



OVMed®

MEDICAL  
DESIGN BRIEFS

2019 Product of the Year

# OH0093 Advanced Class Medical Imaging Processing Unit product brief



## Compact IPU With High Image Quality for Endoscope CCUs

OmniVision's OVMed® OH0093 Image Processing Unit (IPU) is an FPGA-based, imaging solution featuring advanced automatic exposure and gain control, RGB noise reduction, edge enhancement and RAW 8/10/12 image output. The OVMed® OH0093 IPU interfaces with our high-performance medical image sensors and can fit into an endoscope's camera control unit (CCU).

This IPU allows medical designers to leverage the benefits of our extremely small image sensors with easy integration into their systems, enabling a short time to market with high image quality.

Find out more at [www.ovt.com](http://www.ovt.com).



## Applications

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

## Product Features

- Integrated design: sensor, processor bridge, ISP, and PC interface
- Seamless evaluation and build with customer equipment
- Small form factor to fit space-constrained equipment
- Market-ready, end-to-end solution
- Easily adjustable system parameters with pre-defined buttons
- Software compatibility with Windows
- Advanced ISP delivers high quality images
- Light control function including ALC (Automatic Light Control)
- Ready-to-use Software Development Kit (SDK) to facilitate IP integration
- Patient Isolation design
- Low EMC/EMI to help passing customer medical device certification

## Product Specifications

- Supports image size: 400 x 400, 200 x 200
- Supports AEC/AGC/AWB control
- Image output formats: RGB, RAW, and YUV
- Supports manual white balance
- Sensor interface to 4 pin OV6946 mixed signal interface
- Supports brightness/contrast adjustment
- Output interface USB2.0 interface
- Supports saturation adjustment
- Current 300 mA (min >30 mA; max <500 ma)
- Supports sharpness adjustment.
- Supports deFPN and de-noise function

## Software Development Kit (SDK)

- The OVMed<sup>®</sup> OH0093 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

# OVMed<sup>®</sup> OH0093



## Evaluation Kit Ordering Information

- **Contact Sales Rep**  
OVMed<sup>®</sup> ISP (advanced) with USB output

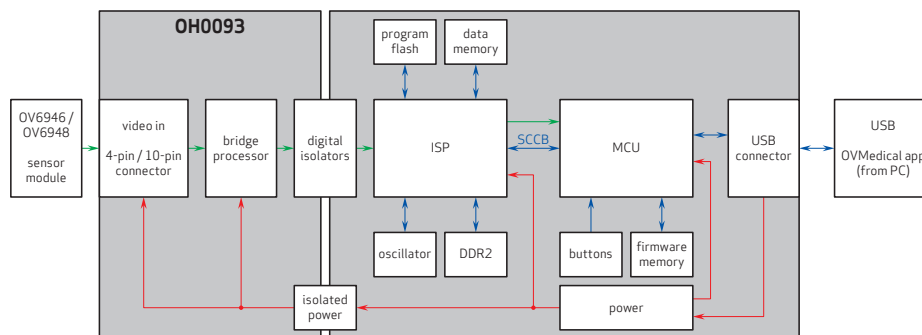
### Package Includes:

- OmniVision camera AA module or OVMed<sup>®</sup> cable module with OV6946 image sensor
- PCB board for OV6946 interface, OV426 A/D converter and ISP
- USB cable with USB mini connector
- CD-ROM or USB stick containing:
  - Installation program
  - OVMed\_SDK Install\_Guide
  - OVMed\_SDK User\_Guide
  - Demo programs with source code

## Mechanical Specifications

- Size L: 86 mm W: 35 mm
- Output USB connector: Mini USB
- Input connector: 4-pin OmniVision AA Module; 10-pin Hirose connector

## Functional Block Diagram



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