Sensor Captures both Linear and Angular Motion

Geneva – STMicroelectronics, a leading supplier of MEMS for consumer and portable applications, has integrated a 3-axis digital accelerometer with a 2-axis analog gyroscope in a single module. The package-level integration of linear and angular motion sensors improves performance, boosts reliability, reduces size and shrinks cost, uncovering new possibilities for high-precision gesture and motion recognition in mobile phones, remote controllers, personal navigation systems and other portable devices.

MEMS motion sensors add an intuitive man-machine interface to mobile phones, portable multimedia players, game controllers, personal navigation systems and remote input devices, creating interaction by linking the user's wrist, arm, and hand movements to applications, navigation within and between menus, the movement of characters in a game and much more.

Robust and resistant to mechanical stress, the module leverages the same micromachining technology process that ST has already successfully applied to more than 600 million motion sensors sold in the market. The device boasts excellent stability over a wide operating temperature range (from -40°C to 85°C) and a negligible level of output noise.

ST's low-power motion-sensing module combines a user-selectable full-scale acceleration range of ±2g/±4g/±8g with the industry's widest angular-rate detection from 30 to 6000 dps along the pitch and yaw axes. The gyroscope element provides two separate outputs for each axis at the same time: an unamplified output value for high accuracy of slow motion and a 4x amplification to detect and measure very fast gestures and movements.

Addressing power constraints in battery-operated portable devices, ST's new MEMS module includes power-down and sleep modes and it can operate with any supply voltage in the range of 2.7 to 3.6V. The device comes with built-in self-test capability that allows the customer to verify the functioning of both sensors after the assembly, without the need to move the board during testing.

"ST meets the market demand for cost-effective integration of multiple motion sensors in a single module," said Sam Guilaume, CEO, Movea, the industry leader in motion-sensing controllers. "With ST's new MEMS modules, and our complementary SmartMotion™ technology, we will provide unequalled motion-based solutions for user interfaces in remote controls, game pads, smartphones and other consumer devices."

"The only company with high-volume production of gyroscopes and accelerometers for consumer applications, ST now makes another significant step in MEMS consumerization by introducing the market's first multiple-axis sensing device in a single package," said Benedetto Vigna, General Manager of STMicroelectronics' MEMS, Sensors and High Performance Analog division. "Our customers will benefit from the industry-unique combination of superior performance, compelling price points, and large-scale production capacity at ST's dedicated 8-inch MEMS fab."

Samples of ST's LSM320HAY30 multi-axis motion sensor module are available now, with mass production scheduled for Q1 2010. Unit pricing is $3.3 for quantities over 50,000 pieces.

For further information on ST's complete MEMS portfolio, go to: www.st.com/mems [1]. Further information on ST can be found at www.st.com [2].

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