OVMed®

MEDICAL DESIGN BRIEFS
2019 Product of the Year

OH0130 Advanced Class Medical Imaging Processing Unit product brief

OmniVision Expands OVMed® Image Signal Processor Family for Endoscopes and Catheters with MIPI and Analog Input Interfaces

OmniVision's OH0130 ASIC-based board is a member of its award-winning OVMed® medical image signal processor (ISP) family, designed to pair with its high performance medical image sensors for quick integration into single-use and reusable endoscopes as well as catheters. The OH0130 supports all of OmniVision's HD and analog medical image sensors, enabling customers to expand to full HD imaging with no ISP system redesign.

The OH0130 offers a cost-effective option for creating a camera control unit (CCU) system platform that can process higher, full-HD resolution images of up to 1080p from a broad range of image sensors with a single board. It accepts dual inputs for either a MIPI interface or a 4-wire analog interface, making it compatible with OmniVision's entire portfolio of medical image sensors. The OH0130 offers these high performance features, along with USB 3.0 Type C, HD output, in a small form factor that can fit into the handle of a larger endoscope or into a CCU. USB-C connectivity enables developers to create their own user interfaces and perform post-processing of the image for enhanced diagnostics.

The OH0130 also supports an LED control board that can adjust the image brightness. These features make the OH0130 an ideal imaging solution for a wide range of endoscopic procedures, including airway management and urology, using esophagoscopes, laryngoscopes, thorascopes, pleuroscopes, bronchoscopes, mediastinoscopes and utero-renoscopes.

Additionally, it is medically pre-certified to comply with IEC 60601 (ESD, EMC, EMI). The OH0130 is also compliant with REACH and RoHS, and is manufactured in facilities certified to the ISO 13485 and ISO 9001 standards.

Find out more at www.ovt.com.

OmniVision

OVMed® OH0130

Applications

- Medical and Veterinary Endoscopes
- Industrial Processing Cameras
- Security and Surveillance System
- Machine Vision System
- A.I. 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)
- Low EMC/EMI to help passing customer medical device certification

Product Specifications

- Supports image size: 1920 x 1080, 800 x 800, 400 x 400, 200 x 200
- Supports OV6946, OV6948, OH01A, OCHSA, OH02A10, and upcoming 8MP medical sensors
- Sensor interface to 4 pin OV6946 mixed signal interface
- Image output formats: RAW and YUV
- Output interface USB3.0 interface
- Current <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 2D/3D de-noise function

Mechanical Specifications

- Size L: 100 mm W: 22 mm
- Analog sensor connector: 6-pin (4-pin for OmniVision AA, 2-pin for LEDs)
- Digital sensor connector: 40-pin QSE-020-01 or AXE540127
- Output USB connector: USB3.0 Type C

OH00000-EG03-001A-0130 pictured here

Evaluation Kit Ordering Information

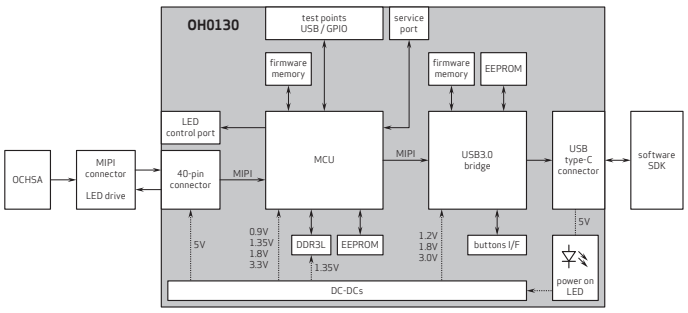
- **Contact Sales Rep**
  OVMed® ISP (advanced) evaluation kit with USB output

  Package Includes:
  - OmniVision camera AA module or OVMed® cable module for OCHSA10
  - PCB board for OH01A10 / OH02A10 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

Software Development Kit (SDK)

- The OVMed® OH0130 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 8 or above OS
  - Supports 32bits/64bits system

Functional Block Diagram



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