OH0093

OVMed® ISP product brief

Advanced Class Medical Imaging Processing Unit – 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.

MEDICAL DESIGN BRIEFS
2019 Product of the Year

◎ OMNIVISION™

OVMed® OH0093

Evaluation Kit Ordering Information

Example Evaluation Kit Pictured Here

- Contact Sales Rep
  OH0093 evaluation kit for
  OVM6946 based medical camera

- Package Includes:
  - OMNIVISION camera AA module or OVMed® cable module with OVM6946 CameraCubeChip®
  - PCB board for OV6946 interface, OV426 A/D converter and ISP
  - USB cable with USB mini connector
  - Download available for OvtMedical demo software

Applications

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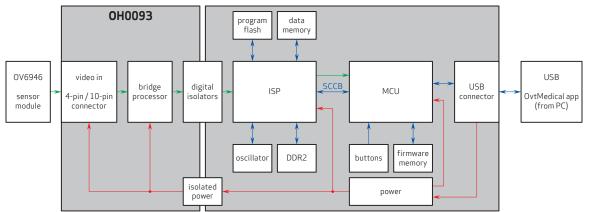- Industrial Processing Cameras
- Security and Surveillance System

Product Features

- Integrated design: sensor, processor bridge, ISP, and PC interface
- Small form factor to fit space-constrained equipment
- Easily adjustable system parameters with pre-defined buttons
- Advanced 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
- Light control function including ALC (Automatic Light Control)
- Patient Isolation design
- Low EMC/EMI to help passing customer medical device certification

Software Development Kit (SDK)

- The OVMed® 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

Product Specifications

- Supports image size: 400 x 400
- Image output formats: RGB, RAW, and YUV
- Sensor interface to 4 pin OV6946 mixed signal interface
- Output interface USB2.0 interface
- Current 300 mA (min >30 mA; max <500 ma)
- USB 5V power supply
- Supports AEC/AGC/AWB control
- Supports manual white balance
- Supports brightness/contrast adjustment
- Supports saturation adjustment
- Supports sharpness adjustment.
- Supports deFPN and de-noise function

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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