

3D Depth RDK

SOLUTIONS FOR ROBOTICS, SLAM AND ACCESS CONTROL APPLICATIONS

The Oclea™ 3D Depth Reference Design Kit removes the risk and friction from developing your vision-based object-recognition and location aware robot.

Robotics are moving from the industrial environment and into the home. As machines are moving in the same spaces that people live and work in, machine awareness of environments and surroundings becomes more important.

The Oclea 3D Depth RDK ships with fully functional hardware and software - specifically designed to accelerate the entry into this emerging market.

The included Oclea™ OS provides demonstration software and an easy pathway for implementing your custom application. Together with our industry-leading partner ams Osram we provide a platform for object recognition and SLAM.

Our validated design integrates sensors, computing power and software to ensure all components of your final product work together to accelerate time-to-value for your innovation.

KEY FEATURES

Oclea CV25 μSoM

Powerful Ambarella™ CV25 ISP with H.264/H.265 encoding performance, and integrated Quad-ARM Cortex-A53 Cores @ 1GHz

ams OSRAM SERES 5

Built for 940nm photonics. Integrates stereo vision, structured light projection, Time of Flight sensors and IR flood illumination.

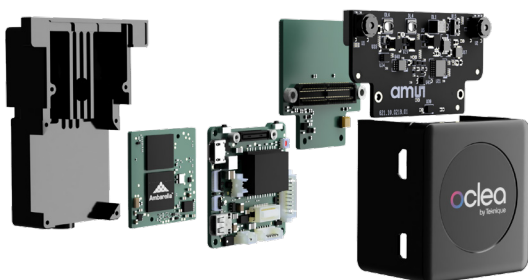
Proven Hardware

Accelerate time-to-market and reduce development effort by using a modular approach to hardware and software.

Small form factor, low power, high speed peripherals and networking hardware on-board.

Included SDK

Software Development Kit (SDK) is shipped with example applications for depth mapping, point cloud streaming, object detection, facial recognition, streaming, segmentation, WebRTC and more.



Oclea Depth RDK

Size 57mm x 75mm x 31mm • **Weight** 106g

ams OSRAM SERES 5 Sensor Board

- 2x MIRA Image Sensors
- 1x Direct Time of Flight Sensor
- 1x BELAGO Dot-Pattern Illuminator
- 2x OSLON BLACK IR Flood LEDs



- Oclea CV25 μSoM**
- 8GB eMMC
 - 2GB LPDDR4 SDRAM

Small Form factor
Actual Size shown

INTERCONNECTING PCBs

- Oclea CV25 μ SoM
- ams OSRAM SERES 5.x Sensor Board
- Oclea OEM Baseboard
- Oclea / ams OSRAM Sensor Adapter

POWER

- 12VDC Input

SDK SYSTEM REQUIREMENTS

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

NETWORKING

- 10/100 Mb/s Ethernet
- 802.11 a/g/b/n Wi-Fi

PERIPHERALS

- HDMI VOUT
- μ SD Card
- USB 2.0
- GPIO

WHAT'S IN THE RDK

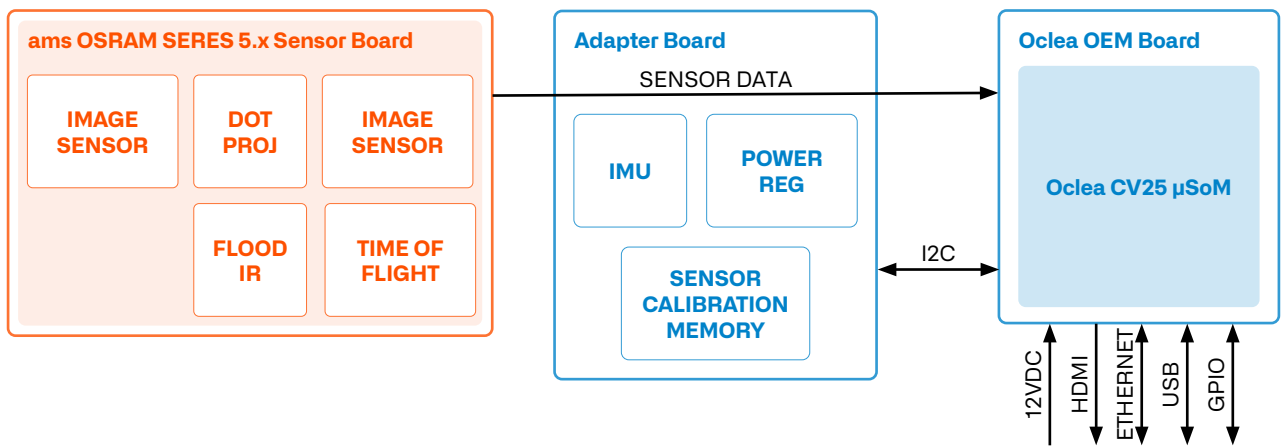
- Oclea Depth Device
- ams OSRAM SERES 5.x board
- Oclea SDK
- Getting Started Guide

SOFTWARE

- Custom build your Oclea OS using the Yocto Project® build tools
- GStreamer framework
- 3D Depth example applications
- ML / CNN example applications
- SDK Support for ams OSRAM SERES board

- Schematics and PCB Design files
- 12VDC Power Supply
- Engineering and design support via support.oclea.com online portal

Oclea Depth RDK Block Diagram



SERES Sensor board

Configuration options - Specify at time of order



	IMAGE SENSOR	DOT PROJECTOR	FIELD OF VIEW	FLOOD ILLUMINATOR	ToF SENSOR
SERES 5.0.11-MONO IR-Only	2x MIRA-130 1.3MPx 940nm IR	BELAGO 1.1 5k random dots	Portrait 47° x 55°		
SERES 5.1.12-MONO IR-Only	2x MIRA220 2.2MPx 940nm IR			2x OSLOM BLACK SFH4725 940nm	TMF8828 8x8 Multizone dToF
SERES 5.1.12-RGB RGB-Only	2x MIRA-220 2.2MPx RGB	BELAGO 1.2 15k random dots	Landscape 61° x 53°		
SERES 5.1.12-RGBIR RGB+IR	2x MIRA220 2.2MPx 940nm IR + RGB				

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