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Most Versatile maXTouch® Touchscreen Controller Ever Offers Extensive Screen Format Flexibility

The MXT1296M1T provides various communication options, ISO 26262 functional safety support and flexible RF emission control

CHANDLER, Ariz., Nov. 30, 2021 (GLOBE NEWSWIRE) -- As the automotive market continues to demand larger touchscreens with more flexibility in size and shape, Microchip Technology Inc. **(Nasdaq: MCHP)** is announcing a new maXTouch® touchscreen controller, that allows automotive designers to satisfy various and unique aspect ratios for touch displays in cars. This new offering includes additional functional safety support requested by OEMs.

The MXT1296M1T can reconfigure its driving and receiving touch channels to match the exact screen format, from 1:1 to 5:1 aspect ratio, including the popular 8:3 automotive aspect ratio. This feature enables the customer to efficiently use the number of touch channels available, without the need to select a larger, more expensive touch controller. Furthermore, customers can save additional development and validation time and resources by reusing a common PCB design to support different touch sensor aspect ratios. The MXT1296M1T is an industry first to enable the sensor channel reconfiguration by parameters. These settings do not require firmware modification, leading to lower design risk and faster time to market.

“As touch displays have become more popular in automotive user interfaces, car manufacturers are using various display formats and shapes to accommodate their interior design and emphasize their brand identity,” said Clayton Pillion director of the human machine interface business unit at Microchip Technology. “As the number one automotive touchscreen controller supplier, we know that products with enhanced diagnostic features are a significant advantage to customers who are designing with unique features and increasing ISO 26262 functional safety requirements in mind.”

Microchip’s new maXTouch touchscreen controller offers two communication interfaces operating simultaneously, which allow a bridgeless connection to the back channel of the LVDS video link for touch information and a connection to a local microcontroller (MCU). The bridgeless topology reduces touch latency to improve the user experience. It also guarantees full compatibility with the maXTouch software driver, available for all major automotive operating systems, including Linux®, Android™ and QNX®. When connected to an appropriate local MCU, the second interface offers:

- A redundancy link to the head unit through a CAN bus or 10BASE-T1S automotive Ethernet link for increased functional safety at the system level

- Local access and control of the maXTouch touchscreen controller's features such as a capacitive keys report, live touch sensor diagnostics and raw data for external and custom post-processing
- Over-the-air and secure firmware update capability using Microchip's TrustAnchor100 companion chip

The MXT1296M1T embeds various functional safety features to constantly check the integrity of the touch controller operation, as well as that of the connected touch sensors. The Failure Modes Effects and Diagnostic Analysis (FMEDA) and functional safety manual, dramatically ease the customer experience to design, build and certify a system for Automotive Safety Integrity Level B (ASIL-B) applications to the ISO 26262 standard.

The MXT1296M1T allows for high resolution transmit waveform control to lower RF emissions and avoid interference with the car radio or RFID systems. With screen sizes increasing in cars, RF emissions generated by the projected capacitive touch technology are growing. Emission limits vary in amplitude, frequency and bandwidth for each major car manufacturer. The MXT1296M1T uses a dedicated on-chip 64-level digital-to-analog converter (DAC) to accurately shape the waveform of the transmitting lines. This allows designers to precisely control the frequency response and optimize the harmonic emissions to meet specific OEM defined limits.

Development Tools

The MXT1296M1T configuration and tuning is supported by the latest release of maXTouch Studio Integrated Development Environment (IDE).

Orderable development kits include:

- ATEVK-MXT1296M1T-A: extensive evaluation kit including development board with USB bridge, 12.3"/ 8:3 format /1.1mm One Glass Solution (OGS) touch panel, and touch key add-on boards for mutual and self-capacitance
- ATMXT1296M1T-I2C-PCB: development board for connection to a customer's touch sensor

Availability
The MXT1296M1T is now available in volume production. ISO 26262 FMEDA and Functional Safety Manual will be available for purchase Q1-2022. For additional information, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's website.

The TrustAnchor100 companion chip is available in volume production. For additional information, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's website.

Resources
High-res images available through Flickr or editorial contact (feel free to publish):
• Application image: https://www.flickr.com/photos/microchiptechnology/51684369846/sizes/l/

About Microchip Technology
Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 120,000 customers

across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at **www.microchip.com**.

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