

# VEGA-3321-I0F3

## 4K Broadcast IP Video Gateway & Acquisition Accelerator PCIe Card

Preliminary



### Features

- 4-ch UHD ST2110 over 2x 25G SFP or 4x12G-SDI
- Broadcasting grade video acquisition up to 4:2:2 10bit
- NMOS IP video management w/ IS-04 & IS-05
- 1-ch 4Kp60 or 4-ch 1080p60 real-time HEVC/AVC encode
- Support FFmpeg and property advantech SDK

### Introduction

The VEGA-3321-I0F3 enables real-time UltraHD (2160p60) capture. This 10-bit uncompressed video-over-IP gateway supports up to 1-ch 4K UltraHD (2160p60) or 4-ch FHD (1080p60) over a single 25GbE interface. The card's second 25GbE port is used for seamless protection switching of datagrams. The VEGA-3321-I0F3 is designed for professional media processing and is capable of performing professional-grade 4Kp60 Main10 profile HEVC encoding. Additionally, the VEGA-3321 can support low-latency transmission of uncompressed video over standard IP networks, in accordance with industry-agreed standards. This card features a simple-to-use API and example code for FFmpeg multimedia frameworks, which streamline product development and integration into existing applications.

### Specifications

IP Video (25G SFP+)	Feature List		ST 2110-20 - Uncompressed video transport with RTP payload (up to 4 streams) ST 2110-21 - Narrow (linear) sender ST 2110-30 - PCM Digital Audio (up to 4 streams) ST 2110-31 - AES audio with both linear PCM and non-PCM data (up to 4 streams) ST 2110-40 - RTP payload based transport of SMPTE ST 291-1 Ancillary Data Packet (up to 4 streams) PTP - Profile AES67/SMPTE2059-2, Multicast & Mixed SMPTE ARP, IGMPv3 support ST 2022-7 seamless protection switching
	Interfaces		2 x 25G SFP+ Ports
	Internet Protocol		Supports IPv4 static IP setting
	Video	Resolution	(UHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
			(FHD) 1920 x 1080p 50, 59.94, 60
			(HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30
		HDR	Supported
Audio	Audio Formats	ST 2110-30 (PCM 8 channel) +ST 2110-31 (PCM 16 channel)	
	Channel Layouts	PCM 16 channel	
Ancillary Data	Ancillary Data	ST 2110-40 / RFC 8331 - ancillary data in RTP stream support	
Digital Video (12G-SDI)	Feature List		SMPTE ST 259 SMPTE RP 165 SMPTE ST 292 SMPTE ST 372 SMPTE ST 424 SMPTE ST 2081-1 SMPTE ST 2082-1 SMPTE ST 352
	Interfaces		4 x 12G-SDI
	Video	Resolution	(4K) 4096 x 2160p
			(UHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
			(FHD) 1920 x 1080p 50, 59.94, 60
			(HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30
			(HD) 1920 x 1080i 50, 59.94, 60
			(HD) 1280 x 720p 50, 59.94, 60
			(SD) 556i
			(SD) 480i
	Bit Depth	8/10 bits	
	HDR	Supported	
Audio	Sample Frequency	48 kHz	
	Sample Depth	16-bit	
	Channel Layouts	PCM 16 channel	
Ancillary Data	Ancillary Data	Supported	

## Specifications (Cont.)

Video Acquisition	Interfaces	IP/Digital Video Input	12G-SDI 3G-SDI 25G SFP+ (ST-2110)	
		RAW Video Out	PCIe Gen3 x8 output	
	Video	Pixel Format	NV12 / YV12 / YV16 / YUY2 / P210	
		Resolution	(4K) 4096 x 2160p (UHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (FHD) 1920 x 1080p 50, 59.94, 60 (HD) 1920 x 1080i 50, 59.94, 60 (HD) 1280 x 720p 50, 59.94, 60 (SD) 556i (SD) 480i	
			Sample Frequency	48 kHz
			Sample Depth	16-bit
	Channel Layouts		PCM 16 channel	
	Ancillary Data	Ancillary Data	Supported	
	Toolkit	OS	Above Linux kernel 5.15	
		Development Kits	Capture / playback / PCIe card management	
Multi Video Path Switch	Model 1: Video Acquisition	25G SFP+(ST-2110): video input 12G-SDI: video input PCIe Gen3 x8: video RAW output		
	Model 2: IP Video Gateway	25G SFP+(ST-2110) video input to 12G-SDI video output PCIe Gen3 x8: video RAW output		
	Model 3: IP Video Gateway	12G-SDI video input to 25G SFP+(ST-2110) video output PCIe Gen3 x8: video RAW output		
Physical Characteristics	IO Interface	2 x 25G SFP+ 4 x 12G-SDI PCIe Gen3 x8		
	Power Consumption	<35 W		
	Dimensions	PCI Express 3/4 length 254 (L) x 126 (W) x 21.5 (H) (mm)		
Environmental	Operating Temperature	0 to 45°C		
	Non-Operating Temperature	-40 to 85°C		
	Operating Humidity	95% RH @ 40°C, non-condensing		
	Non-Operating Humidity	95% RH @ 60°C, non-condensing		

## Ordering Information

Part number	Description
VEGA-3321-IOF3	UHD Broadcasting IP Video ST-2110 gateway and acquisition accelerator card

## Dimensions

Unit: mm

