

Multicam RDK

SOLUTIONS FOR AUTOMOTIVE, INDUSTRIAL AND SCIENTIFIC APPLICATIONS

The Oclea Multicam Reference Design Kit removes the risk and friction from developing your vision-based product.

Computer vision is moving away from treating image sensors as image capture devices; they are **data** capture devices. Applications requiring multiple points of data collection from the environment require complex, specialized tools.

Being able to create responses to this data is the next challenge. While data can be stored remotely, decision-making needs to be made locally. Embedded ML enables object recognition on the device, reducing any latency from using the cloud.

The Oclea Multicam RDK ships with fully functional hardware and software - specifically designed to accelerate development of your idea or product.

The included Oclea™ OS provides demonstration software and an easy pathway for implementing your custom application. Together with up to four image sensor inputs, ethernet, CAN bus, GPS, and WiFi and LTE modem connectivity - we provide a platform for remote object recognition and data collection.

Our validated design ensures all components of your final product work together to accelerate time-to-value for your innovation.

KEY FEATURES

Oclea CV22 μSoM

Powerful Ambarella™ CV22 SoC with H.264/H.265 encoding performance, and integrated Quad-ARM Cortex QA53 Cores @ 1GHz.

Machine Learning on the Edge

Integrated CNN acceleration engine ideal for object recognition and classification applications.

4x Image Inputs

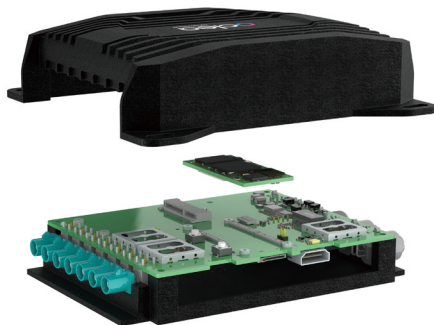
Remote image sensors using SERDES architecture. Allows for 1080p30 image sensors at 15m distance.

Connectivity

The Multicam RDK has ethernet, dual-band Wi-Fi, Bluetooth 5.0, USB, and CANbus interfaces. Expansion options for LTE and GPS.

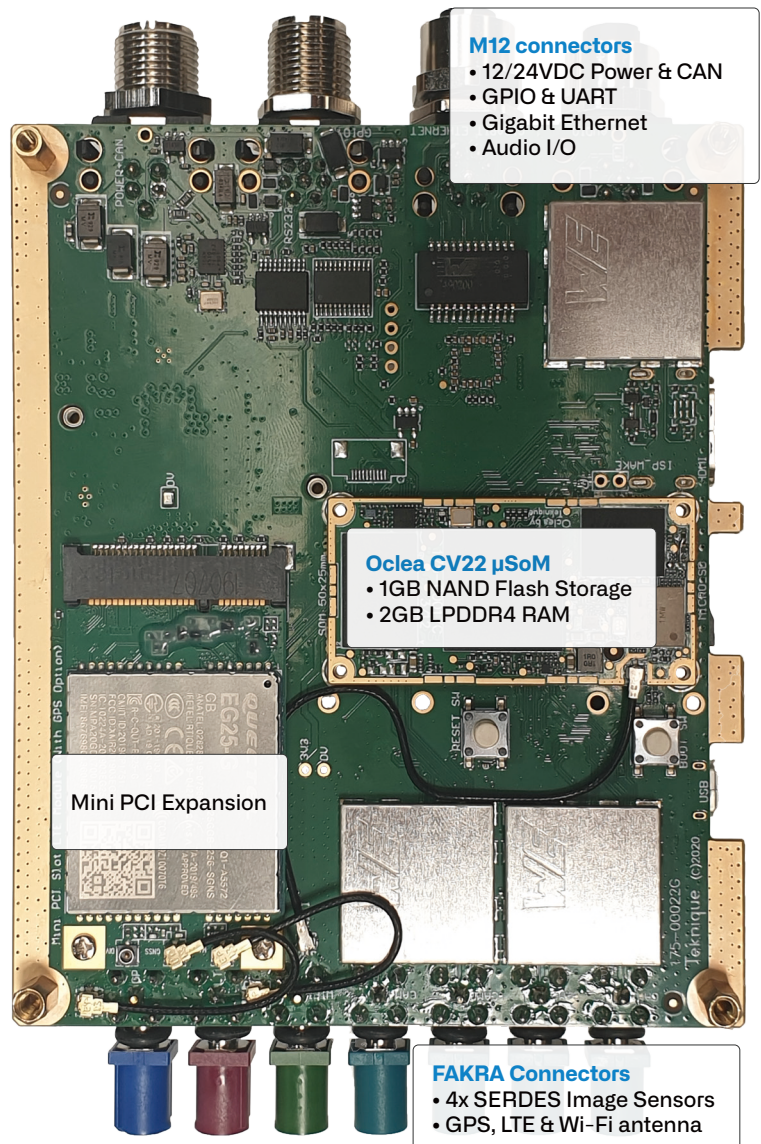
Included SDK

Software Development Kit (SDK) is shipped with example applications for video recording, facial recognition, streaming, object detection, segmentation, WebRTC and more.



