

## **STMicroelectronics' Powerful New FingerTip Touchscreen Technology Stifles Electrical 'Noise'**

STMicroelectronics announced its new FingerTip technology, which enables a single-chip solution for capacitive touchscreens up to 10 inches in diameter with multi-touch capability.

ST's MEMS sensors and FingerTip technology share a similar architecture, in which a sensing element is connected to a high-performance capacitance-sensing circuit. ST has leveraged its know-how in analog and mixed-signal interface technology to develop an innovative analog-front-end that is able to detect variations of capacitance in atto-Farads (10<sup>-18</sup> F) and to immunize the system against noise.

Touchscreen applications are subject to noise coming from various sources, including the display, the system, human touch, or battery chargers. Low-cost and poor-quality chargers, in particular, are a source of noise that can be as high as tens of volts and can affect normal operations when a finger touches the screen. When this happens, a strong periodic noise – which could be in the range of 100V (peak-to-peak) and in the frequency range from 1kHz to 1MHz – will enter into the touchscreen controller's analog front-end and result in 'false' finger touches.

The new FingerTip capacitive sensing technology with its powerful 32-bit DSP (Digital Signal Processing) engine is able to eliminate this sort of charger noise effect and reach higher immunity levels without reducing performance in terms of accuracy, frame rate and power consumption. FingerTip has also been designed to eliminate noises from displays and works with both 'in-cell' and 'on-cell' display technologies.

"Noise from battery chargers pose a special issue for touchscreens, resulting in a poor user experience," said Benedetto Vigna, General Manager of MEMS, Sensors and High Performance Analog Division. "Our leadership in analog capacitive interface IP, developed for MEMS sensors, will allow us to achieve higher noise rejection prior to digital filtering. This new FingerTip technology is able to achieve faster response time, low-power consumption and higher noise rejection required for high-end portable applications."

ST's new product family, based on the new technology, is under evaluation with major customers that can benefit from the FingerTip's: hand writing capability with a small stylus; very fast response time; ultra-low power consumption; best linearity and accuracy in noisy conditions; and tiny package suitable for smart phones and 10-inch tablets.

### **About STMicroelectronics**

STMicroelectronics is a global leader serving customers across the spectrum of

## **STMicroelectronics' Powerful New $\mu$ FingerTip Touchscreen Technology Stifles**

Published on Wireless Design & Development (<http://www.wirelessdesignmag.com>)

---

electronics applications with innovative semiconductor solutions. ST aims to be the undisputed leader in multimedia convergence and power applications leveraging its vast array of technologies, design expertise and combination of intellectual property portfolio, strategic partnerships and manufacturing strength. In 2010, the Company's net revenues were \$10.35 billion. Further information on ST can be found at [www.st.com](http://www.st.com) [1].

### **Source URL (retrieved on 07/29/2014 - 6:01pm):**

<http://www.wirelessdesignmag.com/product-releases/2011/06/stmicroelectronics-powerful-new-fingertip-touchscreen-technology-stifles-electrical-noise>

### **Links:**

[1] <http://www.st.com>