (non-condensing)	

Applications

- Video Analytics
- Video Transcoding
- Surveillance Video Analytics

Ordering Information

Part Number	Description
VEGA-550S-I2A0	VEGA-550 with x4 PCIe lanes to PS side
VEGA-550L-I2A0	VEGA-550 with x4 PCIe lanes to PL side