



**Chips &
Media™**

Designing The Future of Video Technology

Area of Business *IP Portfolio*

Chips&Media, Inc. is a global leader in silicon HW IP technology and delivers a wide range of multimedia IPs: video codecs, image signal processors, and deep learning-based computer vision. Our IPs combine high-performance with minimum power consumption and low bandwidth usage while also remaining cost-effective.

Meet our revolutionary silicon HW IPs :

- **Video Codec**

Extensive catalog of advanced video codec cores to support the media formats you need.

- **Image Signal Processing**

The one-stop, comprehensive image processing solution with optimized gate size and memory usage.

- **Computer Vision**

Real-time, deep learning-based upscaling super-resolution HW IP.

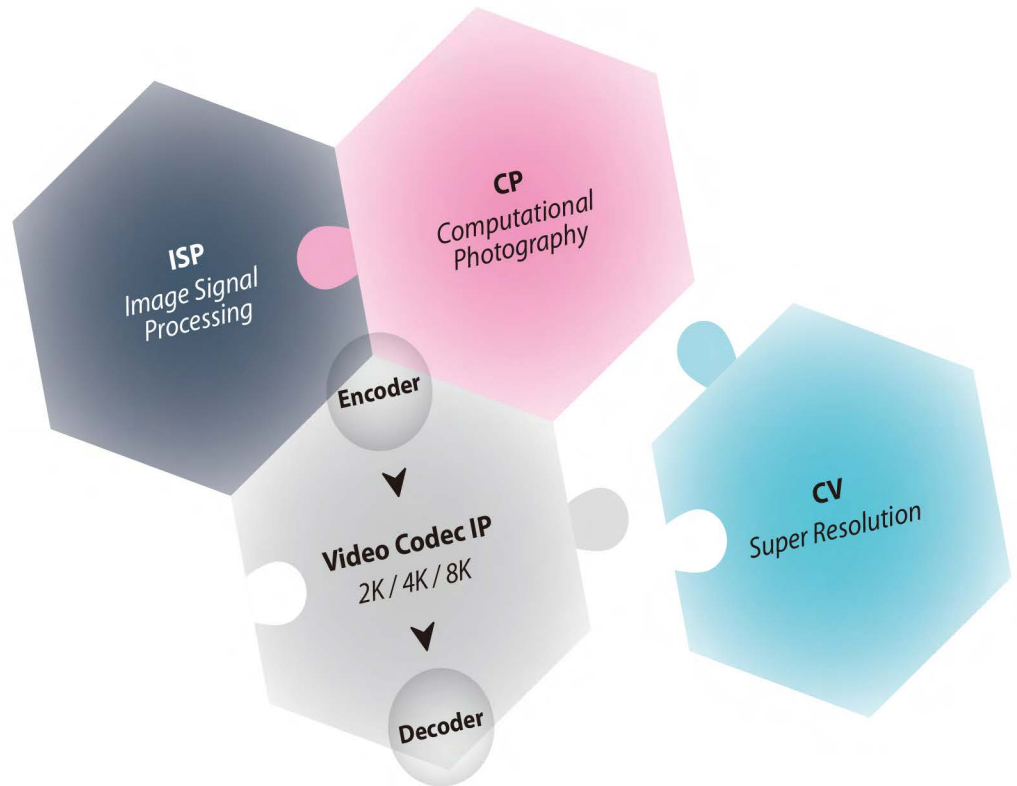


Image Signal Processing

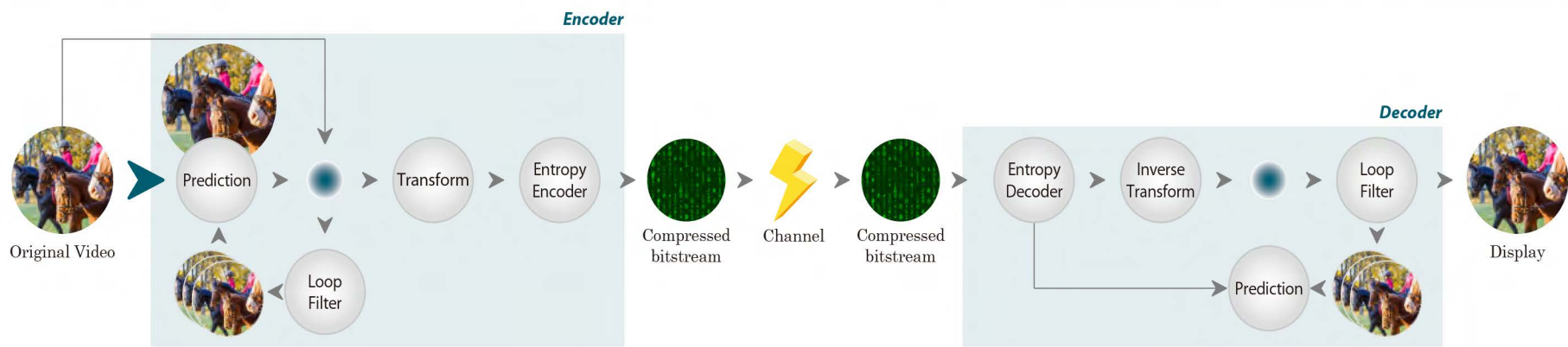
Introducing an end-to-end full-featured ISP IP that converts the sensor's signal into a better visible and processable format while providing user-centric customization for more flexible requirements and configuration capabilities.





