

SOC MPEG Codec Modules

Product Description

SOC offers a series of MPEG Codec Modules, which include:

1. H.265 Encoder;
2. H.264 Encoder, H.264 Decoder;
3. MPEG-2 Encoder, MPEG-2 Decoder;
4. H.264-to-MPEG2 , MPEG2-to-H.264 Transcoders;
5. H.264-to-H.265 Transcoders
6. Multiple channels/ Multiple Standards codec modules;

The SOC MPEG codec modules are small circuit boards, based on SOC high-performance codec IP cores and off-the-shelf FPGAs. The dimensions of the modules are: 1.7"x2.7" (for HD) and 2.5"x2.7" (for 4k).

The SOC MPEG codec IP cores are used to configure the FPGAs on the modules, which produces a series of codec modules according to MPEG Standard (H.265/HEVC, H.264/AVC, and MPEG2) and codec specifications (resolution, frame rate, and precision). The table below lists the factory standard H.264 codec modules, as examples. H.265 and MPEG2 codec modules have the same product code convention. Non-standard modules are also available upon request (minimum quantity is required for customized configurations).

All of the modules have the same 204 edge pins layout, which plugs into a standard DDR3 SODIMM connector. Users can connect a module to their product PCB via an off-the-shelf DDR3 connector.

Specifications

- Standard: H.264/AVC
H.265/HEVC
MPEG-2
- Profiles: High, Main, Main 4:2:2 12
- Output bit rates: 1-200Mbps & above
- Video resolutions: Up to 1080i/p and 4k
- Frame Rate: Up to 120fps
- Chroma Formats: 4:2:2 or 4:2:0
- Precision: 8 bits or 10 bits
- Stream format: Transport Stream, or
UDP/IP over Ethernet
- Video format: RGB or YUV or YCrCb
- Latency: 0.25ms (Min.)
- Power Consumption: 1-4w



Standard H.264 Video/Audio Encoder Modules (for HD and 4k)

Product Code	Specifications						
	Standard	Profile	Resolution	Chroma	Precision	Frame Rate	Audio
EC-VA-H264-8b-30-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	8 bits	up to 30fps	AAC or MPEG2 Layer-2
EC-VA-H264-10b-30-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	up to 10bits	up to 30fps	AAC or MPEG2 Layer-2
EC-VA-H264-8b-60-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	8 bits	up to 60fps	AAC or MPEG2 Layer-2
EC-VA-H264-10b-60-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	up to 10 bits	up to 60fps	AAC or MPEG2 Layer-2
EC-VA-H264-8b-30-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	8 bits	up to 30fps	AAC or MPEG2 Layer-2
EC-VA-H264-10b-30-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	up to 10 bits	up to 30fps	AAC or MPEG2 Layer-2
EC-VA-H264-8b-60-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	8 bits	up to 60fps	AAC or MPEG2 Layer-2
EC-VA-H264-10b-60-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	up to 10 bits	up to 60fps	AAC or MPEG2 Layer-2

Standard H.264 Video/Audio Decoder Modules (for HD and 4k)

Product Code	Specifications						
	Standard	Profile	Resolution	Chroma	Precision	Frame Rate	Audio
DC-VA-H264-8b-30-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	8 bits	up to 30fps	AAC or MPEG2 Layer-2
DC-VA-H264-10b-30-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	up to 10 bits	up to 30fps	AAC or MPEG2 Layer-2
DC-VA-H264-8b-60-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	8 bits	up to 60fps	AAC or MPEG2 Layer-2
DC-VA-H264-10b-60-1080-M	H.264	up to High	up to 1080i/p	4:2:0/4:2:2	up to 10 bits	up to 60fps	AAC or MPEG2 Layer-2
DC-VA-H264-8b-30-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	8 bits	up to 30fps	AAC or MPEG2 Layer-2
DC-VA-H264-10b-30-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	up to 10 bits	up to 30fps	AAC or MPEG2 Layer-2
DC-VA-H264-8b-60-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	8 bits	up to 60fps	AAC or MPEG2 Layer-2
DC-VA-H264-10b-60-4k-M	H.264	up to High	4k/UHD	4:2:0/4:2:2	up to 10 bits	up to 60fps	AAC or MPEG2 Layer-2