

# Oclea™ S5L μSOM

The Oclea S5L System on Module (μSoM) combines the Ambarella™ S5L System-On-Chip (SoC), DRAM, Flash memory, and key peripherals together in a single package. The S5L μSoM represents a proven and reliable hardware design to speed your product time-to-market and mitigate the risk of costly hardware design errors.

The S5L μSoM is suitable for applications in surveillance, industrial automation, automotive, smart home/smart city, robotics and retail markets.

Paired with Teknique’s royalty-free SDK\*, the μSoM platform is ready to enable new products leveraging Ambarella’s low power, best-in-class video processing and encoding camera technology. The rich API enables many encoding features, supports multi-stream processing, a dynamic dewarp engine, and WebRTC live streaming.

Teknique’s flexible SDK provides a Linux-based framework with an environment based on GStreamer. The Oclea software platform is delivered with integrations to leading cloud service provider ecosystems via a mature but flexible REST API. Additionally, the SDK includes pre-defined demonstration applications that allow your software team to ramp up on this powerful platform quickly and start immediate development.

KEY FEATURES

**Great Power, Great Efficiency**

4Kp30 + 720p30 + 4Kp1 JPG encoding performance provides high quality video with efficient H.264 and H.265 encoding.

**Simplicity**

Teknique’s SDK\* simplifies development of your vision product and runs on Linux, with popular integrations already done for you – so you can start your development immediately.

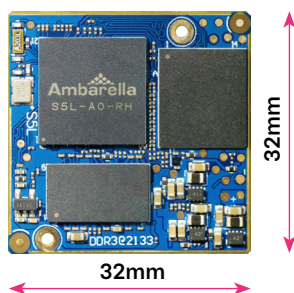
**Advanced Image Processing**

Electronic image stabilization, HDR, hardware de-warping engine support, and 2D/3D noise correction for excellent low-light image quality.

**High Performance, Low Power Size**

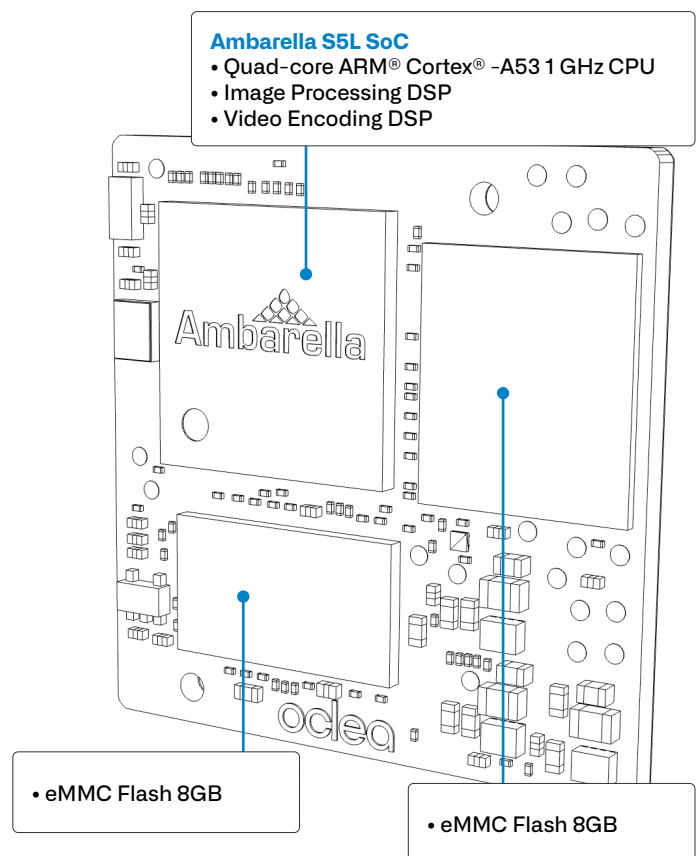
Powerful Arm processor cores can manage your embedded application with ease, within a low-power envelope.

**Actual Size**



**Oclea S5L μSoM**

Size 32 x 32 x 3.99 mm • Weight 5g



\* The SDK is available with purchase of the Oclea™ EVK - please refer to the Oclea™ EVK product brief for more detail.

