October 12, 2021

Capacitive Touchscreen Controller Family for the Home Appliance Market Dedicated to Work in Harsh and Noisy Environments

Microchip extends its functional-safety-certified family of capacitive maXTouch® touchscreen controllers with the MXT448UD-HA and MXT640UD-HA to address screen sizes beyond 10 inches

CHANDLER, Ariz., Oct. 12, 2021 (GLOBE NEWSWIRE) -- Networked and connected home appliances enable both users and manufacturers to communicate with them via the internet. For example, the user of a kitchen oven might look up a new recipe online or a manufacturer might perform remote diagnostics or over-the-air firmware updates. Displays and touch sensors are essential for enabling this functionality in modern appliances. Microchip Technology Inc. (**Nasdaq: MCHP**) is adding two new members to its family of IEC/UL 60730 Class B certified touchscreen controllers. The new MXT448UD-HA and MXT640UD-HA extend the Class B portfolio of devices beyond 10 inches, thus providing dedicated solutions for larger screen sizes as well as scalability to customers.

In addition to Class B, these new devices are also compliant with the IEC61000-4-6 Class A specification for conducted noise immunity up to 10 Vrms (level three for industrial use). This enables products with a touch screen interface to function in very harsh factory environments where electromagnetic interference can be caused by conveyer belts, power rails or assembly machinery. Manufacturers of home appliances will benefit from an increased reliability and production yield. This is a big improvement for consumers using unprotected touchscreens on an oven or washing machine that may result in concern for false or missed touches caused by electromagnetic interference from unshielded power transmission, electric motors, and neighboring electrical equipment.

These new touchscreen controllers also come with two serial interfaces (SPI and I²C) that operate simultaneously allowing redundancy in a design through the integration of safety features, such as individual communication between the touchscreen controller to the host microprocessor (MPU) in addition to a safety microcontroller (MCU). Touch events are provided to both processors at the same time. This unique architecture shortens time to market and reduces development cost by allowing all safety-critical firmware to be developed on a dedicated safety-certified MCU (with mandatory source code review by an IEC/UL test lab) separate from the main processor running the appliance's Graphical User Interface (GUI).

"As products add more controls via a touch screen, the interface must work reliably to both satisfy and protect users," said Clayton Pillion, director of Microchip's human machine interface business unit. "maXTouch® technology delivers outstanding noise immunity performance allowing for safe and robust operation throughout its lifetime. We have worked

closely with customers to deliver the first functional safety touch controller families and are seeing high adoption where noise immunity is critical to a successful product."

In addition to the IEC compliances, the MXT448UD-HA and MXT640UD-HA family supports an operating temperature up to 105°C, which is a key requirement for cooktops and ovens where the Human Machine Interface (HMI) system is near heating elements.

Development Tools
Microchip offers software to supplement these new controllers, including maXTouch Studio (development tool) and maXTouch Analyzer (production end-of-line test/inspection tool).

In addition, the general-purpose ATEVK-MXT640UD-A Evaluation Kit (EVK) is available. Customers specifically needing the home appliance functional safety version of this evaluation kit can contact Microchip to request it.

Pricing and Availability
The two new devices (ATMXT448UD-CCUHA1, ATMXT640UD-CCUHA1) for home appliances are available in volume production starting at $2.40 for the ATMXT448UD part in 10,000-unit quantities.

For additional information, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's website. To purchase products mentioned here visit our **purchasing portal** or contact a Microchip authorized distributor.

Resources
High-res images available through Flickr or editorial contact (feel free to publish):
Application image: https://www.flickr.com/photos/microchiptechnology/51557987536/

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Source: Microchip Technology Inc.