

CV5A System On Module



Rhonda Software CV5A SoM is the innovative Edge AI camera platform designed for feasibility and POC studies, rapid prototyping, quick development and manufacturing of camera products. It is a smart solution for low-power and high-performance demanding applications. CV5A SoM is the first product to support efficient **8K video recording and streaming at 60p**. The platform enables elevated capabilities of CVflow architecture for DNN work acceleration and high-resolution image processing from multiple cameras.

The rich set of interfaces provides flexibility and accelerates development of intelligent vision systems for Automotive, Medical and Entertainment/Sports use cases.

Key features

LPDDR5
64 Gbit
operating memory

eMMC
64 Gbit
boot & user storage


Ambarella™
CV5AX85

Dual-core Arm® Cortex®-A76 CPU
up to 1.6 GHz

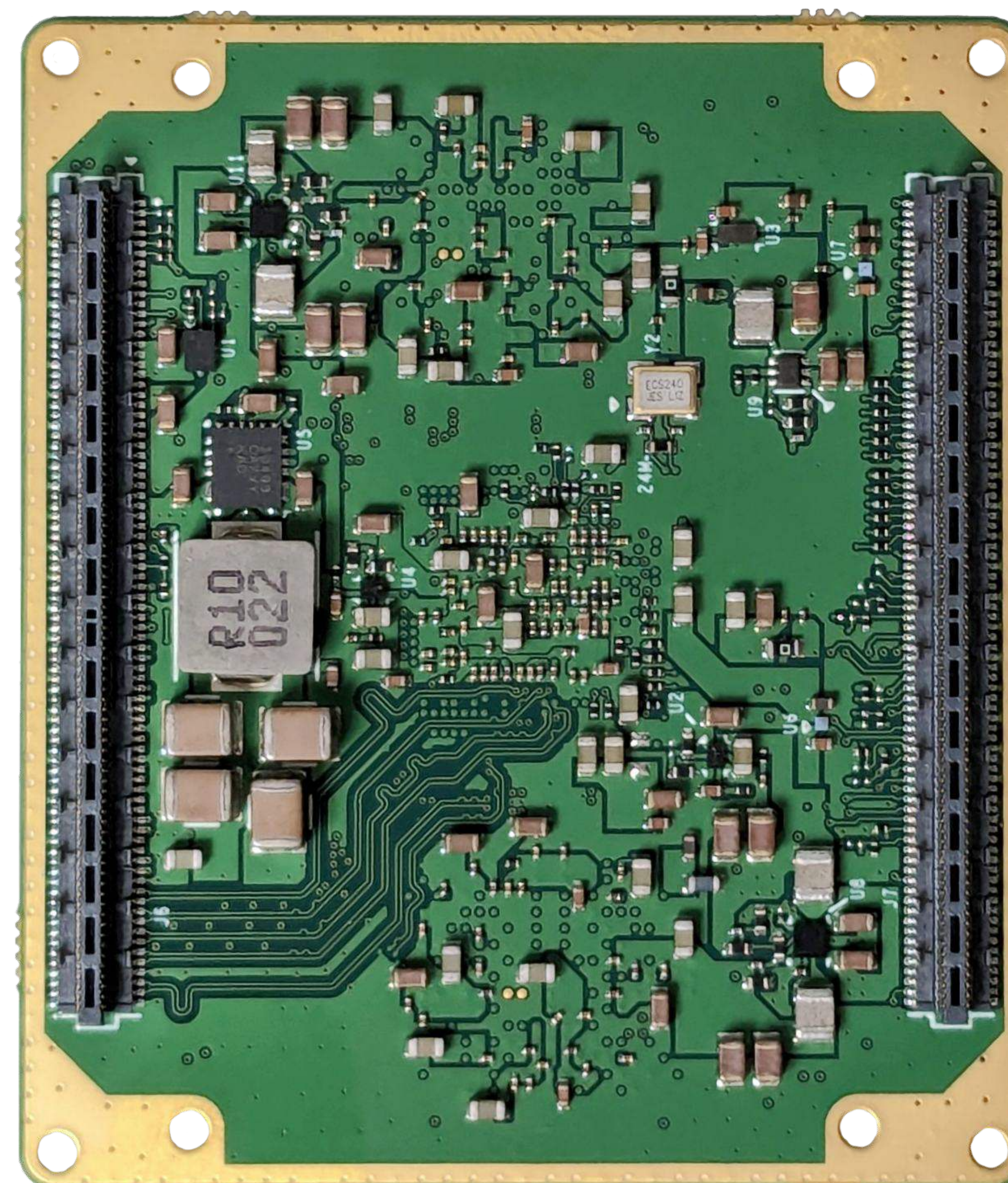
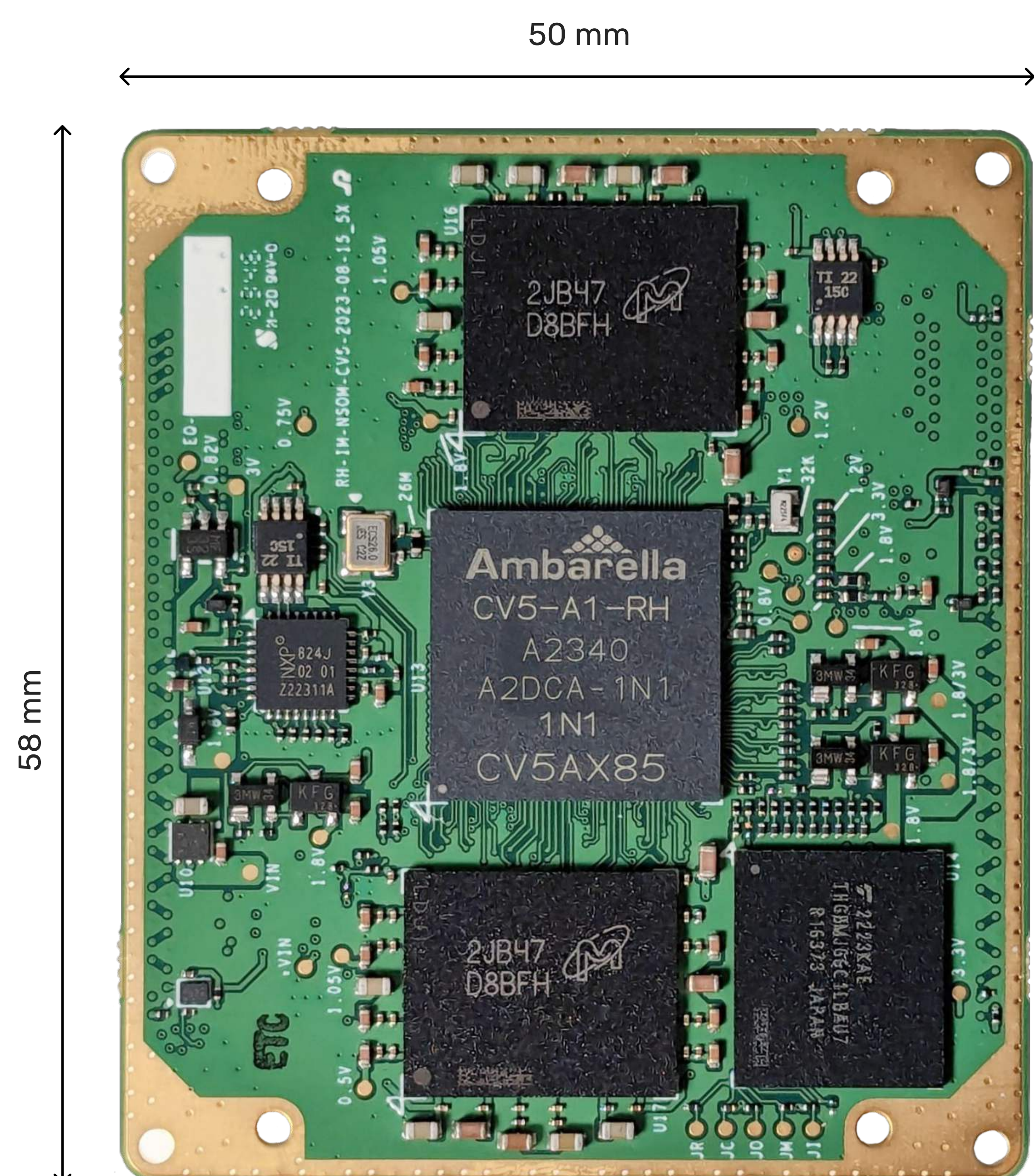
up to **14** image
sensors

