

New DSFP (Dual Small Form-Factor Pluggable) Transceiver Specification Released

Eight industry leaders join forces to double data rate and port density of SFP transceivers.

Rome, Italy – September 19, 2018 -- The DSFP (Dual Small Form-Factor Pluggable) MSA (Multi-Source Agreement) Group has developed Rev. 1.0 Hardware Specification for the DSFP form factor module. The founding companies have addressed the technical challenges of doubling the SFP module density in the same footprint, while ensuring mechanical and electrical interoperability for optical transceivers produced by different manufacturers. DSFP networking equipment will also interoperate with existing SFP modules and cables.

The DSFP Hardware Specification Rev. 1.0 has been published on September 12, 2018 on the DSFP MSA web site (www.dsfpmsa.org). It includes complete electrical, mechanical and thermal specifications for module and host card, including connector, cage, power, and hardware I/O. Also included are operating parameters, data rates, protocols, and supported applications.

The DSFP MSA Group is now developing the DSFP MIS (Management Interface Specification), which is an abridged version of the CMIS (Common MIS) being developed by the QSFP-DD, OSFP and COBO Advisors Group.

To address the growing port density and scalability requirements of Wireless and 5G Mobile infrastructure, the DSFP specification doubles the data rate and port density of SFP modules. SFP has a single electrical lane pair operating at bit and data rates up to 28 Gbps using NRZ and 56 Gbps using PAM4. DSFP has two electrical lane pairs, each operating at bit rates up to 26 Gbps using NRZ and 56 Gbps using PAM4, supporting aggregate data rates up to 56 Gbps and 112 Gbps, respectively. DSFP will potentially scale to a per lane bit rate of 112 Gbps using PAM4, supporting aggregate data rate up to 224 Gbps. SFP modules can be plugged into DSFP ports for backwards compatibility.

“We are very excited about the introduction of a highly competitive new form factor by the DSFP MSA, which will double interface bandwidth and port density while maintaining compatibility with the existing SFP family of optics,” said Zhoujian Li, President of Research and Development, Wireless Networks, Huawei. “The DSFP form factor is low cost, has excellent high-speed signal integrity, reduces PCB area and is easy to design and manufacture. It is a great platform that enables 5G deployment and evolution, while fully protecting our customers’ investment.”

“Publication of the DSFP Hardware Specification is part of an industry trend of quickly developing solutions optimized for specific applications. Stringent cost, power and size constraints in demanding market segments, like Mobile infrastructure, leads to solutions focused strictly on required functionality,” commented Chris Cole, Chair of the DSFP MSA Group, and Vice President of Advanced Development, Finisar.

“TE works closely with our customers and end equipment operators to understand their requirements and meet the market needs”, according to Nathan Tracy, Technologist at TE Connectivity and Manager of Industry Standards. “The new DSFP form factor provides a method to double data rate and channel density using the well-established SFP mechanical geometry as a starting point. We are pleased to be a member of the DSFP MSA and to have contributed to the released specification.”

“There is tremendous industry pull for higher speeds and densities on switches and servers, while maintaining backwards compatibility. The DSFP form factor achieves this by doubling the number of high-speed lanes in the same size package as SFP,” said Greg McSorley, Technical Business Development Manager, Amphenol. “The DSFP MSA did a great job in getting the specification out quickly and efficiently. ”

“As technology demands continue to evolve, Molex is delighted to be a part of the DSFP MSA and contribute to the development of the new form factor,” said Scott Sommers, Group Product Manager at Molex. “With its ability to serve specific markets like Mobile base stations, DSFP addresses this demanding segment.”

“DSFP form factor doubles bandwidth density by doubling the number of channels in SFP size module, to support future demands of 5G network traffic,” commented Toshiyasu Ito, Senior Engineer, Yamaichi. “We are proud to have made key contributions to turn the DSFP concept into reality, through close cooperation with key customers and the DSFP MSA.”

The DSFP MSA founding members are Amphenol, Finisar, Huawei, Lumentum, Molex, NEC, TE Connectivity, and Yamaichi. Participation of these industry leaders will enable quick adoption and ease of use of the new form factor.

Please visit www.dsfpmsa.org for more information about the DSFP MSA.

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