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New Long-Reaching USB 3.2 Compatible Reclocker/Redriver Devices for Automotive and Industrial Applications

Microchip's EQCO510 and EQCO5X31 devices offer a solid two-channel solution to send high-speed data signals up to 15 meters in both directions

CHANDLER, Ariz., May 16, 2023 (GLOBE NEWSWIRE) -- The standard universal serial bus or USB connection is an industry mainstay that transfers data between two devices. The increase of adding electronic components to applications across the automotive, industrial and consumer industries has spurred the need for far-reaching USB cabling products. To provide long-distance and reliable USB solutions to the market, Microchip Technology **(Nasdaq: MCHP)** today announces two new reclocker/redriver devices. The **automotive EQCO510 and industrial EQCO5X31 reclocker/redriver devices** extend USB coverage up to 15 meters for maximum reach and are compatible with the USB 3.2 Generation 1 SuperSpeed protocol.

The EQCO510 and EQCO5X31 are USB reclocker/redriver devices that can send high-speed data signals with a rate of 5 Gbps in both directions. The reclocking feature includes a bit-level Clock-Data Recovery (CDR) that is used to restore signal timing and prevent jitter accumulation. The redriving feature restores the levels and shape of the signal being driven into the next segment such as a cable or printed-circuit board (PCB) trace, thus compensating for signal degradation due to cable attenuation.

"Our customers now have the capability to implement a fast, reliable and long-distance USB connectivity solution of up to 15 meters, extending the three meter standard by five times," said Matthias Kaestner, corporate vice president of Microchip's automotive infotainment systems business unit. "These devices also provide our customers with a comprehensive option that reduces board space because of the on-chip clock and small form factor."

The USB devices are equipped with EyeOpen™ cable compensation at the receiver to automatically adjust for frequency dependent losses in the cable and adjusting the signal strength between 0 and 24 dB with 1 dB steps. The devices also feature MarginLink™ signal integrity testing, which allows runtime evaluation of the integrity of the whole signal path.

The EQCO510 and EQCO5X31 ICs support shielded twisted pair and coax cables. The devices include an integrated crystal-less CDR, which reduces the need for additional components and overall board space. Both USB devices are available in a 20-pin, 4 mm QFN package with wettable flanks. The automotive EQCO510 is compliant with automotive reliability standard AEC-Q100 Grade 2 and operates in temperatures ranging from -40°C to 105°C.

Microchip's USB devices can be used in many automotive applications such as infotainment systems, data communication modules and real-time video systems. Other use cases in industrial applications and consumer products include machine vision, gaming accessories and smart cables.

Development Tools

The EQCO5X31 is supported with two evaluation boards including the **EVB-EQCO5X31 USB Type-C® Cable Extender** and the **EVB-EQCO5X31 USB Type-C Cable Repeater**. Both evaluation boards enable the ability to demonstrate use with longer cables.

Pricing and Availability

The automotive EQCO510 is available for $4.82 each in 1,000-unit quantities. The industrial EQCO5X31 is available for $4.38 each in 1,000-unit quantities. For additional information and to purchase, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's Purchasing and Client Services website, **www.microchipdirect.com**.

Resources
High-res images available through Flickr or editorial contact (feel free to publish):

- Application image: **www.flickr.com/photos/microchiptechnology/52807959223/sizes/l**

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