High Quality 1/4-inch 5-Megapixel Selfies for Next-Generation Smartphones and Tablets

OmniVision’s new 1/4-inch OV5695 is a high performance and cost-effective 5-megapixel OmniBSI+™ sensor designed to be a cost-competitive camera solution for both front- and rear-facing camera applications in smartphones and tablets. The OV5695 features an improved design that offers superior image and video quality in a more compact, power-efficient package.

The OV5695 utilizes 1.4-micron OmniBSI+ pixel architecture to capture full resolution video in a native 4:3 aspect ratio at 30 fps or 1080p video at 60 fps with support for interleave row high dynamic range (iHDR).

The sensor’s exceptional low-light sensitivity enhances image and video quality when recording in low-light conditions, and reduces user dependence on the device’s front-facing flash functionality.

The OV5695 fits into an 8.5 x 8.5 mm module with a z-height of approximately 4.4 mm.

Find out more at www.ovt.com.
Applications
- Smartphones and Feature Phones
- Tablets
- PC Multimedia
- Wearables

Product Features
- 1.4 µm x 1.4 µm pixel
- 5MP at 30 fps
- Programmable controls for:
  - Frame rate
  - Mirror and flip
  - Cropping
  - Windowing
- Supports images sizes:
  - 5MP (2592x1944)
  - Quad HD (2560x1440)
  - 1080p (1920x1080)
  - 720p (1280x720)
  - VGA (640 x 480), and more
- 16 bytes of embedded one-time programmable (OTP) memory for customer use
- Ultra low power mode (ULPM)
- Support for output formats: 10-bit RGB RAW
- Interleave row HDR output
- Two-wire serial bus control (SCCB)
- MIPI serial output interface
- (1- or 2-lane)
- 2x binning support
- Image quality control:
  - Defect pixel correction
  - Automatic black level calibration
- 10-bit RGB RAW output formats:
- 2-lane MIPI serial output interface:
  - Stable image:
    - Temperature range: -30°C to +70°C junction
    - Operating temperature range:
    - 25°C to +70°C
  - Frame rate:
    - 1080p (1920x1080): 60 fps
    - 720p (1280x720): 60 fps
    - VGA (640x480): 120 fps
  - Gain control
  - SPI interface
  - SCCB slave interface
- Lens size: 1/4"
- Lens chief ray angle: 31.08° non-linear
- Input clock frequency: 6 - 27 MHz
- Maximum image transfer rate:
  - 5MP (2592x1944): 30 fps
  - Quad HD (2560x1440): 30 fps
  - 1080p (1920x1080): 60 fps
  - 720p (1280x720): 60 fps
  - VGA (640x480): 120 fps
- Pixel size: 1.4 µm x 1.4 µm
- Dark current: 15 e-/sec @ 60°C junction temperature
- Image area: 3684 µm x 2763 µm
- Dimensions:
  - COB: 5022 µm x 3933 µm
  - RW: 5072 µm x 3983 µm

Functional Block Diagram

Ordering Information
- OV05695-GA4A-1B
  (color, chip probing, 200 µm backgrinding, rev 1B, reconstructed wafer)