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QSFP-DD MSA Group offers rev 6.0 specifications for QSFP-DD800, QSFP112

The key advance in rev. 6.0 is the support of 100-Gbps electrical host interfaces. These enable the QSFP-DD800 to be optimized for 8x100G operation and the QSFP112 to meet 4x100G requirements.

Stephen Hardy

May 25, 2021



The Quad Small Form Factor Pluggable Double Density (QSFP-DD) Multi Source Agreement (MSA) group has released revision 6.0 of its hardware specifications. Rev. 6.0 provides initial specifications for QSFP-DD800 and QSFP112 optical modules. The group also released an updated Common Management Interface Specification (CMIS) revision 5.0 for [QSFP-DD](#), QSFP-DD800, and QSFP112 modules as well as a whitepaper on thermal management.

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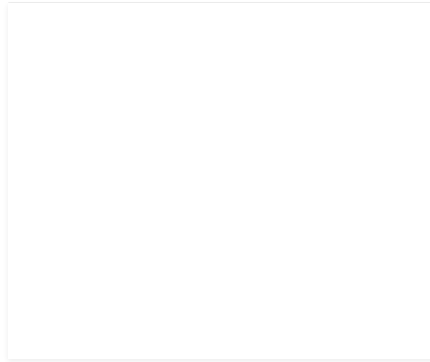


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operation and the QSFP112 to meet 4x100G requirements. Elements of Rev. 6.0 include:

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- QSFP-DD800 and QSFP112 mechanical and board definitions
- QSFP112 electrical and management timing
- Updated power supply test methods and support for an increased module power rating to 25 W
- An increase in the module power contact rating from 1 A to 1.5 A
- An appendix with normative connector performance data.

The updated CMIS revision 5.0 complements the new QSFP-DD800 and QSFP112 form factors. The CMIS defines the host-to-module interactions needed to ensure consistent initialization and operation. The revision provides several extensions and technical and editorial consolidation. The MSA says the CMIS described in the update is “harmonized” with the timing parameters defined in the previously published QSFP-DD MSA HW Spec revision 5.1 as well as the new revision 6.0.

Finally, the new whitepaper addresses thermal management issues that may arise in conjunction with the high-power 25-W modules that the QSFP-DD800 specifications will enable. The whitepaper describes thermal management techniques that can be applied to both QSFP-DD/QSFP-DD800 module design and QSFP-DD/QSFP-DD800 system design. Experimental and simulation study results are reported that demonstrate the efficacy of these techniques.

“The performance and power demands for high-speed network solutions are constantly increasing,” said Mark Nowell, founding member, and MSA co-chair. “This whitepaper captures the design experience garnered over the recent years from many companies and was written to help design engineers understand how they can achieve the thermal characteristics their system requires, even when using new 25 W modules, thus ensuring the reliable operation of their products.”

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The new specifications are available [on the QSFP-DD MSA website](#). “It is exciting to see how the 63 companies involved came together to harmonize these important QSFP/QSFP-DD form factors and software to future-proof data centers while maintaining backward compatibility,” added Scott Sommers, founding member, and MSA co-chair.

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