

A hand is shown on the right side of the image, reaching out towards a futuristic digital interface. The interface is composed of glowing blue circuit lines and various icons, including a film strip, a grid, an eye, a globe, and a microphone. The background is dark blue with a soft glow.

Chips & MediaTM

01

VIDEO CODEC

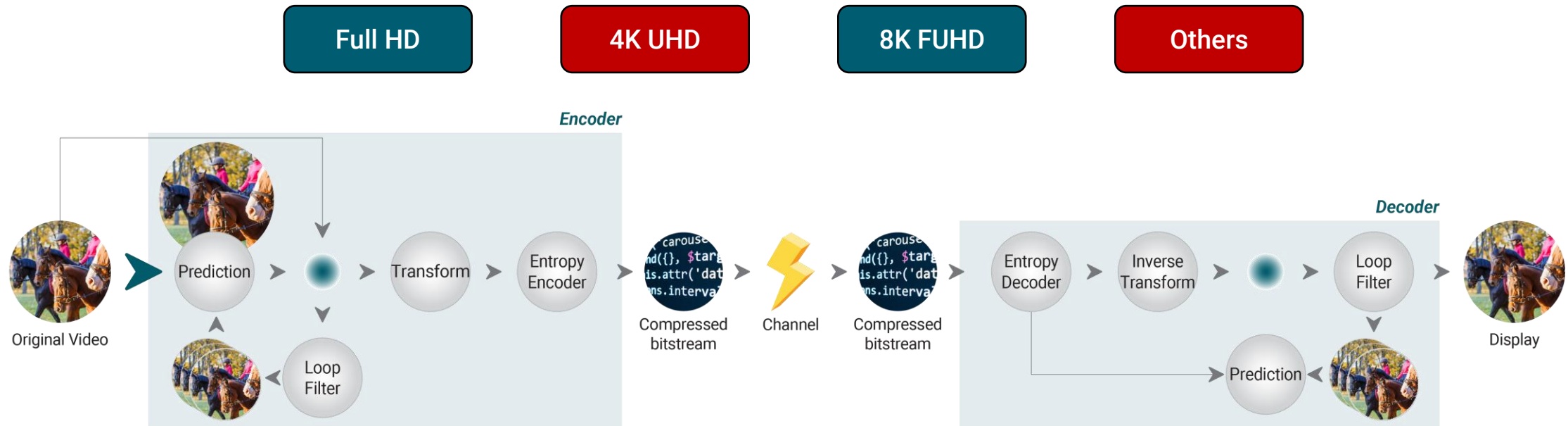
Video Codec

There are reasons for making video codec essential:

1. makes it easy to transmit the large files video over the internet, and
2. the compression reduces the bandwidth required, at the same time giving a quality experience.

Chips&Media is offering various compression standards to encode, decode, or do both for legacy codecs like AV1, VP9, HEVC, H.264, AVS2 with resolution up to 8K at 60fps for the consumer electronics market – such as smartphones, media tablets, multimedia players, desktop & laptop, digital TVs, digital set-top boxes, video game consoles, surveillance camera, driving recorder, automotive infotainment, AR/VR, and more.

The video codecs are categorized by supporting resolutions.



Video Codec – Portfolio

	Codec
	Encoder
	Decoder
●	Dual-cores

WAVE5 Encoder

IP Name	No. of cores		Video standards					Bit depth		Pic Type		Feature	Resolution/Frame rate
	Single	Dual	HEVC/H.265	H.264	VP9	AVS2	AV1	8-bit	8-/10-bit	I/P	I/P/B	3DNR	
WAVE420	●		●						●		●		4K30fps
WAVE420L	●		●					●		●		●	4K15fps
WAVE520	●		●						●		●	●	4K60fps
WAVE521	●		●	●					●		●	●	4K60fps
WAVE521L	●		●	●				●		●			4K60fps

