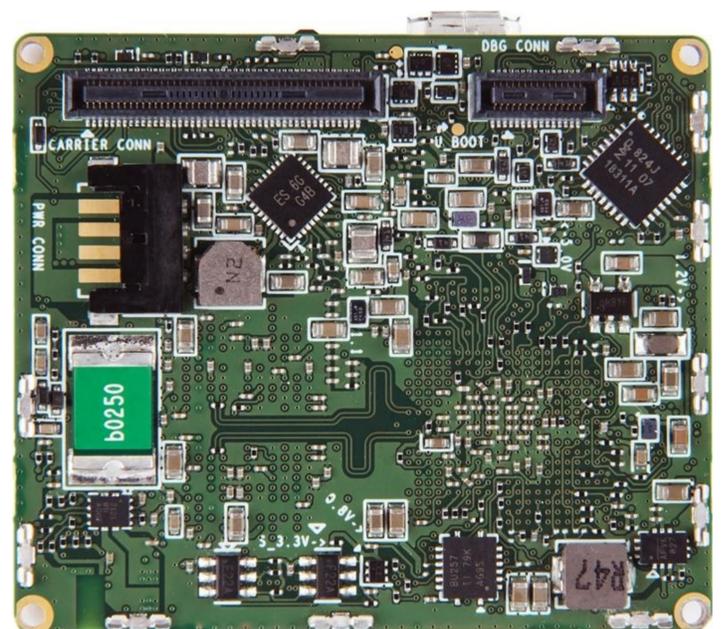
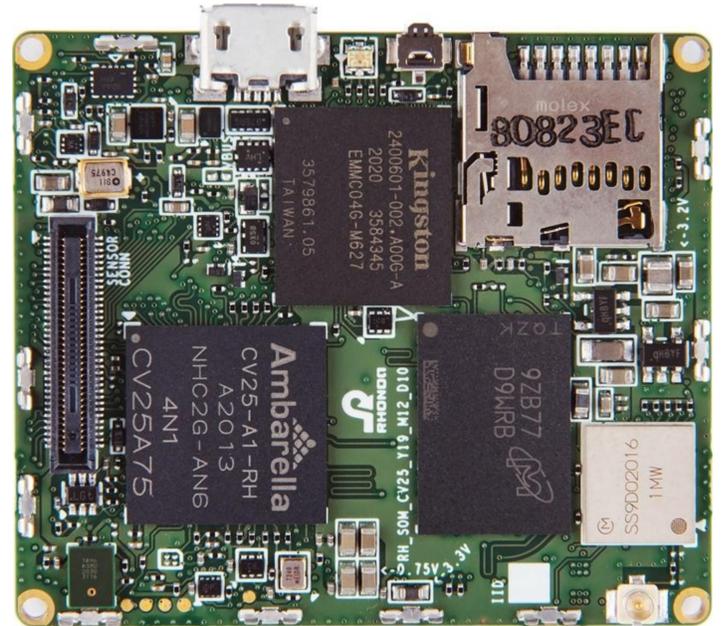


# CV25 System On Module

## Overview

CV25 System On Module (CV25 SoM) is a hardware platform for consumer and professional imaging products. CV25 SoM is based on Ambarella® CV25A75™ SoC. CV25 SoM contains a main board and a set of daughter boards, allowing flexible functionality.

CV25 SoM is low-power, ready-to-integrate and production ready for rapid prototyping, quick development and the production of consumer automotive, robotic or other applications.



