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Microchip adds peripheral touch control to select MCUs

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TALK TO US

The Future of Fingerprint Scanning

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U.S. Analog IP Startup Partners with Megachips

EE Times has learned that Megachips Corp., Japan's fabless company focused on ASICs and system integration, has struck a deal with Omni Design Technologies (Milpitas, Calif.) to develop the next generation "analog platform" on which Megachips' customers can build ASICs designed for wired networks including phone lines, coaxial cables and power lines.

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Xilinx To Dive In Hyperscale Race

TOKYO — Xilinx is jumping into the increasingly hot race for hyperscale data centers.

The FPGA company is pursuing Altera (now a part of Intel), who took an early lead in the growing market by getting designed into Microsoft's Project Catapult, the technology behind Microsoft's hyperscale acceleration fabric. Xilinx also plans to go after the inference side of machine learning, an area in which the company is confident in beating Nvidia, as the GPU company is more focused on the training side of machine learning.

At the SC16 in Salt Lake City this week, Xilinx is rolling out a new suite of technology designed to enable the world's largest cloud service providers to rapidly develop and deploy acceleration platforms.

The move reflects Xilinx' commitment to capitalize on a recent big design win scored with Chinese Web giant Baidu.

Artificial Photosynthesis Gets Closer To Viability

To artificially produce storable energy in the form of hydrogen and organic compounds requires extracting reaction electrons from a photocatalyst material using the energy in sunlight and, at the electrode, efficiently reacting with water or CO_2. Semiconductor materials and relatively coarse-grained photocatalyst materials have been used in low-density rigid structures for the photoreactive electrodes where sunlight and water react. However, as usable wavelengths of visible light (sunlight) fall in a narrow range, it has been difficult to achieve a sufficient current flow from the chemical reaction.

A technology development by Fujitsu Laboratories is set to change that. The company has improved methods for forming thin films (nanoparticle deposition) of electroceramics on flexible mounting sheets to create capacitors and other passive elements. It has developed a thin-film layering process that uses a nozzle to spray the photocatalyst-material particle that fragments particles on a thin plate.

Microchip Adds Peripheral Touch Control To Select Mcus

Microchip Technology has added an enhanced version of the Peripheral Touch Controller (PTC) to several of its microcontrollers, including the ATtiny817/816/814. The PTC is a small and cost-effective Core Independent Peripheral (CIP) that enables capacitive touch on standard microcontrollers. It also features superior water tolerance and is configured through the Atmel START Code Configurator for ease of use.

CIPs are designed to handle their task with no code or supervision from the CPU to maintain operation. As a CIP, the Peripheral Touch Controller simplifies the implementation of touch sensing, giving designers the flexibility to focus on the rest of the application.

Touch solutions using the PTC combine advanced noise handling, water-tolerant touch and low-power wake-on-touch operation. An IEC 61000-4-6 conducted immunity rating of 15Vrms makes it easy for customers to pass electromagnetic compatibility (EMC) standards, especially in the home appliance and automotive markets. Water-tolerant touch enables outdoor usage and enhances user experience. In addition, it is able to use less power with advanced sleep and wake-up functionality, making it ideal for wearable and other battery-powered applications.

The Future Of Fingerprint Scanning

What happens to fingerprint sensing, when a physical home button is replaced with a virtual or "soft" button under the glass?

One of the many advances being made in smartphones and tablets is the progression to a "whole-device" display. Some models already have full-width displays with little or no bezel or ink area on the sides. The next step will be a nearly full-height display; "nearly" that is, because while the home button will be gone, there will still need to be a front-facing camera.

The physical home button will be replaced with a virtual or "soft" button under the glass that is activated by force sensing. Eliminating the physical home button, and optionally the audio jack as Apple recently did, will help with another design goal: making devices more dust- and water-resistant, and even waterproof.

U.S. Analog IP Startup Partners With Megachips

TOKYO — EE Times has learned that Megachips Corp., Japan's fabless company focused on ASICs and system integration, has struck a deal with Omni Design Technologies (Milpitas, Calif.) to develop the next generation "analog platform" on which Megachips' customers can build ASICs designed for wired networks including phone lines, coaxial cables and power lines.

Omni Design is a two-year-old start-up founded by prominent analogy chip experts. At a time when analog components are using up an increasingly large fraction of system power budget, Omni Design's co-founders have set their sights on building highly differentiated, ultra-low power analog and mixed-signal IP cores primarily for use in complex SoCs.