# News Release

## Single Pair Ethernet (SPE) 10BASE-T1S and 100BASE-T1 Devices Transform IIoT at the Edge and in Higher-Speed Applications

*Microchip's SPE offering reduces cost and complexity of IIoT edge devices while supporting higher-speed Ethernet-everywhere architectures and applications*

**CHANDLER, Ariz., March 7, 2023** — SPE technology is setting the stage for all-Ethernet IIoT and industrial Operational Technology (OT) networks that are built with a new class of synchronized low-speed Ethernet edge devices and a simplified cabling infrastructure for latency-sensitive traffic streams. Microchip Technology Inc. **(Nasdaq: MCHP)** today announces new **industrial-grade SPE products** that will help fulfill SPE's promise, from 10BASE-T1S MAC-PHYs that more easily connect edge IIoT devices to the cloud, to industrial versions of its 100BASE-T1 Time Sensitive Networking (TSN) Ethernet PHY transceivers and switches that enable higher-speed applications across far-reaching Ethernet networks.

"Microchip is helping to fuel the adoption of zonal architectures in industrial applications with our new MAC-PHYs that connect to many of Microchip's microcontrollers (MCUs) to reduce the design complexity and implementation costs for bringing a host of sensors, actuators and other products into the new 10BASE-T1S network infrastructure," said Matthias Kaestner, vice president at Microchip. "With these new 10BASE-T1S MAC-PHYs and industrial versions of our 100BASE-T1 TSN products, we are making it easier to connect the physical world to the cloud while enabling a seamless Ethernet architecture throughout the IIoT and other industrial networks."

Microchip's new **LAN8650 and LAN8651** 10BASE-T1S MAC-PHY Ethernet Controllers with Serial Peripheral Interface (SPI) simplify the implementation of zonal architectures by enabling basic MCUs, rather than higher-level MCUs with a Media Access Controller (MAC), to be used when creating sensors, actuators and other devices for the edge of OT and IT networks. These low-speed devices do not need their own communication system, and Microchip's MAC-PHYs connect them into a standard Ethernet system all the way to the cloud over simple twisted-pair wiring.

For industrial applications that require higher bandwidth, designers can use MCUs with an integrated Ethernet MAC. Microchip now offers an industrial-grade version of its **LAN8770 100BASE-T1 Ethernet PHY Transceiver** that provides 100 Mbps transmit and receive capability over a single Unshielded Twisted Pair (UTP) cable.

Microchip's SPE portfolio is enhanced with industrial-grade versions of its **LAN937x and LAN938x Gigabit Ethernet TSN Switches with integrated 100BASE-T1 PHYs**. These scalable, secure and compact SPE switches include hardware time-stamping features for supporting IEEE 802.1AS (gPTP) and IEEE 1588v2 (PTP) time synchronization, among other TSN functionality. Energy-efficiency features include ultra-deep-sleep power down with remote wake for battery applications.

"Microchip's industrial-grade 100BASE-T1 offerings reduce cost, wiring and installation complexity by enabling a complete SPE network from device to server," said Charles Forni, vice president of Microchip's USB and networking business unit. "Our industrial-grade SPE offerings are built to withstand harsh environmental conditions across an expanded temperature range while delivering enhanced performance, such as safety, security and extended cable reach, to support industrial applications."

**Development Tools**

To support the design efforts of these new products a set of network analysis tools and evaluation boards are available including the LAN8651 EVB and EVB-LAN9383. Microchip's **MPLAB® Harmony v3** provides software support to configure, debug and program designs, while the **MPLAB Network Creator** provides a quick and intuitive graphical interface for switch configuration.

**Pricing and Availability**

Microchip's LAN8650 and LAN8651 10BASE-T1S MAC-PHYs and its LAN937x and LAN938x 100BASE-T1 Ethernet Switches and LAN8770 100BASE-T1 Ethernet PHY are available for purchase at Microchip's Purchasing and Client Services website, **www.microchipDIRECT.com**.

For additional information or to purchase, contact a Microchip sales representative or authorized worldwide distributor.

**Resources**

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

- Application image: **www.flickr.com/photos/microchiptechnology/52645158266/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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**Supporting photographs supplied**
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