OmniVision’s OA8000 is the industry first, ultra-low-power artificial intelligence video processor targeting battery powered intrusion cameras and video doorbells capable of deep learning inferences on the edge. The OA8000’s core consists of a powerful neural processor unit (NPU) with 1K MAC of neural network (CNN) acceleration at a high frame rate and low power consumption. Harnessing OmniVision’s unique low-power design, the OA8000 pushes the limits of computational power per mW, making it possible to achieve deep learning inferences in a battery-powered edge device.

Additional improvements include a quad-core ARM® Cortex® A5 CPU with NEON® technology for accelerated audio and video functions. This high-performance core enables more advanced video-analytics algorithms to be done on-chip, which reduces false alarms and increases battery life. Thanks to this powerful processor core and integrated audio CODEC, high-quality audio with noise reduction and echo cancellation is integrated without extra cost.

To address the vital need for cyber security, the OA8000 provides features for secured bootup and live streaming.

Find out more at www.ovt.com.
Product Features and Specifications

- **video encoder**: high-profile advanced video encoder
- **image signal processor**: RGB-IR processing
- **ISP**: 10-bit RAW to YUV processing
- **MIPI one 4-lanes, camera interfaces**: supports dual-video streaming
- **dewarping and rotation**: for longer battery life
- **smart video analytics**: supports up to 4 megapixels at 30 fps or 5 megapixels at 24 fps
- **secure boot**: supports still picture compression
- **storage interfaces**: one storage I/O peripheral interface, that can be used for an external Wi-Fi module
- **audio CODEC**: supports secure boot and decryption
- **audio engine**: supports AES/DES/3DES encryption
- **security engine**: supports various audio formats (up to 2 channels)
- **PLL**: 2.5V
- **I/O**: 1.8V/3.3V
- **analog**: 1.8V/3.3V
- **power supply**: - core: 0.9V
- **temperature**: 30°C to +85°C

Functional Block Diagram