OVMed®-0105 Pro Class Medical Image Processing Unit product brief

Best in Class Image Quality and Features for Endoscope CCUs

lead free

available in a lead-free package

OmniVision's OVMed®-0105 Image Processing Unit (IPU) is an FPGA-based, imaging solution that offers best-in-class image quality up to 4K2K resolution, along with dual-channel processing to support stereoscopic 3D imaging. It also features streaming video at 60 frames per second, dynamic shading control, distortion correction, advanced backlight compensation, automatic exposure and gain control window, exposure weighting and compensation, advanced auto white balance, color enhancement, hue, halation, contrast adjustment/enhancement/curve, high dynamic range, crop/digital zoom, resize, frame-rate control, freeze, time lapse, dual image display, illumination control, RAW 8/10/12 image output, and RGB565/888 bypass mode.

The OVMed®-0105 IPU interfaces with our high-performance medical image sensors and can fit into an endoscope's camera control unit (CCU). This IPU accelerates time to market by allowing customers to rapidly integrate our high-resolution, high-performing ISP into their medical devices, with multiple digital I/O options including 4-lane digital MIPI/sub-LVDS input and the ability to connect with image sensors via longer input cables of up to five meters.

The OVMed®-0105 is ideal for use in medical endoscopes for gastrointestinal and airway-management applications.

Find out more at www.ovt.com.

OmniVision®

OVMed®-0105

Applications

- Medical and Veterinary Endoscopes
- Security and Surveillance System
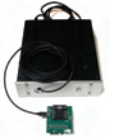- Industrial Processing Cameras

Product Features

- Integrated design: sensor, processor bridge, ISP, and PC interface
- Easily adjustable system parameters with pre-defined buttons
- Premium ISP delivers high quality images
- Ready-to-use Software Development Kit (SDK) to facilitate IP integration
- Seamless evaluation and build with customer equipment
- Market-ready, end-to-end solution
- Software compatibility with Windows, Linux, and MacOS platforms

Ordering Information

- **OH00000-EG00-0105**
  Complete SDK Evaluation Kit (Pro) for OH01A-based Medical Camera (E3)

  Package Includes:
  - OmniVision camera AA module with OH01A image sensor
  - PCB board for digital interface, signal converter and ISP
  - USB cable with USB mini connector
  - CD-ROM containing:
    • Installation program
    • OVMed®_SDK_Install_Guide
    • OVMed®_SDK_User_Guide
    • Demo programs with source code

Product Specifications

- Supports image size: 720p, 1080p
- Image output formats: RGB, RAW, and YUV
- Sensor interface to MIPI signal interface
- HDMI output interface (optional)
- USB 5V power supply
- Current 500 mA
- USB3.0 interface
- Supports AEC/AGC/AWB control
- Supports manual white balance
- Supports brightness/contrast adjustment
- Supports saturation adjustment
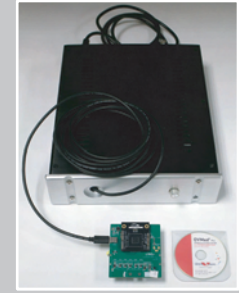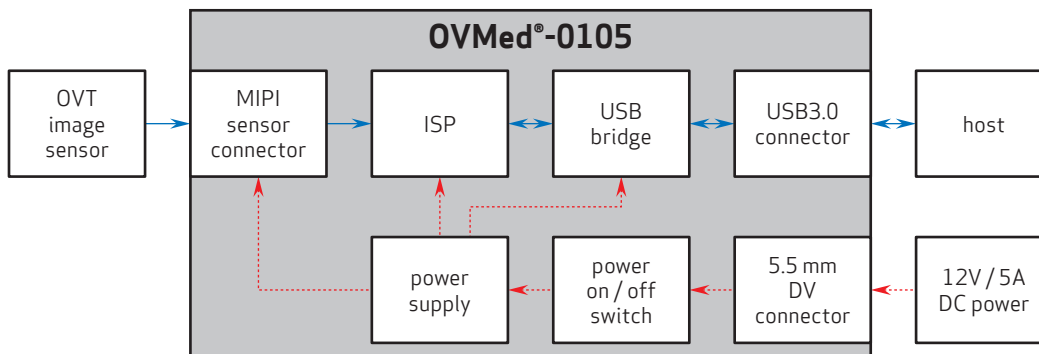- Supports sharpness adjustment
- Supports de-noise function

Software Development Kit (SDK)

- The OVMed®-0105 IPU comes with a Software Development Kit (SDK), a ready-to-use integration tool that enables customers to develop applications as needed. The SDK also provides a C++ callable function library. The SDK's main features include:
  - Provides system initialization and load setting
  - Provides interface for image output formats (RAW, YUV, RGB)
  - Provides interface for system controls for settings such as brightness, contrast, saturation, sharpness, and de-noise
  - Auto white balance (AWB) and Manual white WB control.
  - Customizable development of new Graphical User Interfaces (GUIs) and applications
  - No hardware modification or registration required
  - Supports customer-defined function buttons
  - Provides tutorial for API use with executable source code
  - Library provided in binary (DLL) format
  - Supports Windows OS, MacOS and Linux OS* platforms

Mechanical Specifications

- Size L: 220 mm W: 170 mm
- Power switch: 1
- Input connector: OmniVision AA Module
- Output USB connector: USB3.0

Functional Block Diagram

Version 1.0, January 2019