**MAIN COMPONENTS**

**Ambarella S5L SoC**

- Quad-core ARM Cortex-A53 1GHz CPU
- Image Processing DSP
- Video Encoding DSP

**Memory and Storage**

- 8GB eMMC Flash
- 1GB LPDDR3 912 MHz DRAM
- Micro-SD Card (SDIO)

**INPUT/OUTPUT INTERFACES**

**Rich Video Sensor Interface**

- Primary Sensor Input
  - up to 8 Lane SLVS/MIPI
  - 8 bit Parallel LVDS
- Secondary Sensor Input
  - up to 4 Lane SLVS/MIPI
- With SERDES Front End
  - support for up to 4 Image Sensors
- Maximum Input Rate - 640MPixels/s

**USB 2.0 Host/Device**

**HDMI 1.4b Interface**

**Gigabit Ethernet**

**Many Additional Peripherals**

- UART, I2C, GPIO, I2S, PWM, etc

**POWER CONSUMPTION AND SDK**

**Lab measured power consumption**

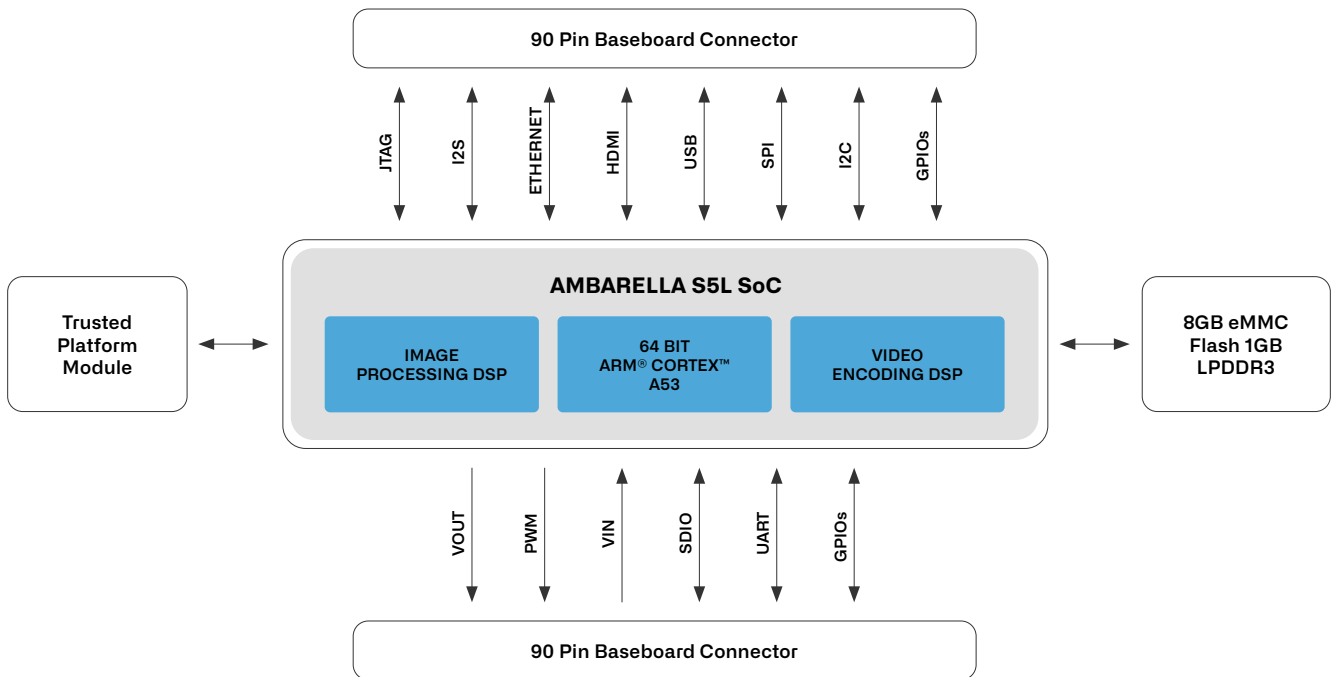
- Single stream 720p30 encoding - 1.5W
- Single stream 1080p encoding - 1.8W
- Dual stream 1080p30 encoding - 2.25W

**Mature and Highly Programmable SDK**

- Custom build your Oclea OS using the Yocto Project® build tools
- Linux® kernel version 5.15
- GStreamer framework with sample demo applications in full source
- Mature and extendable REST API for cloud service integration
- Rich set of APIs that enable a wide range of product customizations.

**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.

**Hardware Block Diagram**



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