

PLX Achieves 300 Meter Reach with 10GBase-T Transceivers

SUNNYVALE, Calif., - PLX Technology, Inc. (NASDAQ: PLXT), the leader in high-speed connectivity solutions for the enterprise and the home, today announced it has successfully demonstrated 10Gbps Ethernet data and electrical transfer, in full compliance with the IEEE 802.3an standard, over a distance of 300 meters using typical, widely installed Cat6A unshielded twisted pair copper cable.

The unique networking demonstration, enabled by PLX®-designed Power-over-Ethernet (PoE) repeaters, utilizes a PLX 40nm-based TN8022 dual-port 10GBase-T PHY transceiver. This breakthrough distance achievement with low-cost Ethernet cabling brings new capabilities to IT managers seeking high-performance networking between multiple server rooms, which, for example, may be located on different floors of a high-rise building or in a campus environment.

PLX enabled the industry's first 10GBase-T equipment via its Teranetics acquisition, and today owns more than 60 percent market share for 10GBase-T physical layer (PHY) devices. With the market's broadest PHY portfolio, which includes 40nm quad, dual and single port configurations that are now sampling, PLX is providing significant advantages of designing with its 10GBase-T PHYs including:

- GrEEEn™ Energy Efficient Ethernet (EEE) support per the IEEE 802.3az specification. PLX GrEEEn features a 50 percent reduction in power dissipation for typical long term traffic pattern
- Integrated MACsec per IEEE 802.1ae featuring encrypted data for privacy (confidential data exchange) and enhanced filtering for "denial of service" attacks
- Electromagnetic immunity (EMI) with high performance using a common mode sense, which improves electromagnetic cancellation, EMI robustness and system speed
- On-chip monitor and ADC for thermal management, featuring die junction temperature via MDIO register and alarm capabilities
- Analog return loss cancellation, pair and polarity swap, loopback, media dependent interface (MDI) tests, link health / fault monitoring

With its low-power leadership, PLX's third-generation PHY, the 40nm TN8000 family dissipates less than four watts per port at a full 100 meters, and as little as two watts per port in short-reach mode. Additionally, TN8000 devices support triple-rate Ethernet (100M/1G/10G), which not only extends the shelf life of existing designs through backward compatibility, but also future-proofs new architectures.

"Extending 10GBase-T links to cover room-to-room and floor-to-floor distances, and providing power over existing Ethernet cables, should help accelerate adoption of the technology by equipment makers and IT managers who were previously forced

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to use optical fiber for these applications,” said Bob Wheeler, senior analyst at The Linley Group and co-author of the report A Guide to Ethernet Switch and PHY Chips. “PLX’s demonstration of 10GBase-T surpassing 300 meters while providing Power over Ethernet cabling points to a technology that’s poised to advance high-speed networking to the next level and drive market demand for 10G systems.”

“Although PoE technology has long been available for 1Gbps or slower Ethernet transceivers, the key take-away from this 10G PoE demonstration is that PLX 10GBase-T technology has reduced power dissipation to the point where it is now capable of PoE repeater utilization and, therefore, penetrating mainstream applications in ultra-long distance cabling environments,” said Ron Cates, PLX vice president of marketing, networking products. “PLX is working closely with all key networking market leaders to rapidly bring to fruition the inevitable evolution of 10 Gigabit Ethernet in the datacenter.”

PoE technology is an IEEE standard that defines a system safely carrying electrical power, as well as data, over Ethernet cabling. Typical structured wiring rules limit Ethernet cable distances to 100 meters. The 300-meter reach of the TN8022 is a testament to its robust DSP algorithm and superior analog front-end performance.

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