CVflow

Hardware accelerator for
running CNN / DNN

Over 30
Image Quality Filters

8Kp60
MJPEG/H.264/H.265
Video encoding



CV5A SoM General Specifications



Key components

- Ambarella® CV5AX85™ SoC
Video processing up to 8Kp60
- 64Gbit LPDDR5 DRAM
- 64Gbit eMMC boot & user memory

Power options

3.6–5V from board-to-board connector

Physical dimensions

Main board size 58×50 mm

Operating temperature

-25°C to 85°C

Image sensor interface

- MIPI C-PHY (3 lanes),
up to 4 virtual channels
- 2 x SLVS-EC (2x6 or 1x8 lanes) or
MIPI C-PHY (3 lanes),
up to 4 virtual channels
- 2 x SLVS (2x4 lanes) or
2 x MIPI D-PHY (2x4 lanes),
up to 6 MIPI virtual channels (3 per PHY)

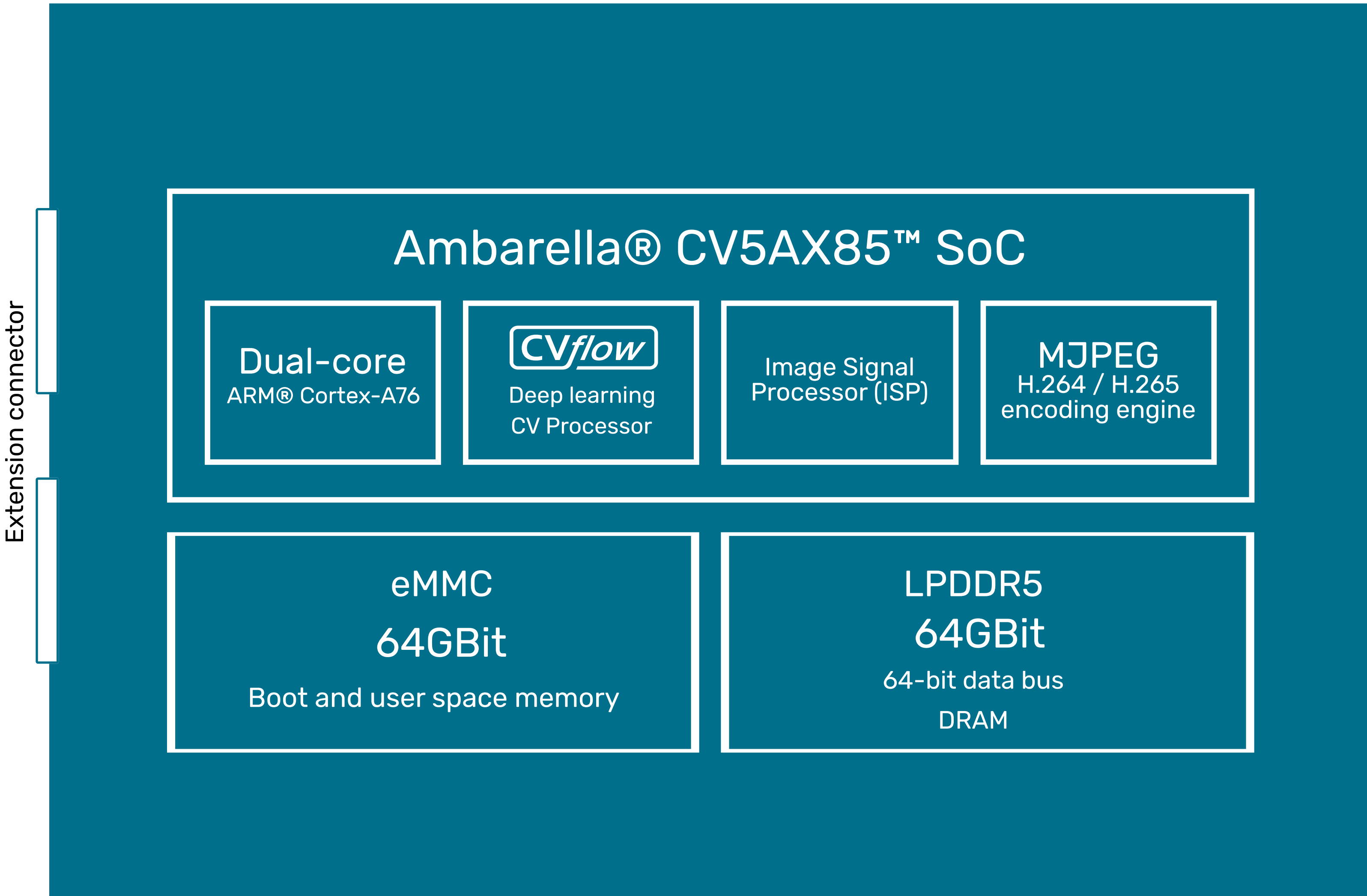
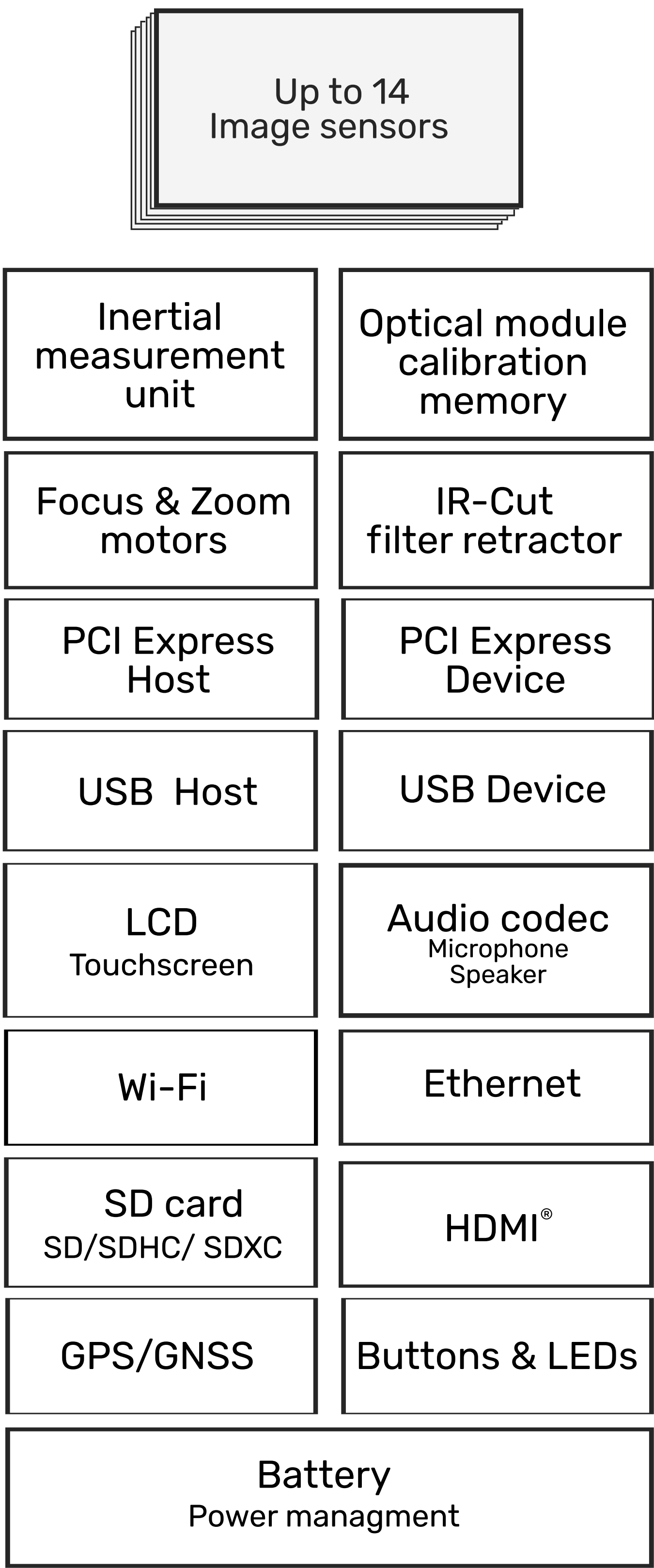
Video output interface

- 2x MIPI DSI / CSI-2
- HDMI® 2.0
- Analog CVBS

Peripheral interfaces

- Gigabit RGMII
- USB 3.2 Host / Device
- PCIe
- SDIO
- I²S
- I²C
- UART
- JTAG
- SPI
- ADC
- GPIO

Rhonda CV5A SoM Block Diagram



Rhonda CV5A SOM product brief v.1.4

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