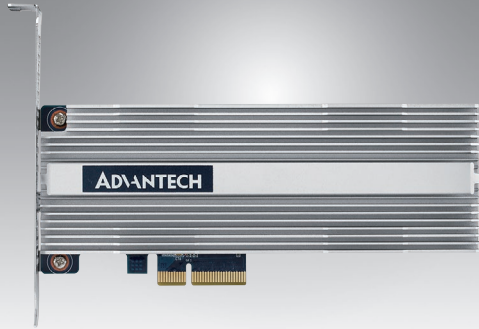


HVC-8700

4Kp60 HEVC Broadcast Video Encoder Card

Preliminary



Features

- 1-ch 4K (2160p) or 4-ch FHD (1080p) @ 60 fps real-time encoding in Main 8, Main 10 or Main 10 4:2:2 modes
- Less than 15W (HVC-8700) power consumption
- Simple-to-use API and example code for FFmpeg and GStreamer multimedia frameworks

Introduction

HVC-8700 enables real-time 4K UltraHD (2160p60) HEVC encoding at up to 20x less power consumption than a software-only solution. The HEVC/H.265 codec is gaining momentum because it reduces bit rates by approximately 50% when compared to an equivalent quality video stream encoded using H.264, enabling more channels or higher resolution video delivery over the same infrastructure. It is particularly relevant for 4K UltraHD transmission which requires a much higher stream capacity. These improvements are achieved at the penalty of much higher computation complexity, with up to four general purpose server class processors required to perform a 4K 60fps software-based broadcast quality HEVC encoding in real time.

HVC-8700 is tailored for professional media processing and are capable of performing professional grade 4Kp60 Main10 profile HEVC encoding at less than 15W power consumption. The HVC-8700 targets file or stream-based encoding workflows in a low profile PCIe adapter format to facilitate the integration of multiple accelerators in a range of servers and appliances. This card feature a simple-to-use API and example code for FFmpeg and GStreamer multimedia frameworks to streamline product development and their integration into existing applications.

Specification

Video Input	Channels	1 (up to 4Kp60, 8bit/10bit, YUV) / 4 (up to 1080p60, 8bit/10bit, YUV)
	Video Formats	4K, HD, SD
	Frame Rate /s	PCI Express Interface 4K / 4096x2160: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 4K / 3840x2160: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1920x1080: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 720x480: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p
	Chroma Sampling Format	4:2:2 / 4:2:0
	Interfaces	PCI express Gen2 x4
Video Compression	Compression	H.265
	HEVC Profile	Main / Main 10
	HEVC Tier	Main / High
	HEVC Level	1.0 / 2.0 / 2.1 / 3.0 / 3.1 / 4.0 / 4.1 / 5.0 / 5.1
	Bit Depth	8 / 10
	Bitrate 4K format	3 Mbps ~ 128 Mbps
	Bit Rate Control	CBR / VBR
	Elementary Stream	Yes
Feature	Frame rate and resolution control	Yes
	Encoding control and manipulation	Yes
	Full-feature API available	Yes
	Dual encoding (4 file from a unique video source)	Yes
	GOP definition	I, IP, IPB, IBBB
	Operating System	Windows 8 & 8.1 (32-bit, 64-bit) Windows 7 (32-bit, 64-bit) Windows Server 2012 & 2012 R2 (64-bit) Windows Server 2008 R2 (64-bit) Linux Kernel 3.13.0 (32-bit, 64-bit)
	Development Kits	FFmpeg Microsoft DirectShow
Physical Characteristic	Power Consumption	< 15W
	Dimensions	PCI Express Half Length Half Height 167.65 x 56 mm