Multicam RDK

Size 100mm x 153mm x 35mm • **Weight** 190g
Shown Actual Size (Right)



MAIN COMPONENTS

Oclea™ CV22 μSoM

- Ambarella™ CV22 SoC
- 1GB NAND FlashText
- 2GB LPDDR4 1600MHz DRAM

VIN

- 4x SERDES Video Inputs
- 2MP, 60fps each
- 1x MIPI VIN
- Up to 540MP/s total
- Range of supported sensors*
- FAKRA SMB connector

SDK System Requirements

- PC with x86-64 architecture
- Ubuntu Linux 20.04 LTS
- 1TB free disk space

INPUT/OUTPUT INTERFACES

Ethernet

- 10/100/1000 Ethernet
- M12 X-code connector
- Dual-band Wi-Fi 802.11a/b/g/n/ac
- FAKRA SMB antenna connector

LTE + GPS

- Mini PCI interface for optional** LTE + GPS module
- Quectel EG25-G LTE Cat 4 Module
- Worldwide coverage
- FAKRA SMB antenna connector

What's in the RDK

- Multicam RDK Hardware
- Oclea CV22 SOM
- 4x Image Sensor Serializer Boards and coax cables
- 12VDC Power Supply

CAN Bus

- CAN FD interface
- 5-pin M12 connector

Peripherals

- I2C
- UART / RS232
- USB
- 4x GPIO
- MicroSD Card
- HDMI VOUT
- RTC Battery Backup
- Audio in/out codec

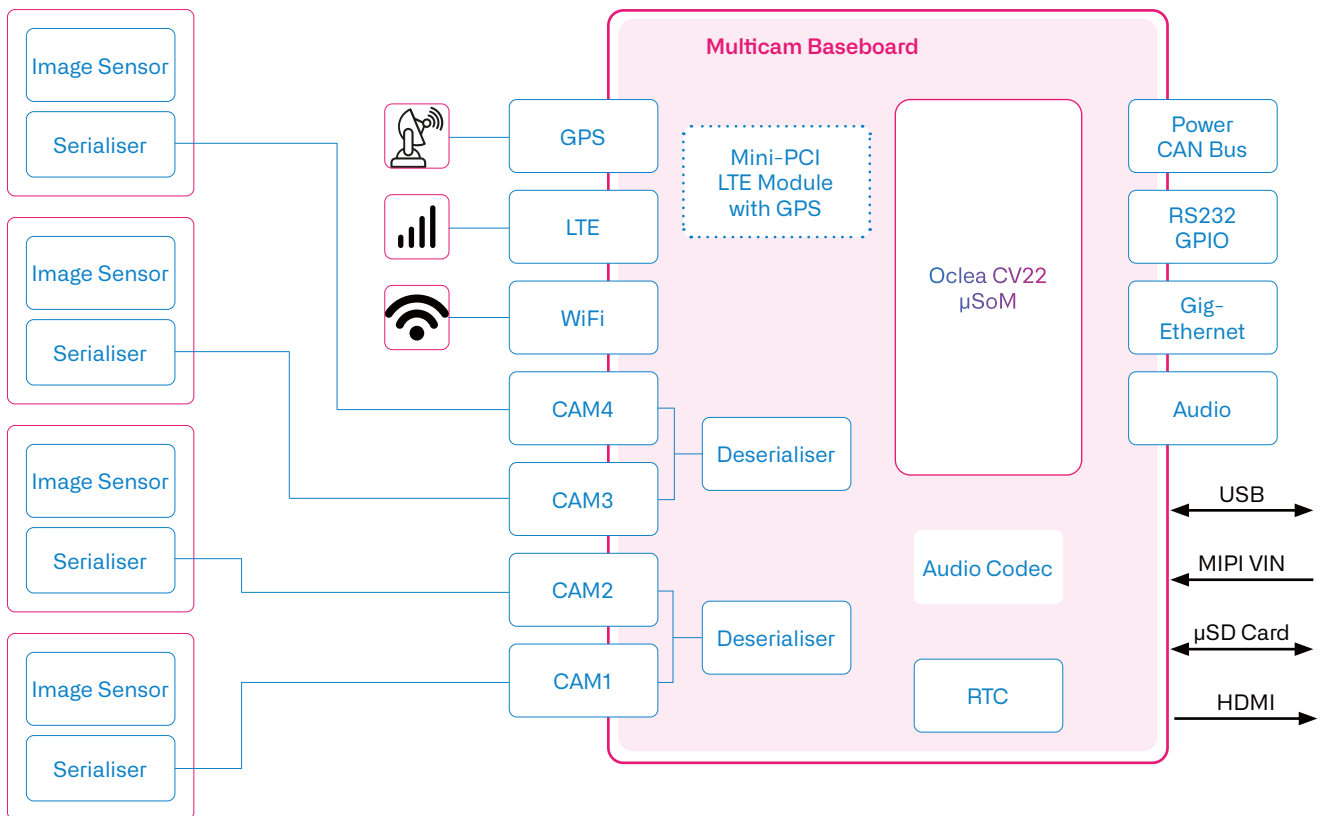
Power Consumption

- 12/24VDC Input

- M12 X-code Ethernet cable
- Schematics and PCB design files
- Engineering and design support via support.oclea.com online portal

* **A NOTE ON SENSOR SUPPORT** Please check with your Sales Representative regarding Image Sensor options and Video Input support. New sensors or video input support may require NRE or custom engineering services.
 ** Please specify options when ordering

Multicam RDK Block Diagram



Oclea_PB_MulticamRDK_2.0

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