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Cypress's New High-Accuracy CMOS Image Sensors Fly Into Space On-Board European Space Agency's Proba-2 Satellite **Last Updated: 11/03/2009**

HAS2 Image Sensor, Developed for In-Space Navigation Applications, on Satellite Launched This Week

SAN JOSE, Calif., November 4, 2009 – Cypress Semiconductor Corp. (NYSE: CY) today announced three of its state-of-the-art CMOS Image Sensors for space applications are on-board the European Space Agency's (ESA) Proba-2 Satellite, which was successfully launched on November 2. Cypress's new HAS2 image sensor, specially designed for high accuracy star tracking, is implemented on a new Star Tracker developed by SELEX Galileo of Italy. The HAS2 image sensor is also being used in an extreme-ultraviolet telescope scientific experiment for solar corona observation. Additionally Cypress's STAR-250 image sensor is used on a new Digital Sun Sensor developed by TNO of the Netherlands. Both the HAS2 and STAR-250 devices were developed for the ESA by Cypress's Image Sensor Business Unit in Belgium.

Cypress also announced commercial availability of the HAS2 image sensor, the latest development in the Cypress STAR family of radiation-tolerant image sensors. The device has an array of 1024 x 1024 active pixels (18 μm) and it supports on-chip Non-Destructive Readout and multiple windowing. The HAS2 sensor is qualified for space applications in accordance with the ESA's European Space Components Coordination (ESCC) standards. Cypress will demonstrate its industry-leading custom and standard CMOS image sensor solutions at VISION 2009 in Stuttgart, Germany from November 3-5, in Hall 6, stand C 23. For more information on Cypress's CMOS image sensors visit www.cypress.com/go/ImageSensors or email imagesensors@cypress.com.

"We are excited to see our new HAS2 image sensors in space on the Proba-2 satellite," said Georges Hiltrop, general manager of Cypress's Image Sensor Business Unit. "The HAS2 demonstrates Cypress's ability to develop leading-performance CMOS image sensors that meet the requirements of our customers' most challenging applications."

Cypress's radiation-tolerant STAR-250 image sensor was originally developed for an optical inter satellite link. Currently it is mainly used for sun sensor applications. The device has an array of 512 x 512 pixels (25 μm). STAR-250 is qualified for space applications in accordance with ESA's ESCC standards and is commercially available.

Cypress is a center of expertise for the design of CMOS image sensors for space applications such as star tracking, hyper spectral instrumentation, earth observation, sun sensors and scientific applications. Its high-end CMOS image sensors have proven their performance on numerous European space missions, including: TeamSat, XMM, Mars Express, PROBA-1, ROCKVISS (ISS), Columbus and GOCE. In addition to ESA projects, Cypress has a number of CMOS image sensor projects for space applications with other space organizations.

The Project for On Board Autonomy (Proba) satellites are part of the ESA's In-orbit Technology Demonstration Program – missions dedicated to the demonstration of innovative technologies. In-orbit demonstration is the last step on the technology development ladder. New technology products need to be demonstrated in orbit, particularly when users require evidence of flight heritage or when there is a high risk associated with use of the new technology. In-orbit demonstration is achieved through experiments on carriers such as the International Space Station, or through dedicated small satellites such as the Proba series, which was created to increase availability of flight-testing opportunities. The Proba satellites are among the smallest ever to be flown by the ESA, but they are making a big impact in space technology. Proba-2 is the second of the series, building on nearly eight years of successful Proba-1 experience.

Altogether, 17 new technological developments and four scientific experiments are being flown on Proba-2. The technology demonstrations and scientific experiments that use Cypress image sensors are:

- A new star tracker development by SELEX Galileo being test-flown before use on the BepiColombo mission with the HAS2 image sensor.
- A digital sun sensor, developed by TNO using the STAR-250 image sensor.
- A scientific experiment with an extreme-ultraviolet telescope (SWAP) using the HAS2 image sensor that will make measurements of the solar corona in a very narrow band. The Centre Spatial de Liège is the lead institute on the experiment supported by the Royal Observatory of Belgium, along with an industrial team comprising several companies including Cypress.

Availability and Photo

The HAS2 image sensor is now in production. Download a high-resolution photo of the HAS2 sensor at www.cypress.com/go/HAS2photo.

Cypress Image Sensors

Cypress's Image Sensor Business Unit is based in Mechelen, Belgium, and offers standard and customized CMOS image sensors for consumer, industrial and professional applications. Industrial applications include solutions for fast growing high-speed machine vision, motion monitoring, medical imaging, intelligent traffic systems, security, barcode and space. Cypress's customized CMOS image sensors are characterized by very high pixel counts, large area, very high frame rates, large dynamic range, high sensitivity and radiation tolerance.

CMOS image sensors complement Cypress's technology and market strengths and expand Cypress's existing presence in numerous complementary markets where it sells a broad array of timing and USB solutions, configurable microcontrollers and memories.

About Cypress

Cypress delivers high-performance, mixed-signal, programmable solutions that provide customers with rapid time-to-market and exceptional system value. Cypress offerings include the flagship PSoC® programmable system-on-chip families and derivatives such as PowerPSoC® solutions for high-voltage and LED lighting applications, CapSense® touch sensing and TrueTouch™ solutions for touchscreens. Cypress is the world leader in USB controllers, including the high-performance West Bridge® solution that enhances connectivity and performance in multimedia handsets. Cypress is also a leader in high-performance memories and programmable timing devices. Cypress serves numerous markets including consumer, mobile handsets, computation, data communications, automotive, industrial and military. Cypress trades on the NYSE under the ticker symbol CY.* Visit Cypress online at www.cypress.com.

* Beginning November 12, Cypress will trade on the NASDAQ under the same ticker symbol.

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