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## **Ambarella S3 IP Camera SoC Delivers Outstanding 4K Video Quality Using State-of-the-Art H.265/HEVC Encoding**

### ***S3 reduces bitrates by up to 50% over Ambarella's current H.264 IP camera SoCs***

SANTA CLARA, Calif.--(BUSINESS WIRE)-- Ambarella, Inc. (NASDAQ:AMBA), a leading developer of low-power, HD and Ultra HD video processing semiconductors, today introduced S3, a security IP camera System-On-Chip (SoC) family with support for the new H.265 or HEVC (High Efficiency Video Coding) video standard. S3's full implementation of H.265 delivers up to twice the compression efficiency of Ambarella's current H.264 IP camera SoCs, providing outstanding video quality at very low bitrates to optimize network utilization and reduce storage costs. S3 can encode H.265 video at up to 4Kp30 resolution, or H.264 up to 4Kp60 to provide compatibility with existing network infrastructure. Its latest generation of ISP (Image Sensor Pipeline) provides advanced noise reduction to maximize the benefits of H.265, while High Dynamic Range (HDR) processing resolves detail in challenging high contrast scenes. S3 also includes flexible de-warping hardware for cameras with 180-degree or 360-degree panoramic viewing with dynamic windows and digital pan/tilt/zoom (PTZ).

"Ambarella has become an established leader in H.264 video encoding solutions for the security market," said Fermi Wang, President & CEO of Ambarella. "With S3, we establish a new standard of H.265 encoding excellence to enable future generations of the highest quality HD and Ultra HD IP cameras."

The S3 family comprises software-compatible SoCs that range in performance from 1080p60 to 4Kp60 video with support for multiple streams and transcoding between H.264 and H.265 formats. S3 includes a 1.2 GHz dual-core ARM® Cortex®-A9 CPU with floating point and NEON™ as well as dedicated DSP subsystems for ISP, video compression and analytics. It also supports comprehensive I/O including high-speed SLVS/MIPi®/HiSPi™ sensor interfaces, USB host and client and gigabit Ethernet. The S3 Linux-based Software Development Kit (SDK) allows designers to create IP cameras with differentiated features including wireless connectivity, cloud services, wide-angle panorama viewing, analytics, edge recording and transcoding.

### **S3 Feature Summary**

- H.265 (HEVC) Main Profile encoding up to 4Kp30 video with support for Ambarella SmartHEVC™ low-bitrate streaming enhancements.
- H.264 (AVC) Baseline/Main/High Profile Level 5.1 encoding up to 4Kp60 video with support for Ambarella SmartAVC™ low-bitrate streaming enhancements.
- Flexible encoder engine supporting multiple streams with independent resolution, frame rate, quality and codec configurations. Support for transcoding between H.265 and H.264, Scalable Video Codec (SVC-T) and sub-frame low-delay encoding.
- Image Sensor Pipeline (ISP) with high-speed SLVDS/MIPi®/HiSPi™ interfaces supporting up to 6.4 Megapixel (MP) sensor resolution.
- Line-interleaved multi-exposure High Dynamic Range (HDR) processing up to 4Kp30.
- Motion-compensated 3D noise reduction with de-ghosting to enhance low-light performance.
- 1.2 GHz Dual Core ARM Cortex-A9 CPU with floating point, NEON and 1 MByte full speed L2 cache. Intelligent video analytics hardware acceleration.
- Real-time hardware-accelerated de-warping for 180/360 degree panoramic lenses with up to 4Kp30 performance, multiple window layouts and digital pan/tilt/zoom (PTZ).
- AES/3DES/SHA-1/MD5 encryption engines.
- Rich set of SoC interfaces includes support for DDR4/DDR3/DDR3L, gigabit Ethernet, USB 2.0 host and device, HDMI® 2.0, SDXC SD™ Card, and dual sensor interfaces.

- Low-power 28nm silicon technology.

## **Pricing and Availability**

For pricing and availability, please contact Ambarella at [www.ambarella.com/about/contact/inquiries](http://www.ambarella.com/about/contact/inquiries)

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## **About Ambarella**

Ambarella, Inc. (NASDAQ:AMBA), is a leading developer of low-power, high-definition and Ultra HD video compression and image processing solutions. The company's products are used in a variety of cameras including security IP-cameras, sports cameras, wearable cameras and automotive video camera recorders. Ambarella compression chips are also used in broadcasting TV programs worldwide. For more information about Ambarella, please visit [www.ambarella.com](http://www.ambarella.com).

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Ambarella Contact:

[www.ambarella.com/about/contact/inquiries](http://www.ambarella.com/about/contact/inquiries)

or

Media Contact:

Valley Public Relations

Molly McCarthy, +1 408-978-1168

[molly@valleypublicrelations.com](mailto:molly@valleypublicrelations.com)

or

Investor Relations Contact:

Deborah Stapleton, +1 650-815-1239

[deb@stapleton.com](mailto:deb@stapleton.com)

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