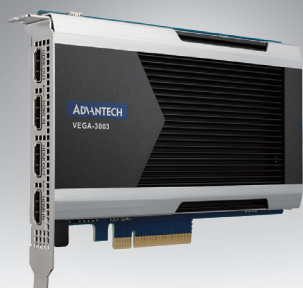


VEGA-3003

Dual UHD HDMI Video Capture Card

NEW



Features

- Dual HDMI 2.0 Video capture & Loop-out
- FPGA based color space convert and de-interlace support
- Customized resolution video capture and processing support
- Linux and Windows SDK including simple-to-use API and example code for FFmpeg
- FHHL PCI Express Gen3 x4, compatible with standard PCIe slots

Introduction

The VEGA-3003 is a professional FPGA-based PCI Express video capture card designed for high-performance ProAV and IP media applications. Featuring dual HDMI 2.0 inputs with simultaneous loop-out support, the VEGA-3003 enables reliable 4K UHD (up to 4096 × 2160p60) video acquisition and pass-through, making it ideal for live production, AV over IP, and advanced video processing systems.

Built on an FPGA architecture, the VEGA-3003 delivers real-time video pre-processing capabilities. These features can be enabled or extended through firmware upgrades. The card supports a wide range of pixel formats, sampling modes (4:4:4 / 4:2:2 / 4:2:0), 8- and 10-bit video depth, HDR, and up to 8-channel PCM audio.

The VEGA-3003 supports both Windows and Linux environments, providing comprehensive SDKs with FFmpeg integration, V4L2, and Microsoft DirectShow support. Its FHHL PCIe Gen3 x4 form factor, low power consumption under 15 W, and robust environmental specifications make it a flexible and dependable solution for diverse deployment scenarios, enabling a smooth transition from traditional HDMI workflows to future-ready IP-based video architectures.

Specifications

| | | | |
|-------------------------|-----------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acquisition (HDMI 2.0) | Video input | Resolution | (DCI 4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (UHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (YUV 444/422, 8/10bits) (UHD) 3840 x 2160p 50, 59.94, 60 (YUV420, 8bits) (FHD) 1920 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (YUV 444/422, 8/10bits) (FHD) 1920 x 1080i 50, 59.94, 60 (YUV 444/422, 8/10bits) (HD) 1280 x 720p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (YUV 444/422, 8/10bits) (SD) 576p 50 (YUV 444/422, 8/10bits) (SD) 576i 50 (YUV 444/422, 8/10bits) (SD) 480p 59.94, 60 (YUV 444/422, 8/10bits) (SD) 480i 59.94, 60 (YUV 444/422, 8/10bits) |
| | | Pixel Format | YUY2 / V210 / Y216 / RGBA8 / P210 / NV16 |
| | | Sampling | 444/422/420 |
| | | Bit Depth | 8 /10 bits |
| | | HDR | Supported |
| | | Audio input | Sample Frequency |
| | Sample Depth | 16 / 24 bits | |
| | Channel Layouts | PCM 8 channels | |
| | Video output (pass Through) | Resolution | (UHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (YUV 444/422, 8/10bits) (UHD) 3840 x 2160p 50, 59.94, 60 (YUV420, 8bits) (FHD) 1920 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (YUV 444/422, 8/10bits) (FHD) 1920 x 1080i 50, 59.94, 60 (YUV 444/422, 8/10bits) (HD) 1280 x 720p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (YUV 444/422, 8/10bits) (SD) 576p 50 (YUV 444/422, 8/10bits) (SD) 576i 50 (YUV 444/422, 8/10bits) (SD) 480p 59.94, 60 (YUV 444/422, 8/10bits) (SD) 480i 59.94, 60 (YUV 444/422, 8/10bits) |
| | | Sampling | 444/422/420 |
| | | Bit Depth | 8 /10 bits |
| | | HDR | Supported |
| Audio output | | Sample Frequency | 32 / 44.1 / 48 / 96 KHz |
| Sample Depth | | 16 / 24 bits | |
| Channel Layouts | PCM 8 channels | | |
| Ancillary Data | Supported | | |
| Toolkit | OS | Windows 10(64bit), Windows 11(64bit) / Linux driver (Linux Kernel 5.15 Above) & SDK | |
| Development Kits | V4L2, Microsoft DirectShow | | |
| Physical Characteristic | Interface | Input | HDMI 2.0 x 2 input PCIe Gen3 x4 input |
| | | Output | HDMI 2.0 x 2 output PCIe Gen3 x4 output |
| | Power Consumption | < 15W | |
| | Dimensions | PCI Express Half Length Full Height 167.65 x 111.15 mm | |
| Environmental | Operating Temperature | -10 to 70 °C | |
| | Non-operating Temperature | -40 to 85 °C | |
| | Operating Humidity | 95% RH @ 50°C, non-condensing | |
| | Non-operating Humidity | 95% RH @ 50°C, non-condensing | |

Ordering Information

| Part Number | Description |
|--------------|----------------------------------------------------|
| VEGA-3003-S0 | FPGA-based 4K UHD HDMI video acquisition PCIe Card |

* Please ensure you confirm specifications prior to making a purchase. This document serves as a reference and informational resource only. Please be aware that all product specifications are subject to change without prior notice.