



PRESS RELEASE

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For immediate release

e-con Systems Launches USB 3.0 RGB-IR Camera with Interchangeable Lenses

See3CAM_CU40 - 1/3" OV4682 sensor; RGB-IR pixel format; high frame rate camera, streams up to 330 FPS

ST. LOUIS and CHENNAI, India - October 08, 2015 - e-con Systems Inc., a leading embedded design services company specializing in the development of advanced camera solutions, today announced the [See3CAM_CU40](#), the industry's first RGB-IR pixel format camera with a USB 3.0 UVC interface, and the [e-CAM40_CUMI4682_MOD](#), a stand-alone MIPI CSI-2 module. The new See3CAM_CU40 is a member of e-con's See3CAM family of USB 3.0 UVC cameras, and is based on the 1/3-inch [OV4682](#), a 4-megapixel image sensor from [OmniVision Technologies](#). The See3CAM_CU40 camera, combined with the S-mount (M12) lens holder, allows customers to use lenses and optical filters such as IR cutoff, IR pass, or dual band filters, based on their application requirements.

The camera supports video streaming at 300 frames per second (FPS) in 672 x 388 pixels, 90 FPS in 720p high definition (HD) and 1080p HD in 40 FPS. At its full resolution of 4-megapixels (2688 x 1520 pixels), the See3CAM_CU40 can support 14 FPS in 10 bits-per-pixel format. The See3CAM_CU40 has manual exposure control that allows exposure to be controlled from 100 microseconds to 1 second. The UVC-compliant camera is plug-and-play in both Windows and Linux without requiring additional drivers. In Windows, the camera is exposed as a DirectShow device, and in Linux as a V4L2 capture source.

OmniVision's OV4682 image sensor features an innovative pixel format called RGB-IR, which captures both visible and infrared (IR) illuminated images simultaneously. The sensor's 2-micron OmniBSI-2™ pixel architecture delivers excellent signal-to-noise ratio and low-light sensitivity. A quarter of the sensor's 4 megapixels are dedicated for infrared light, while the remaining 3 megapixels respond to the regular red, green, blue and IR wavelengths.



OV4682 Camera Module and Lens

Fig: See3CAM_CU40 USB 3.0 RGB-IR Camera with M12 Lens

e-con Systems has modified e-CAMView, its DirectShow-based Viewer application, to illustrate capability of the See3CAM_CU40 enabled by the pixel format. In this specialized version of the e-CAMView application for See3CAM_CU40, the DirectShow application captures the RGB-IR



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video and shows them in two different windows - one displaying the processed RGB video after de-mosaicing and color correction, and the other window showing the raw IR video. This application illustrates the capability of See3CAM_CU40, and can be extended to a variety of applications such as face tracking in RGB, eyeball or iris tracking in IR, and day/night surveillance camera without requiring a mechanical IR filter switch.



Fig: e-CAMView Application showing RGB video and IR video from See3CAM_CU40

The See3CAM_CU40 camera is ideal for applications where both the visible light and IR information are required for scene processing. The ability to capture and stream both visible and infrared information is an important capability that allows customers who use two separate cameras to switch to the See3CAM_CU40, saving space and reducing the parallax error associated with dual camera solutions. The See3CAM_CU40 is well-suited for applications such as machine vision, gesture sensing, depth analysis, iris detection and tracking, surveillance, agricultural field monitoring and innovative consumer applications. The See3CAM_CU40 can also be used in applications requiring high-frame-rate cameras.

“We welcome the opportunity to work with e-con Systems to develop a single camera suitable for both human vision and machine vision applications. Using an RGB-IR image sensor allows for a cost-effective and compact camera that provides good quality color images, as well as IR information for emerging applications such as depth map generation, gesture recognition, face authentication, IoT, AR and VR applications. The See3CAM_CU40 provides a development environment to further advance these and other emerging applications,” said **Tehzeeb Gunja**, Senior Marketing and Business Development Manager at **OmniVision**.

“Ever since the OV4682 sensor was introduced by OmniVision, we have been getting requests from our customers for a camera module using this sensor. This sensor has garnered significant attention from customers due to an innovative RGB-IR pixel format and the high frame-rate capability. We are excited to launch our See3CAM_CU40, which brings out these capabilities of the OV4682 sensor combined with e-con’s deep expertise in camera solutions. “I am eagerly looking forward to innovative products from our customers using our See3CAM_CU40 camera,” said **Ashok Babu**, President of **e-con Systems Inc.**

e-con Systems’ sample Linux and Windows applications use the standard UVC protocol to access the camera controls. The e-CAMView, a Windows DirectShow-based sample video



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viewer application, demonstrates the dual-window video display, where the main window displays the RGB video and the auxiliary window displays the IR video. The application also allows exposure control from 100 microseconds to 1 second. Customers interested in the e-CAMView application or its source code can email to sales@e-consystems.com.

Availability

The See3CAM_CU40 is currently available for evaluation. Customers interested in evaluating the See3CAM_CU40 can order samples from e-con Systems' [online webstore](#). Customers have the option to buy the See3CAM_CU40 with or without the lens.

For more information, please visit [4MP RGB-IR Camera](#). Also watch demo of OV4682 RGB IR MIPI camera module introduction video at www.youtube.com/watch?v=W9WpEPj_kLo

Customization Services

Customers interested in customizing See3CAM_CU40 can contact e-con Systems directly with their requirements. Customers who need lens correction services for the See3CAM_CU40 can contact e-con Systems. For further inquiries, please write to sales@e-consystems.com.

About See3CAM

[See3CAM](#) is the new series of UVC-compliant USB 3.0 cameras from e-con Systems that are "plug and play" on Windows and Linux. The See3CAM USB 3.0 Camera does not require additional device drivers, and works with the standard Windows (DirectShow) and Linux (V4L2) software.

The See3CAM's USB 3.0 SuperSpeed connectivity enables it to capture video using the full throughput of USB3.0 standard. This simple and cost-effective USB 3.0 camera series solves the problem of implementing high-quality video and image capture in applications such as machine vision, barcode detection on moving objects and object tracking. e-con Systems provides customization services for these cameras to meet specific customer requirements. See3CAM is also backwards compatible with USB 2.0 host.

For more information, please visit www.e-consystems.com/See3CAM-USB-3-Camera.asp

About e-con Systems

e-con Systems specializes in camera solutions with offerings like camera modules, USB camera modules, camera Device driver development services on Operating systems like Android/WinCE, Camera reference design, software ISP, camera customization services and camera tuning services.

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