

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 based on mini-size hardware platforms, with product codes of MCM-1000S (Spartant-6 LX150 FPGA), MCM-1000A (Artix-7 A200T FPGA), MCM-1000K (Kintex-7 K325T FPGA), and MCM-1000Z (Zynq-7045 FPGA). MCM-1000S, MCM-1000A, and MCM-100K platforms have a BlackFin BF512 DSP for audio codecs. The MCM-1000Z uses the internal ARM processors for audio codecs. The modules have the same 204 edge pins layout as the DDR3 connectors. Users can connect a module to their product PCB via an off-the-shelf DDR3 connector.

The SOC MPEG codec IP cores are used to configure the MCM-1000S/A/K/Z modules. The table below lists the factory standard codec modules. Non-standard modules are also available upon request (minimum quantity is required for customized configurations).

Specifications

- Standard: H.264/AVC
H.265/HEVC
MPEG-2
- Profiles: High, Main, Main 4:2:2 12
- Output bit rates: 1-100Mbps & above
- Video resolutions: Up to 1080i/p and 4k
- Frame Rate: Up to 60fps
- Chroma Formats: 4:2:2 or 4:2:0
- Precision: 8 bits or 10 bits or 12 bit
- Stream format: Transport Stream, or UDP/IP over Ethernet
RGB or YUV or YCrCb
- Video format: 0.25ms (Min.)
- Latency: 0.25ms (Min.)
- Power Consumption: 1-4w



Standard H.264 Video/Audio Encoder Modules

Product #	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

Product #	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