



VISION



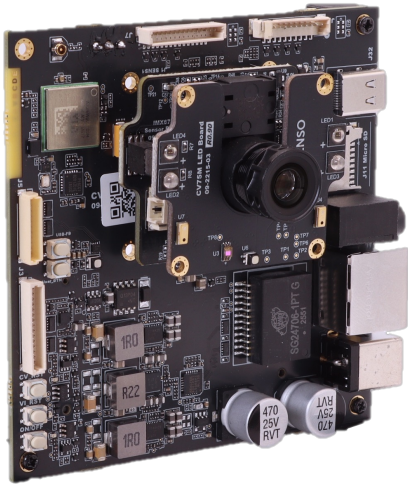
AI



CLOUD



SECURITY



Embedded Vision Camera Platform

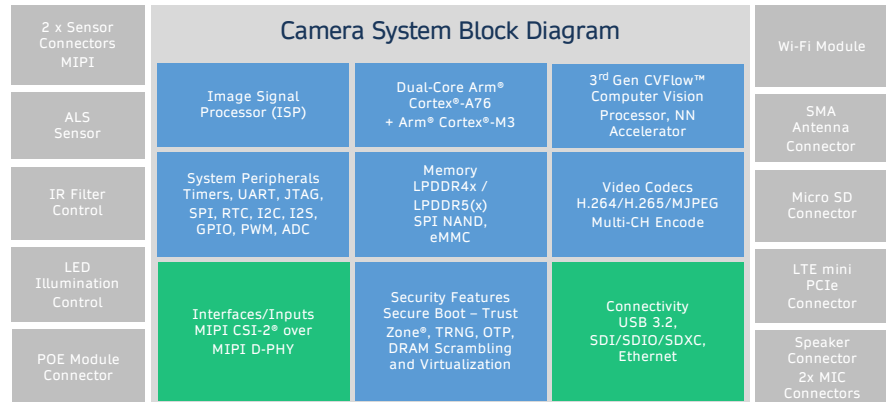
iVS-CV75

Unlock the full potential of vision data for your application.

Embedded, modular, cloud-connected, and secure – iENSO develops and delivers vision systems for any application.

Key features:

- Ambarella™ CV75 SoC based
- Dual-core Arm®Cortex®-A76 up to 1.6 GHz
- Arm®Cortex®-M3 up to 576 MHz
- 4Kp30+ maximum encoding performance
- 3rd Generation Computer Vision Engine featuring CVflow®
- CNN / DNN inference acceleration for detection, classification, and more
- Accelerators for conventional computer vision (CV) operations
- Accelerators for nonlinear functions and transformer neural networks
- 1 Billion parameter LLM / VLM support
- Multi exposure HDR
- 360° fisheye lens distortion correction
- H.265/HVEC, H.264, MJPEG encoding
- Support for 32-bit LPDDR4x / LPDDR5(x)
- Secure boot with TrustZone® and secure memory
- Broad image sensor support
- Based on 5nm low-power CMOS process



Give your vision the edge

- Application-based turnkey embedded vision solutions
- Edge AI for powerful on-device decision-making
- Flexible Cloud platform and end-to-end security



HARDWARE SPECIFICATIONS - iVS-CV75

Featuring Ambarella CV75 Vision AI SoC

Processor	<ul style="list-style-type: none"> Dual-core Arm® Cortex®-A76 up to 1.6 GHz Arm® Cortex®-M3 up to 576 MHz 5 nm low-power CMOS
Sensor I/O	<ul style="list-style-type: none"> 2 physical sensor inputs MIPI CSI-2® Supports up to 8MP CMOS image sensor
Advanced Image Signal Processing	<ul style="list-style-type: none"> Lens shading correction Multi-exposure HDR 3D motion compensated temporal filtering (MCTF) Digital PTZ OSD engine, overlays, privacy mask Crop, mirror, flip, rotation Geometric lens distortion correction Gamma compensation and color enhancement
Video Processing	<ul style="list-style-type: none"> H.265 / HEVC, H.264 / AVC, MJPEG 4KP30+ encoding performance Dynamic region of interest (ROI) encoding per frame Multiple CBR and VBR rate control modules
AI Power Intelligence Video Analytics	<ul style="list-style-type: none"> CVFlow® 3.0 vision processor for CNN/DNN edge analytics Support for latest transformer neural networks Pre-integrated AI Detectors or provide your own Can utilize models trained with industry-standard tools such as Caffe, ONNX, TensorFlow or PyTorch
Networking & Connectivity	<ul style="list-style-type: none"> Wi-Fi 802.11ac 2.4/5GHz Ethernet PoE module (optional) LTE (optional)
Audio	<ul style="list-style-type: none"> Audio Codec Line In and Line Out
Memory	<ul style="list-style-type: none"> 32-bit Bus width 32Gb LPDDR5(x) DRAM 4Gb SPI NAND Flash 64Gb eMMC (or microSD, SW selectable)
Other Features	<ul style="list-style-type: none"> USB 3.2 (Device / Host configurable) Micro SD LED flash control IR filter control Support for zoom/varifocal lenses
Security	<ul style="list-style-type: none"> AES / SHA1 / SHA2-256 crypto acceleration Secure boot with TrustZone® and secure memory, TRNG, OTP, DRAM scrambling and virtualization
Power In	<ul style="list-style-type: none"> 6~12 VDC - 10% / +20% USB-C – 5VDC 3A PoE+ (802.3at type) with PoE module option
Physical	<ul style="list-style-type: none"> Board size - 80 x 80 (mm) / 3.1 x 3.1 (inch) Custom board size available
Environmental	<ul style="list-style-type: none"> Operating temperature: -20°C to 50°C / -4°F to 122°F Operating humidity: 5% to 90%
OS	<ul style="list-style-type: none"> Linux support (Yocto)
Camera Modules	<ul style="list-style-type: none"> Image sensor modules up to 8MP/4K Thermal sensor module options Multiple fixed lens options Varifocal / zoom lens options IR or white LED illumination options IR Filter for night vision options



SECURITY / ACCESS CONTROL



CONSTRUCTION



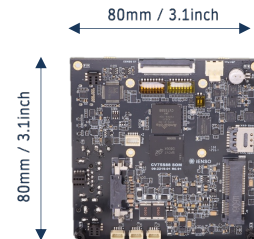
INDUSTRIAL / ROBOTICS



UAV's



SPORTS ANALYTICS



Additional information:

For compatible image sensor modules (ISM's) contact us at vision@ienso.com



www.ienso.com



Established in 2003, iENSO's cutting-edge Embedded Vision Platform as a Service (EVPaaS) platform empowers you to customize an embedded vision solution – integrating hardware, software, and connectivity – to transform your product concept into reality.

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