OmniVision’s OV16A is an affordable 16-megapixel image sensor that enables smartphone cameras to capture higher quality photos. This versatile image sensor, built on OmniVision’s PureCel® Plus 1.0 micron advanced pixel architecture, allows better autofocus for mainstream smartphones. With the OV16A, manufacturers can add a third camera for high-quality, ultra-wide-angle photos in high-end smartphones.

Additionally, the OV16A extends battery life with the industry’s lowest power consumption—10% lower than the nearest competitor’s 16MP 1.0 micron sensor. Space limiting thin-bezel smartphone designs require compact front-facing cameras. The OV16A allows designers to incorporate just such a camera in the bezel, and with 2.0-micron-equivalent pixel performance.

The OV16A’s 4-cell color filter allows users to consistently capture high-quality photos without motion blur, even in low-light conditions indoors. Its compact size enables the industry’s smallest fixed-focus camera modules, with dimensions down to 6.5 mm x 6 mm. Additionally, its top and bottom pad configuration allows thin-bezel designs for full-display selfie screens. The OV16A’s 2x1 microlens phase detection autofocus (ML-PDAF) boosts autofocus accuracy, especially in low light.

Find out more at www.ovt.com.
### Product Features

- **Automatic black level calibration (ABLC)**
- **Programmable controls for:**
  - Frame rate
  - Mirror and flip
  - Binning
  - Cropping
  - Windowing
- Support for dynamic DPC cancellation
- Supports output formats: 10-bit RGBRAW
- Supports horizontal and vertical subsampling
- Programmable I/O drive capability
- Standard serial SCCB interface
- Supports typical images sizes:
  - 4656 x 3496
  - 3840 x 2160
  - 1920 x 1080
  - 1280 x 720
- Up to 4-lane MIPI TX interface with speed up to 1.8 Gbps/ lane
- Supports for 2/3 trio PHY interface (up to 1.6 Gsp/s/trio)
- Three on-chip phase lock loops (PLLs)
- Built-in temperature sensor
- Typical module size: 8.5 x 8.5 x 5 mm

### Product Specifications

- **Active array size:** 4656 x 3496
- **Power supply:**
  - Core: 1.2V
  - Analog: 2.8V
  - I/O: 1.8V
- **Temperature range:**
  - Operating: -30°C to +85°C junction temperature
  - Stable: 0°C to +60°C junction temperature
- **Output formats:** 10-bit RGB RAW
- **Input clock frequency:** 6 - 64 MHz
- **Lens size:** 1/3.06”
- **Lens chief ray angle:** 34.2° non-linear
- **Maximum image transfer rate:**
  - 4656 x 3496: 30 fps
  - 3840 x 2160: 45 fps
  - 1920 x 1080: 90 fps
- **Scan mode:** progressive
- **Pixel size:** 1.0 μm x 1.0 μm
- **Image area:** 4725.5 μm x 3556.2 μm
- **Die dimensions:**
  - COB: 5310 μm x 4410 μm
  - RW: 5360 μm x 4460 μm
- **Input clock frequency:** 6 - 64 MHz
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### Functional Block Diagram

![Functional Block Diagram](image)