

CV22 System On Module

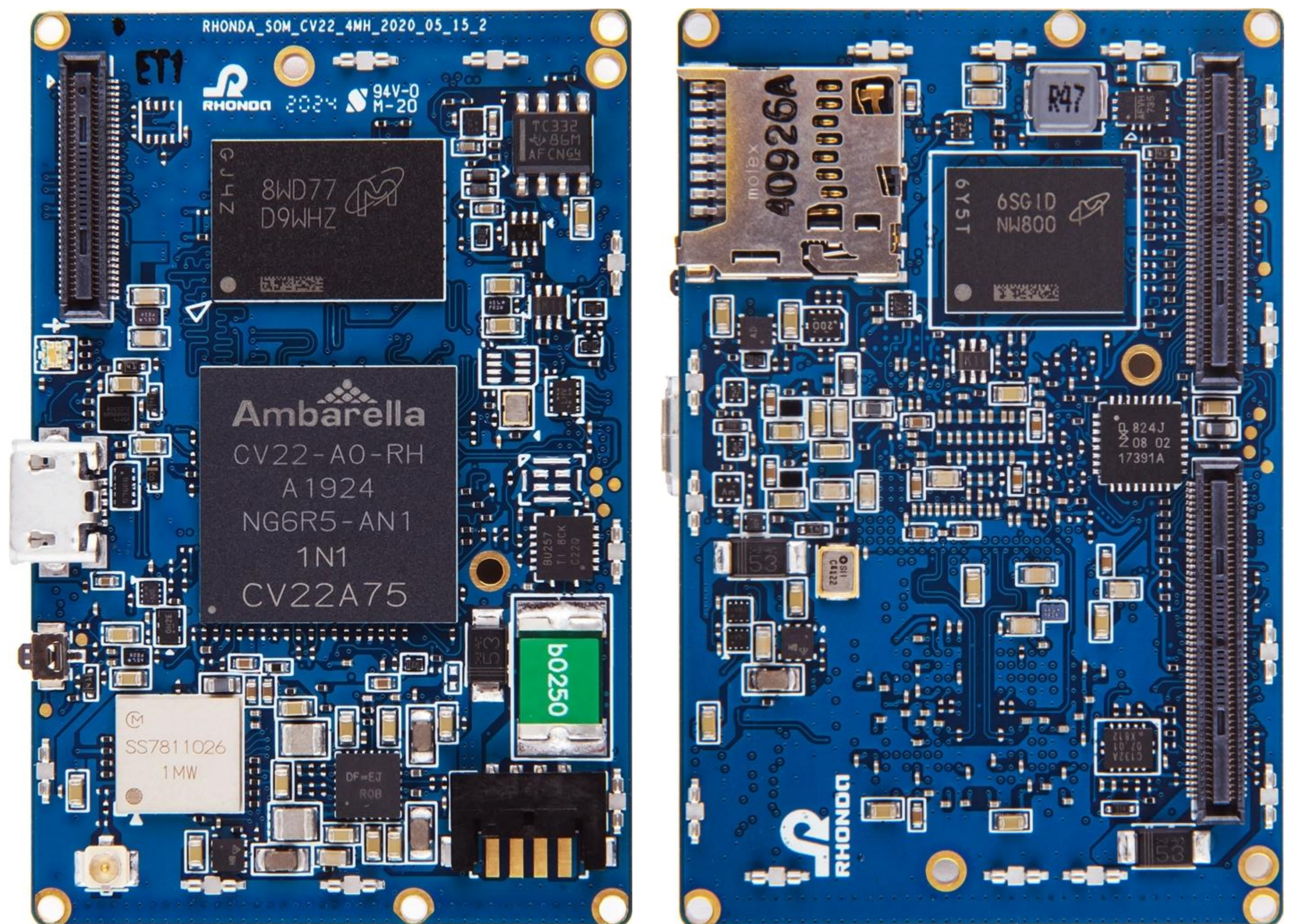
Overview

CV22 System On Module (CV22 SoM) is a hardware platform for consumer and professional imaging products. CV22 SoM is based on Ambarella® CV22A75™ SoC. CV22 SoM contains a main board and a set of daughter boards, allowing flexible functionality.

CV22 SoM is low-power, ready-to-integrate and production ready for rapid prototyping, quick development and the production of robots, drones, or other applications.

