

AL-E210

MULTI FORMAT VIDEO ENCODER

- Industry first real-time AV1 video encoder hardware IP
- State of the art video encoding quality
- Unique true multi-format and scalable architecture
- Flexible, user configurable software
- Fast and easy integration within a wide range of System-On-Chip (SoC) designs
- Support for multi-stream encoding



AL-E210 Encoder IP

H.264/AVC, H.265/HEVC, VP9, AV1 AND JPEG UP TO 8K RESOLUTION

VIDEO IP

Allegro DVT's AL-E210 is the first video encoder IP to implement real-time and file-based encoding in AV1 format up to 4K/UHD resolutions. Built upon a true multi-format architecture, it provides support for AV1, VP9, H.265/HEVC, H.264/AVC and JPEG by sharing resources between the five supported codecs to achieve best-in-class trade-offs between silicon area, system memory bandwidth and power consumption.

The AL-E210 inherits all the smart encoding features from previous Allegro DVT encoder products, such as preprocessing and noise reduction filters, automatic detection of Regions Of Interest (ROI) in source pictures and ultra-low latency encoding. Furthermore, the AL-E210 embeds various caching and compression mechanisms to lower the memory bandwidth requirements which become a critical system level issue with increasing video resolutions and frame rates.

AL-E210 encoder IP targets high-end applications such as:

- Cloud transcoding and broadcasting
- VR/AR devices
- Digital and action cameras
- Video surveillance cameras
- Automotive

Features	
Supported Standards	
	H.264/AVC Baseline, Main, High, High 10 and High 4:2:2 profiles
	H.265/HEVC Main, Main 10 and Main 4:2:2 10 profiles and Scalable High efficiency Video Coding (SHVC) profile
	VP9 Profile 0 (4:2:0, 8-bit) and Profile 2 (4:2:0, 10-bit)
	AV1 Main profile (4:2:0, 8-bit/10-bit)
	JPEG Baseline
Optional Smart Features	
	Ultra low latency coding
	Gradual Decoder Refresh
	Dynamic changes in the encoding parameters
	Region Of Interest
	AMBA AXI interface for data access
	AMBA AXI interface for data access
Deliverables	
	• RTL source code
	• C control software
	• Bit accurate reference model
	• Documentation



Allegro DVT is a leading provider of H.264/AVC, H.265/HEVC, AVS2, VP9 and AV1 solutions, including industry standard compliance test suites, H.264/AVC, H.265/HEVC and VP9 encoder, codec and decoder hardware (RTL) IPs. Allegro DVT products have been chosen by more than 100 major IC providers, OEMs and broadcasters.

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