Leoni makes data centres faster with transmission speeds of 400 G via copper

Solutions for QSFP-DD and OSFP in the product range - Breakout version offers full compatibility to all standards

Friesoythe, 08 December 2017 – Leoni, the leading European provider of cables and cable systems to the automotive sector and other industries, offers 400 G copper solutions for the two latest standards for broadband data transmission in computer centres. QSFP-DD and OSFP cable systems make inter-rack connections with 400 G and more possible. A breakout version by Leoni will facilitate full compatibility between the two next-generation standards and downwards possible. Prototypes of the new developments will be shown at the DesignCon show in Santa Clara, USA, February 1-2, 2018.

QSFP-DD (Quad Small Form Factor Double Density) and OSFP (Octal Small Form Factor Pluggable) cable systems mean that not one but two Leoni product families have made the leap to 400 G transfer via copper. Both solutions are based on the company’s slim and efficient ParaLink 25s bulk cable. This high-performance cable also provides the required high signal integrity together with low packing density as a 16-pair version. For QSFP-DD, Leoni uses its ParaLink 25s with a maximum gauge of AWG 28 over a maximum length of 3 meters; for OSFP the simulation even showed that a maximum of 4 meters is possible at a gauge of AWG 26.

Leoni controls the entire transmission channel of its cable systems in simulation and production with its engineering of cables, circuit boards and connectors; its cable production and assembly as well as extensive testing facilities with its in-house high-frequency laboratory. As a member of the Multi Source Agreement (MSA) Groups for QSFP-DD and OSFP, the cable specialist was, in line with standardisation, early to electromagnetically simulate the development of cable systems with its own components and to prove the feasibility of active and passive copper solutions for these standards. Initial prototypes have confirmed the findings of these simulations. For instance, OSFP and QSFP-DD cable systems passively transfer 8 x 25 Gbit/s at 25 GHz without interference (corresponds to 200 G with NRZ transmission) or up to 8 x 50 Gbit/s actively (corresponds to 400 G with PAM4 modulation). In the simulation, active OSFP or QSFP-DD cable systems can furthermore overcome greater lengths with full signal integrity when transferring 400 G of data thanks to an integrated PAM4 amplifier.

Alongside various active and passive end-to-end solutions, as well as such breakout versions as QSFP-DD based on 8 x SFP56; OSFP on 8 x SFP56, QSFP-DD on 2 x QSFP56 and OSFP on 2 x QSFP56, Leoni will soon be offering a breakout cable that transmits between QSFP-DD and OSFP. This solution will establish full compatibility between the two standards and downward compatible systems.

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☞ *Related illustration material can be downloaded next to this release at <https://www.leoni.com/en/press/releases/details/leoni-makes-data-centres-faster-with-transmission-speeds-of-400-g-via-copper/>*

About the Leoni Group

Leoni is a global supplier of wires, optical fibers, cables and cable systems as well as related services for the automotive sector and further industries. Leoni develops and produces technically sophisticated products from single-core automotive cables through to complete wiring systems. Leoni’s product range also comprises wires and strands, standardised cables, special cables and cable system assemblies for various industrial markets. The group of companies, which is listed on the German MDAX, employs about 84,000 people in 31 countries and generated consolidated sales of EUR 4.4 billion in 2016. In 2017, Leoni celebrates its 100 years anniversary.

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