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## **New Motion Sensor from STMicroelectronics Enhances User Interface and Image Stabilization in Smartphones and Tablets**

*6-axis gyroscope/accelerometer combo handles gesture sensing and image stabilization simultaneously, with industry's lowest power consumption and smallest package size*

**Geneva, September 16, 2015 – STMicroelectronics (NYSE: STM)**, a global semiconductor leader serving customers across the spectrum of electronics applications, a top MEMS (Micro-Electro-Mechanical Systems) manufacturer and the world's leading supplier of MEMS for consumer and mobile applications<sup>1</sup>, has introduced the world's most advanced six-axis motion-sensing device fully supporting image stabilization in Smartphones, Tablets, and Digital Still Cameras. The latest addition to ST's iNEMO™ range of inertial motion sensors, the [LSM6DS3H](#) combines a 3-axis gyroscope, a 3-axis accelerometer, and an ultra-low-power processing circuit in a System-in-Package solution that offers the industry's lowest power consumption and smallest package size.

Electronic Image Stabilization (EIS) and Optical Image Stabilization (OIS) techniques help minimize image blurring caused by camera motion while the snapshot is being captured. Initially developed for professional cameras, these techniques are being increasingly deployed in smartphones and tablets, where blurring is most likely to occur when the user takes a photograph with an outstretched arm.

The LSM6DS3H builds on ST's expertise in designing [high-end gyroscopes for OIS](#) and the Company's pioneering role in providing dual-core gyroscopes capable of simultaneously handling both user motion and gesture recognition and camera image stabilization. The tiny, ultra-low-power MEMS module allows equipment manufacturers to minimize size, system complexity, and cost, while extending battery life in mobile imaging applications, thanks to a power consumption of less than 1mA, compared to the 5mA required by systems that employ two single-function gyroscopes<sup>2</sup>.

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<sup>1</sup> IHS MEMS Market Tracker – Consumer and Mobile – H2 2014

<sup>2</sup> Internal tests compared the power consumption of the LSM6DS3H with that of a system that uses a dedicated gyroscope for OIS and another 6-axis MEMS module for motion sensing/user interface.

“Using smartphones to take photographs and videos at public or private events and sharing the results via social media has become an established part of our life. Very often people use the phone camera with outstretched arms, which can degrade the image quality,” said Andrea Onetti, General Manager, Volume MEMS and Analog Division, STMicroelectronics. “Our new multi-function motion sensor sets to minimize blurring in any photo situation while extending battery life because of the ultra-low power consumption.”

Key technical features of the LSM6DS3H include:

- Ultra-low power consumption of the motion sensors (0.85mA in normal mode, 0.4mA in low power mode), allowing the gyroscope to be "always on";
- Accelerometer power consumption in low-power mode down to 10 uA, 60% less compared with the previous-generation 6-axis module (LSM6DS3);
- Supports both EIS and OIS applications with a choice of I2C or SPI for the primary interface and a dedicated auxiliary SPI interface to the camera module;
- Compact package measuring 2.5mm X 3mm X 0.83mm;
- Accelerometer ODR (Output Data Rate) up to 6.66 kHz, Gyroscope ODR up to 3.33kHz;
- Smart FIFO for dynamic data batching and smarter power management: 4kbyte FIFO + 4kbyte flexible (FIFO or programmable);
- Full-scale acceleration range +/- 2 / +/- 4 / +/- 8 / +/- 16g;
- Full-scale angular rate range +/- 125 / +/- 245 / +/- 500 / +/- 1000 / +/- 2000 dps;
- Supply voltage from 1.71 to 3.6V, independent IOs supply down to 1.62V;
- SPI/I2C serial interface data synchronization feature;
- Embedded temperature sensor.

The [LSM6DS3H](#) is available now in volume production at a price of \$1.61 in quantities of 1ku.

## **About STMicroelectronics**

ST is a global semiconductor leader delivering intelligent and energy-efficient products and solutions that power the electronics at the heart of everyday life. ST's products are found everywhere today, and together with our customers, we are enabling smarter driving and smarter factories, cities and homes, along with the next generation of mobile and Internet of Things devices. By getting more from technology to get more from life, ST stands for life.augmented.

In 2014, the Company's net revenues were \$7.40 billion, serving more than 100,000 customers worldwide. Further information can be found at [www.st.com](http://www.st.com).

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