Video Codec – Portfolio

WAVE5 Decoder

	Codec
	Encoder
	Decoder
*	Dual-cores

IP Name	No. of cores		Video standards					Bit depth		Pic Type		Feature	Resolution/Frame rate
	Single	Dual	HEVC/H.265	H.264	VP9	AVS2	AV1	8-bit	8-/10-bit	I/P	I/P/B	3DNR	
WAVE510A	●						●		●		●		4K60fps
WAVE510	●		●						●		●		4K60fps
WAVE511	●		●	●					●		●		4K60fps
WAVE512	●		●		●				●		●		4K60fps
WAVE515	●		●		●	●			●		●		4K60fps
WAVE517	●		●	●	●	●	●		●		●		4K60fps
WAVE537		●	●	●	●	●	●		●		●		4K120fps, 8K30fps, 8K60fps

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WAVE5 Codec

IP Name	No. of cores		Video standards					Bit depth		Pic Type		Feature	Resolution/Frame rate
	Single	Dual	HEVC/H.265	H.264	VP9	AVS2	AV1	8-bit	8-/10-bit	I/P	I/P/B	3DNR	
WAVE541C		●	●	●					●		●	●	4K120fps, 8K30fps, 8K60fps
WAVE521C	●		●	●					●		●	●	4K60fps
WAVE521CL	●		●	●				●		●			4K60fps

Video Codec – Portfolio

	Codec
	Encoder
	Decoder
●	Dual-cores

CODA Codec

IP Name	Video standards										Bit depth	Pic Type		Resolution/Frame rate
	H.264	MPEG-4	H.263	MPEG-2	VC-1	RV	VP8	AVS	AVS+	JPEG	8-bit	I/P	I/P/B	
CODAJ12										●				4:2:2 210M pixel/sec
CODA988	●	●	●								●	●		2K60fps
	●	●	●	●	●	●	●	●	●			●	●	2K60fps
CODA966	●	●	●								●	●		2K30fps
	●	●	●	●	●	●	●	●	●		●		●	2K60fps
BODA955	●	●	●	●	●	●	●	●	●		●		●	2K60fps

Video Codec – Full HD (Codec)



CODA966

A full HD multi-standard video codec IP

- Capable of encoding/decoding up to full HD 1920x1080 resolution
- **Standards:**
- **Encoder:** H.264, MVC, MPEG-4, and H.263
- **Decoder:** H.264, MVC, MPEG-4, DivX/XviD, H.263, VC-1, MPEG-1/2, Real Video, Sorenson, VP8, Theora and AVS/AVS+

CODA988

A UHD H.264/AVC standard video codec IP

- Capable of encoding/decoding up to HD 4096x2208 resolution for numerous video standards
- **Standards:**
- **Encoder:** H264, MVC, MPEG-4, H.263
- **Decoder:** H.264, MVC, MPEG-4, DivX/XviD, H.263, VC-1, MPEG-1/2, Real Video, Sorenson, VP8, Theora and AVS/AVS+

Video Codec – Full HD (*Encoder/Decoder*)



WAVE420L (*Encoder*)

A low-cost H.265/HEVC HW encoder IP

- Capable of encoding 2K60fps (up to 4K) for FHD/UHD H.265/HEVC main profile L4.1
- Small-sized area and low-cost system
- **Standards:**
- Encoder: HEVC

BODA955 (*Decoder*)

A full HD multi-standard video IP

- Capable of decoding any resolution up to full HD 1920x1088@60fps resolution
- Provides the maximum bandwidth efficiency and exceptional power consumption
- **Standards:**
- Decoder: H.264, MVC, MPEG-4 ASP(DivX/XviD), H.263, VC-1, MPEG-1/2, Real Video, Sorenson, VP8, Theora, AVS

Video Codec – 4K UHD (Codec)



WAVE521C

4K multi-format codec IP

- Capable of encoding/decoding any resolution up to 4K@120fps with a dual core architecture and Optimized silicon area for 4K Ultra-HD applications
- **Standards:**
- Encoder/Decoder: HEVC, H.264/AVC

WAVE521CL

4K multi-format codec IP

- Capable of encoding/decoding up to 4K60fps for HEVC and H.264/AVC video formats with a single-core architecture
- Provides the maximum bandwidth efficiency and exceptional power consumption
- **Standards:**
- Encoder/Decoder: HEVC, H.264/AVC