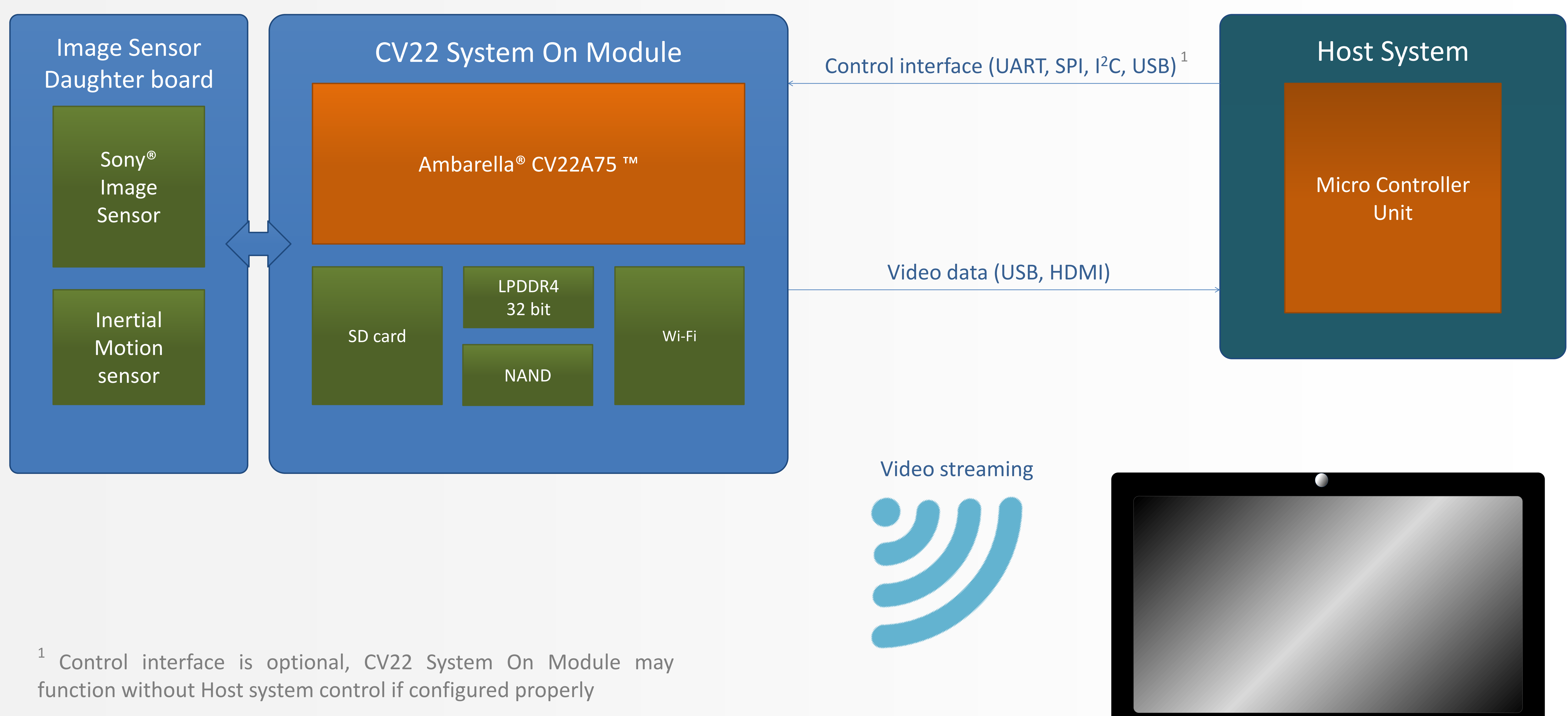
Key Features

- Convolutional neural network (CNN) / deep learning support
- 8MP30 H.265 video recording
- Superior image quality of Sony® Exmor R™ image sensor
- Wi-Fi streaming
- USB streaming
- Inertial Motion sensor
- SD card
- USB Host for 4G Mobile connectivity



Block Diagram

The diagram below illustrates CV22 System On Module interaction with Host System



General Specification

- Ambarella® CV22A75™ SoC
- Dual image sensor support:
 - Primary sensor: MIPI CSI-2 8-lane or SLVS 8-lane
 - Secondary sensor: MIPI CSI-2 4-lane or SLVS 4-lane
- 16Gbit LPDDR4 DRAM
- 2Gbit internal NAND storage
- WiFi (802.11a/b/g/n/ac)
- Sony® 12.3Mpx (Type 1/2.3") image sensor with tuned image quality²
- Optical lens DFOV 94°, physical dimensions 25 mm (length) x 18 mm (diameter)
- Power input: 5V from USB or 3.5-5V from board-to-board connector
- Li-ion battery support²
- Speaker and stereo analog microphones support²
- Micro SD, SDHC, SDXC card support
- 3-axis accelerometer, 3-axis gyroscope, 3-axis magnetometer²
- GNSS²
- Interfaces:
 - Gigabit RGMII
 - HDMI 2.0
 - USB 2.0 DEVICE
 - USB 2.0 HOST
 - 8-bit parallel video output interface for LCD
 - I²S
 - Wide range of peripheral interfaces (UART x3, I²C x2, SPI, ADC x2, GPIOs)
- Operating temperature -20°C to 75°C³
- Main board physical dimensions 58 x 38 mm

² Available on daughter boards

³ Temperature range of main board; daughter boards temperature range may be different

Development platform

CV22 System On Module is a HW platform for integration with Host systems. CV22 SoM provides interfaces for:

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

CV22 System On Module has several working configurations, the startup configuration is flexible and can be easily changed.

To speed up product development, CV22 System On Module is provided with:

- Reference application for integration with Host system
- Configuration file for CV22 System On Module control (settings changing, quick feature testing)
- Detailed documentation including reference board pinout, HW guide, application notes.

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