Video Codec

Offers diverse compression standards, including AV1, VP9, HEVC, H.264, AVS2, and other legacy codecs, with resolution up to 8K at 60fps for key consumer electronics market.



Video Codec HW IP List

Delivering the best-in-class video codec IP cores with a compelling and differentiated full IP package of significant high performance, low power consumption, and bandwidth.

- Codec (Encoder/Decoder)
- Encoder
- Decoder

IP Name	No. of Cores		Video Standards						Bit Depth		Pic Type		Resolution/Frame rates
	Single	Dual	HEVC/H.265	AVC/H.264	VP9	AVS2	AV1	VVC	8-bit	8-/10-bit	I/P	I/P/B	
WAVE520C	●		●							●		●	4K60fps @500MHz
WAVE521C	●		●	●						●		●	4K60fps @500MHz
WAVE521CL	●		●	●					●		●		4K60fps @500MHz
WAVE541C		●	●*	●*						●		●	8K60fps* @1GHz
WAVE637	●		●	●			●			●		●	4K60fps @500MHz
WAVE520	●		●							●		●	4K60fps @500MHz
WAVE521	●		●	●						●		●	4K60fps @500MHz
WAVE521L	●		●	●					●		●		4K60fps @500MHz
WAVE541		●	●*	●*						●		●	8K60fps* @1GHz
WAVE627	●		●	●			●			●		●	4K60fps @500MHz
WAVE510A	●						●			●		●	4K60fps @450MHz
WAVE510	●		●							●		●	4K60fps @450MHz
WAVE511	●		●	●						●		●	4K60fps @450MHz
WAVE512	●		●		●					●		●	4K60fps @450MHz
WAVE515	●		●		●	●				●		●	4K60fps @450MHz
WAVE517	●		●	●	●	●	●			●		●	4K60fps @450MHz
WAVE537		●	●*	●*	●*	●	●*			●		●	8K60fps* @900MHz
WAVE617	●		●	●			●			●		●	4K60fps @450MHz
WAVE618	●							●		●		●	4K60fps @450MHz

Note: The video standards with an asterisk (*) indicate the video standards are supported with the multi-core.
The product name in bold indicates the products currently in development.

IP Name	Video Standards									Bit Depth	Pic Type		Resolution/ Frame rates
	AVC/H.264	MPEG-4	H.263	MPEG-2	VC-1	VP8	AVS	AVS+	JPEG	8-bit	I/P	I/P/B	
CODA988	●	●	●							●	●		2K60fps @266MHz
	●	●	●	●	●	●	●	●		●		●	2K60fps @266MHz
CODAJ12									●		i only		4:2:2 210M pixel/sec @200MHz
BODA955	●	●	●	●	●	●	●	●		●		●	2K60fps @266MHz

Computer Vision

Super Resolution

Discover the latest innovative fully hardwired deep learning inference super-resolution HW IP that upscales the low-resolution to a high-resolution image in real-time.