Video Codec – 4K UHD (*Encoder*)



WAVE420

An Ultra HD H.265/HEVC HW encoder IP

- Capable of encoding up to 4K HEVC's frequencies to decode 1080p @30fps
- Easily extended to 4K @30fps
- **Standards:**
- HEVC

WAVE520

The H.265/HEVC encoder IP core

- Capable of encoding 4K60fps video for H.265/HEVC in real-time
- Achieves the best encoding quality at high resolution and frame rate
- Optimized silicon area for 4K Ultra-HD applications
- **Standards:**
- HEVC
-

WAVE521

A 4K multi-format encoder IP supporting HEVC and H.264/AVC video standards.

- Capable of encoding up to 4K60fps with a single-core architecture for HEVC and H.264/AVC
- Optimized silicon area for 4K Ultra-HD applications
- **Standards:**
- HEVC, H,264/AVC

WAVE521L

A low-cost 4K encoder IP

- Capable of encoding up to 4K60fps with a single-core architecture for HEVC and H.264/AVC
- Provides the maximum bandwidth efficiency and exceptional power consumption
- **Standards:**
- Encoder: HEVC, H.264/AVC

Video Codec – 4K UHD (*Decoder*)



WAVE510A

The world's first commercial AV1 HW decoder IP supporting AV1 standard

- Capable of decoding up to 4K60fps with a single-core architecture
- Performs approximately 30% better than HEVC
- **Standards:**
- AV1

WAVE510

A high-performance UHD H.265/HEVC, hardware decoder IP

- Capable of decoding up to 4K60fps for HEVC's with an optimized size
- Provides highly optimized enhanced performance for high-end UHD SoC
- **Standards:**
- HEVC

WAVE511

A 4K multi-format decoder IP

- Capable of decoding up to 4K60fps with a single-core architecture for HEVC and H.264/AVC
- Optimized silicon area for 4K Ultra-HD applications
- **Standards:**
- HEVC/H,264/AVC

Video Codec – 4K UHD (Decoder)



WAVE512

A high-performance UHD H.265/HEVC and VP9 hardware decoder IP

- Capable of decoding up to 4K60fps for up to 4K HEVC's or VP9
- **Standards:**
- HEVC, VP9

WAVE515

A high-performance multi-decoder IP

- Capable of decoding up to 4K60fps for up to 4K HEVC's, AVS2, or VP9
- **Standards:**
- HEVC, VP9, AVS2

WAVE517

The world's first real-time multi-standard decoder, including AV1, HW IP

- Capable of decoding up to 4K60fps for HEVC/H.265, AVC/H.264, VP9, AVS2
- May achieve up to 8K (8Kx4K) resolution
- **Standards:**
- HEVC, AV1, VP9, H.264 and AVS2

Video Codec – 8K FUHD (Codec / Decoder)



WAVE541C

A 4K multi-format, dual-CORE codec IP for HEVC and H.264/AVC video formats.

- Capable of encoding/decoding up to 8K60fps
- Enables content creators to generate videos and share them on video platforms
- Have a competitive video quality to x.264/x.265 medium present on PC or server
- **Standards:**
- Encoder/Decoder: HEVC, H.264

WAVE537 (Decoder)

HEVC, AVC, VP9, AVS2, AV1 Decoder IP

- Capable of decoding up to 8K60fps with a dual-core and 4K60fps with a single-core
- **Standards:**
- HEVC, H.264, AV1, AVS2 and VP9

Video Codec – Others



CODAJ12

A standalone and high-performance JPEG Codec IP

- Capable of supporting MJPEG streams with various color formats
- Perform the JPEG baseline/extended sequential and M-JPEG decoding and encoding
- Fully compliant with the baseline and extended sequential DCT mode
- **Standards:**
- JPEG

Regional Salesperson

Contact our salesperson located near you. We are happy to assist you with any questions you may have regarding our product lines.

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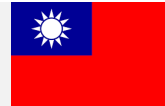
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THANK YOU