

iSOM-AWV3

SYSTEM-ON-MODULE

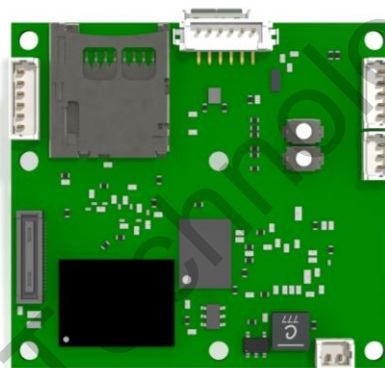
The AWV3-SOM is part of iENSO's modular ecosystem of SOMs, camera modules, and wireless connectivity modules. The AWV3-SOM can be used with our Sony, OmniVision, or OnSemi camera modules. The modular approach allows the addition of our wireless connectivity modules to build an IoT edge-device camera with 3GPP compliant communication using LTE Cat 1 or Cat M1 modems.

APPLICATIONS

- Rapid prototyping for embedded vision
- Dual front/rear facing cameras
- Action/sport/wearable cameras
- Video conferencing and telepresence
- AR/VR and immersive video
- Public View Monitor security cameras
- ADAS (Adv Driver Assistance System)

KEY SPECIFICATIONS

- CPU: ARM Cortex™-A7, up to 1.2 GHz clock rate, low power consumption
- Video Engine: 1080p60 H.264/JPEG codec, capable of up to 70 fps FHD.
- OS: Linux or Allwinner Camdroid OS (Android-lite, NOR flash capable)
- Camera interfaces: 4-lane MIPI CSI2, 8/10/12-bit parallel, BT1120
- ISP: 2 channels in/out, Integrated HawkView® ISP with AE/AF/AWB
- Image corrections: defects, shading, color, noise
- Display out: RGB/i80/LVDS LCD up to 1024x768 resolution



EXCEPTIONAL PERFORMANCE

The AWV3-SOM delivers exceptional performance based on an Allwinner System-on-Chip multimedia application processor with an ARM Cortex™ A7 architecture. The integrated ISP provides MIPI CSI-2 and parallel interfaces with CMOS sensors up to 8M. The Video and Display Engine enable multi-format video encoding, decoding, and display.

ROBUST AND COST-EFFECTIVE

This compact (40 x 44 mm) SOM uses an industry-standard interface for robust and cost-effective integration into embedded systems.

AVAILABLE CAMERA MODULES

- SONY IMX317(8.5M), IMX274(8M), IMX326(5M).
- OmniVision OV8865 (8M)
- OnSemi AR0521 (5.1M), AR0144 (1.0M), AR0130 (1.2M)
- Silicon Optonics JX-F22 (2M), JX-K02 (4M)

AVAILABLE WIRELESS MODULES

- Cat M1 Cellular
- Wifi /Bluetooth

CPU: ARM Cortex™-A7, up to 1.2 GHz clock rate, low power consumption

OS: Linux or Allwinner Camdroid OS (Android-lite, NOR flash capable)

CAMERA IN:

- A: 4-lane MIPI CSI2
- B: 8/10/12-bit parallel CSI
- C: BT1120 input Up to 8M CMOS sensor

ISP:

- Integrated HawkView® Image Signal Processor
- Still images with resolution up to 8M pixels
- 2-channel input for video encoding, various formats
- 2-channel display output, various formats
- Image controls with zone-based statistics: Auto-exposure control, Autofocus, Auto White Balance
- Saturation adjustment
- 2D/3D noise reduction, Defect pixel correction, Image distortion correction

DISPLAY

- RGB/i80/LVDS LCD up to 1024x768 resolution
- Allwinner's SmartColor technology for better images & videos

VIDEO CODEC:

- Encode: H.264 1080p60 (up to 70 FPS), 1080p30, 2-channel, 1080p30 + 720p30 + 720p30 + VGA at 30 fps, JPEG Up to 8 megapixels
- Decode: H.264/1080p @ 60fps., MJPEG 1080@30fps
- Transcode: 1080p MJPEG to H.264

MEMORY:

- Supports 16-bit DDR2/DDR3/DDR3L, LPDDR3/LPDDR2 UP TO 1333mBPS
- Memory capacity up to 2 GB
- NAND/NOR Flash with SPI
- SD/SDIO/eMMC

SOC CONNECTIVITY:

- USB
- Ethernet MAC+PHY (Wi-Fi, 4G/3G) for developing user control apps
- 3x SD card controllers
- LRADC
- SPI
- TWI
- UART
- PWM

AUDIO CODEC:

- 92 dB dynamic range
- 2 ADC channels & 2 DAC channels
- 3 MIC-in
- 1 stereo line-in and 1 line-out
- 1 headphone output

THE RIGHT EMBEDDED VISION SYSTEM FOR YOUR APPLICATION

CONSISTENT QUALITY: From six-axis lens alignment to consistently accurate color quality, to AI and ubiquitous connectivity, we guarantee that every iENSO embedded vision system will perform to spec.

SECURE SUPPLY: With iENSO engineers on the floor in all of our manufacturing partner facilities, we guarantee the quality and quantity of supply you need to make your application a success.

COMPELLING ECONOMICS: With our years of experience in the design and development of industrial, machine and consumer vision technologies, we can provide a cost-effective, no compromise embedded vision solution for your application.

ABOUT iENSO

Established in 2003, iENSO provides imaging and wireless solutions that are helping global brands take their products to the next level in the age of embedded systems and AI platforms. iENSO accelerates the deployment of innovative imaging and wireless products in a wide range

of verticals such as IoT, home automation, automotive, drones, professional entertainment, robotics, remote surveillance and security. With offices in Canada and China, iENSO has perfected the engineering ecosystems that exist between initial design and high-volume manufacturing.



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