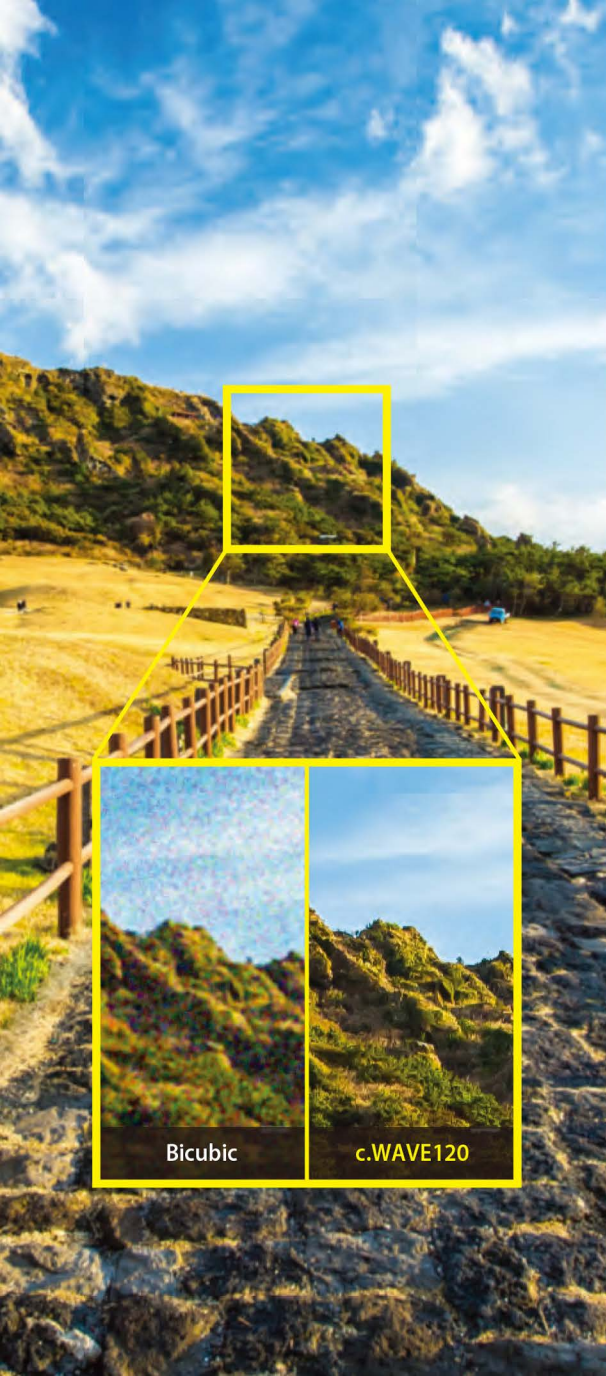
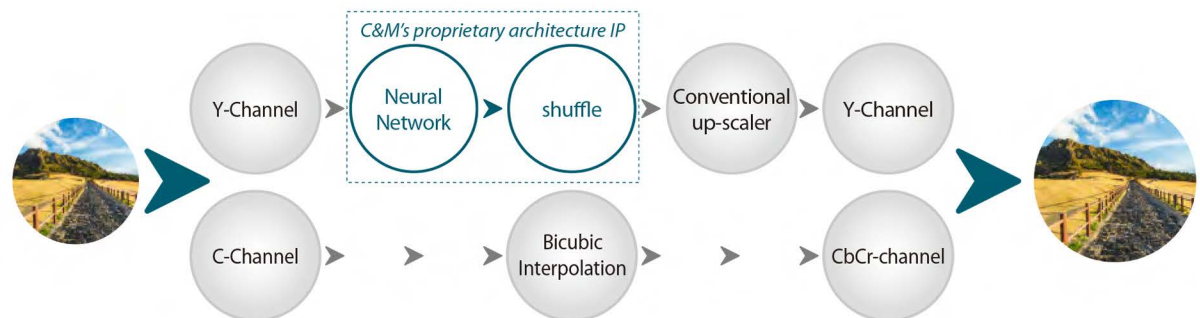
c.WAVE120 is designed and developed for SoC (System-on-Chip), capable of processing 8K (7680x4320) 60fps output images at 550MHz operating frequency.

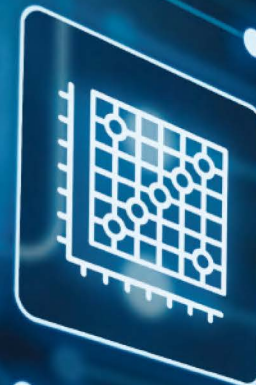
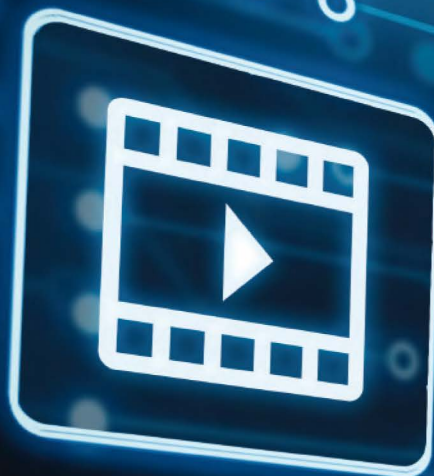
Features

- 8K60fps@550MHz
- Supported scaling ratio
 - x2.0 ~ x8.0 with arbitrary scaling ratio
- Supported On-the-fly and mem-to-mem mode
- No bandwidth required in on-the-fly mode
- Convolutional neural network layers for Y-Channel
 - Features Extraction
 - Constructing HR Image

Deliverables

- Fully verified synthesizable RTL source code
- RTL verification environment
- Programmer's guide
- Datasheet
- Integration, verification guide
- Evaluation platform





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