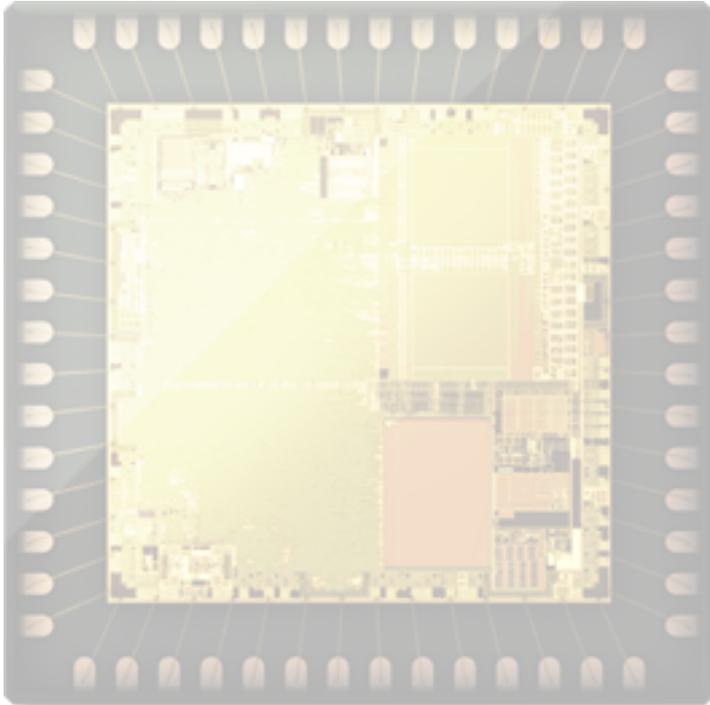


Single-chip solution integrates touch and sensor hub functionality to enhance users' experience



Atmel Corporation announced a range of microcontroller-based solutions that integrate touch and sensor hub functionality to enable superior user experience for a variety of mobile devices including smartphones, tablets, Ultrabooks and convertible PCs.

The new solutions build on Atmel's leading maXTouch controllers and incorporate the company's patented [maXFusion sensor fusion technology](#) [1] to address the growing motion sensor market. Atmel maXFusion combines inputs from multiple sensors that detect motion, including accelerometers, magnetometers and gyroscopes, to provide real-time direction, orientation and inclination data bringing visibly superior performance to a range of applications including gaming, navigation and virtual reality.

Atmel is also the first company in the industry to integrate sensor hub functionality into touchscreen controllers extending human interface solutions beyond touch to deliver performance and power efficiency gains in a single-chip solution. The combination of multiple sensor systems enables the development of new functionality leveraging both touch and motion sensing, driving further innovation for user interface development.

Atmel's new solutions with maXFusion technology include advanced sensing algorithms that result in 3x the performance compared to managing sensors on the applications processor. They also offer up to 50 percent lower power consumption than competing solutions, achieving even greater savings when compared to architectures where sensor management is implemented on the applications

processor. Manufacturers are taking advantage of these power and performance gains today. Initial design wins have already been secured for these new solutions and will begin shipping by the end of this year.

The range of solutions offered by Atmel ensures that a device is available to meet any customers' sensor hub requirements:

- Complete human interface solutions with maXFusion technology:
 - o mXF0100 sensor hub solutions
 - o mXF1664S/ mXF1188S maXTouch controllers for up to 17-inch displays
- Programmable solutions based on Atmel's AVR MCUs for customers and partners implementing their proprietary code

Extending Atmel's industry-leading maXTouch touchscreen controller family, Atmel has also integrated maXFusion technology into these devices, becoming the first company to offer a complete human interface solution. Adding this functionality to the touchscreen controller brings all the benefits of using a sensor hub solution but without the need for an additional device, saving PCB footprint and power consumption, while increasing context awareness capabilities by combining touch and motion sensing.

Atmel has partnered with leading sensor manufacturers to provide designers the flexibility to select from the widest range of sensors from the industry's leading sensor manufacturers, including AKM, Aichi Steel, Bosch, InvenSense, Intersil and Kionix. These relationships enable Atmel to support prequalified sensor solutions, reducing the time-to-market for our customers.

"With the market for sensor hub solutions in smartphone, tablets and portable PCs and beyond projected to be almost \$4 billion by 2015, there is a huge opportunity for silicon providers," said Tom Hackenberg, principal analyst of microcontrollers for computer platforms, IHS. "There has been a recent increase of integrated sensor control in the applications processor subsystem, but the more energy efficient and flexible solutions are addressing this rapidly growing market with controllers outside of the applications processor. Not only do these systems offer greater layers of awareness while application processors sleep, they provide designers of next-generation devices such as smartphones, tablets and convertible PCs the option to customize their sensor hub solution or select an integrated sensor-hub-with-touch solution to more highly differentiate their products."

"Our human interface solutions provide unrivalled performance and low-power consumption enabling product differentiation while extending battery life," said Jon Kiachian, vice president of touch marketing, Atmel Corporation. "The addition of maXFusion technology to our maXTouch touchscreen controllers enables exciting new user interface possibilities, and enables us to add more value in our customers' new innovative mobile devices."

Availability

The UC3L sensor hub solutions with customizable firmware are available now. Production quantities for Atmel's mXF0100 devices are available in December 2012,

Single-chip solution integrates touch and sensor hub functionality to enhance

Published on Electronic Component News (<http://www.ecnmag.com>)

with the mXF1664S and mXF1188S devices available in January 2013.

More information

Atmel's maXFusion solutions:

http://www.atmel.com/Microsite/maxtouch_sseries/sensorhub.aspx [1]

Source URL (retrieved on 12/28/2014 - 3:47am):

http://www.ecnmag.com/product-releases/2012/10/single-chip-solution-integrates-to-uch-and-sensor-hub-functionality-enhance-users%E2%80%99-experience?qt-video_of_the_day=0

Links:

[1] http://www.atmel.com/Microsite/maxtouch_sseries/sensorhub.aspx