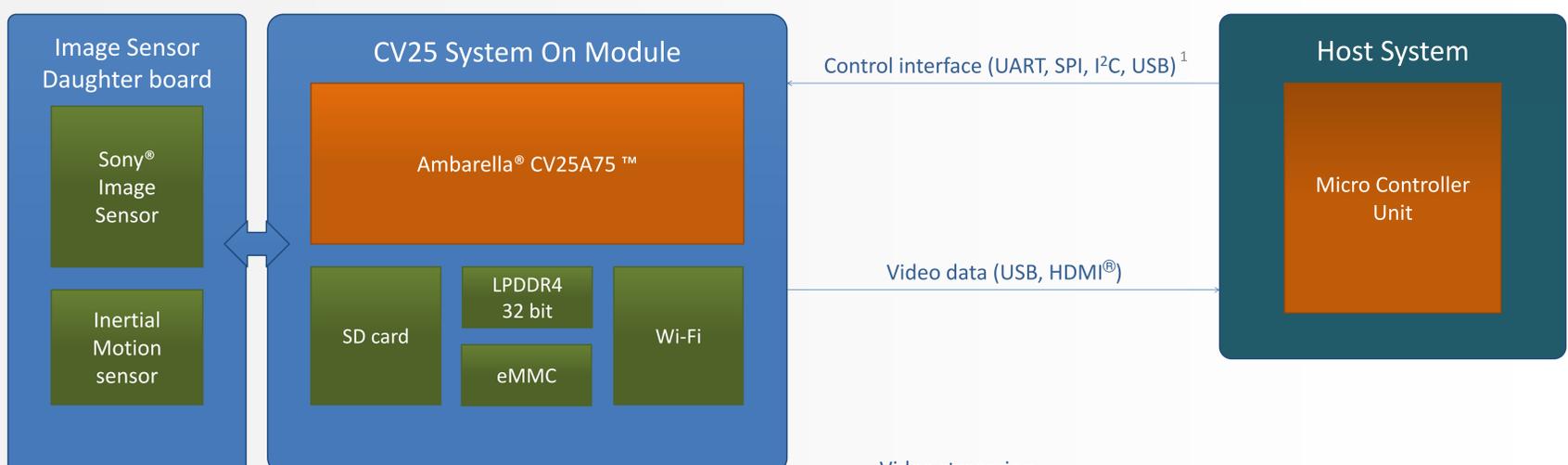
Default package size is 46 x 40 mm

## Key Features

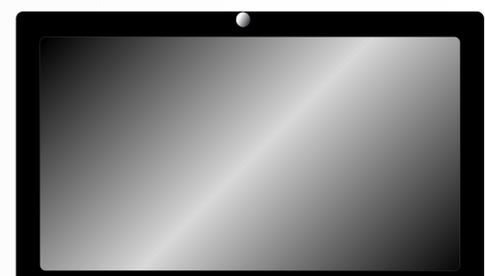
- Convolutional neural network (CNN) / deep learning support
- 6MP30 H.265 video recording
- Superior image quality of Sony® Exmor RS™ image sensor
- Wi-Fi streaming
- USB streaming
- Inertial Motion sensor
- SD card
- USB Host for 4G Mobile connectivity

## Block Diagram

The diagram below illustrates CV25 System On Module interaction with Host System



Video streaming



<sup>1</sup> Control interface is optional, CV25 System On Module may function without Host system control if configured properly

## General Specification

- Ambarella® CV25A75™ SoC
- Up to three image sensor support:
  - 1 sensor: MIPI CSI-2 8-lane or SLVS 8-lane
  - 2 sensors: MIPI CSI-2 4-lane or SLVS 4-lane
  - 3 sensors: 1 sensor MIPI CSI-2 or SLVS 4-lane and 2 sensors MIPI CSI-2 or SLVS 2-lane
- 16Gbit LPDDR4 DRAM
- 16Gyte internal eMMC storage
- Wi-Fi (802.11a/b/g/n/ac)
- Sony® 12.3Mpx (Type 1/2.3") image sensor with tuned image quality<sup>2</sup>
- Optical lens DFOV 165°, physical dimensions 23 mm (length) x 18 mm (diameter)<sup>2</sup>
- Power input: 5V from USB or 3.5-5V from board-to-board connector
- Li-ion battery support<sup>2</sup>
- On-board mono digital microphone
- Speaker and stereo analog microphones support<sup>2</sup>
- Micro SD, SDHC, SDXC card support
- 3-axis accelerometer, 3-axis gyroscope<sup>2</sup>
- GNSS<sup>2</sup>
- Interfaces:
  - 8-bit parallel video output interface for LCD
  - HDMI® 2.0
  - I2S
  - Wide range of peripheral interfaces (UART x3, I2C x2, SPI, ADC x2, GPIOs)
  - USB 2.0 DEVICE
  - USB 2.0 HOST<sup>2</sup>
  - CAN bus
- Operating temperature -20°C to 85°C<sup>3</sup>
- Main board physical dimensions 46 x 40 mm

<sup>2</sup> Available on daughter boards

<sup>3</sup> Temperature range of main board; daughter boards temperature range may be different

## Development platform

CV25 System On Module is a HW platform for integration with Host systems. CV25 SoM provides interfaces for:

- Control (UART, SPI, I2C, USB)
- Video streaming (USB, HDMI®, Wi-Fi)

CV25 System On Module has several working configurations, the startup configuration is flexible and can be easily changed.

To speed up product development, CV25 System On Module is provided with:

- Reference application for integration with Host system
- Configuration file for CV25 System On Module control (settings changing, quick feature testing)
- Detailed documentation including reference board pinout, HW guide, application notes.

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