

SFF report

SFF Transceiver Group

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SFF Project Updates

- **Completed Projects:**

- SFF-TA-1016: Internal Unshielded High Speed Connector System
- SFF-8024: SFF Module Management Reference Code Tables
- SFF-8472: Management Interface for SFP+

- **New Projects:**

- SFF-TA-1026: Storage System High Speed Cable Interconnect
- SFF-TA-1027: Next Gen QSFP Connector, Cage, & Module
(More info on this later)
- SFF-TA-1029: Cabled QSFP Cage & Connector

SFF Project Updates

■ WIP Projects:

- SFF-TA-1024: SFF-TA-1016 Test Specification
- SFF-TA-1005: Universal Backplane Management (UBM)
- MiniSAS HD: Adding SMT footprint variations to enable higher data rates
 - SFF-8613: Mini Multilane 4/8X Undhielded Cage/ Connector (HDun)
 - SFF-8614: Mini Multilane 4/8X Shielded Cage/ Connector (HDsh)
- QSFP56: Tom will present more information on this topic later
 - SFF-8665: QSFP+ 28 Gb/s 4X Pluggable Transceiver Solution (QSFP28)
 - SFF-8679: QSFP+ 4X Hardware and Electrical Specification

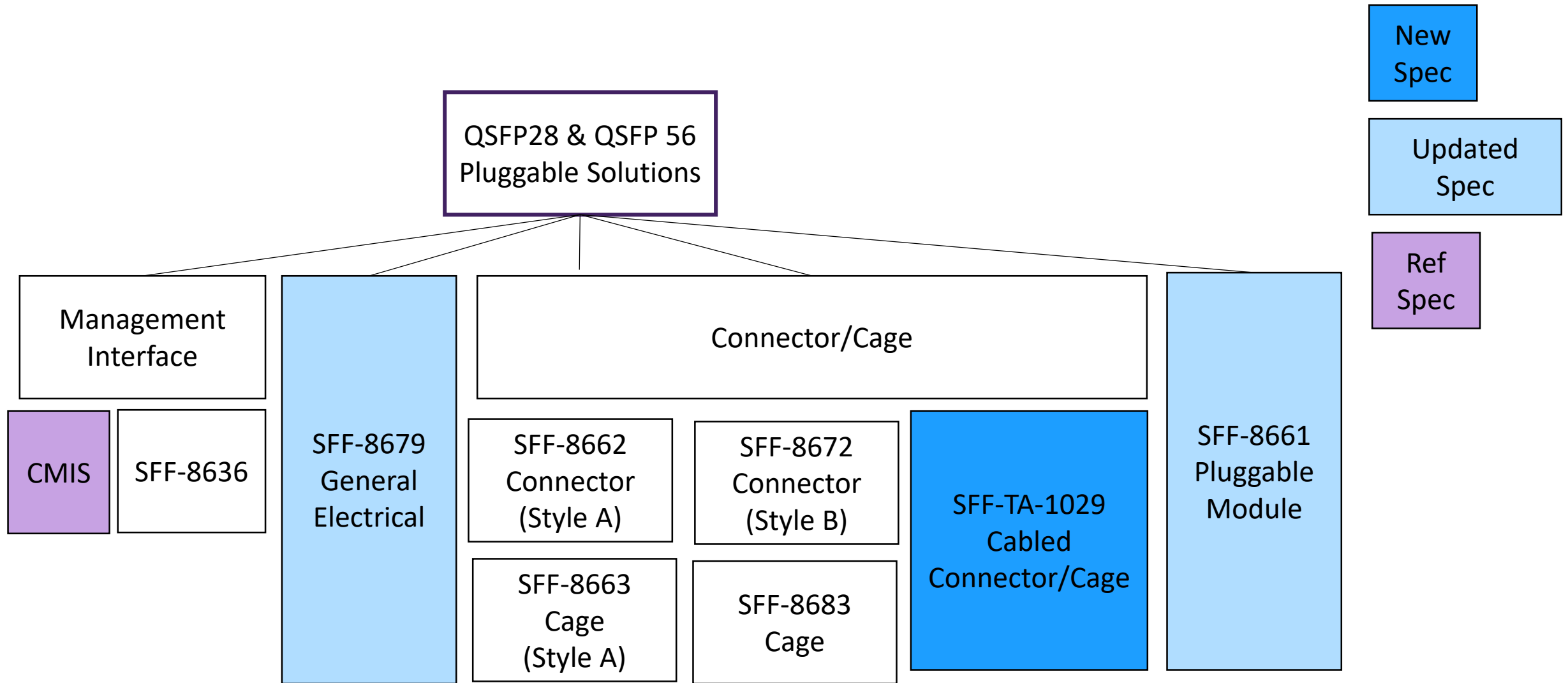
QSFP56 Project goals

- Update QSFP SFF documents to include changes required to support 56G PAM4 signaling
- Add Cabled Cage and Connector
- Incorporate updates from CMIS (Common Management Interface) and QSFP-DD

QSFP56 Document list

- Existing documents:
 - SFF-8665 (QSFP 4X Pluggable Transceiver Solution)
 - SFF-8679 (QSFP General Electrical)
 - SFF-8661 (QSFP Pluggable Module)
- New document:
 - SFF-TA-1029 (QSFP Cabled Cage and Connector)
- Incorporated by reference
 - CMIS (Common Management Interface)

Updates to SFF-8665: (QSFP Reference document)



Updates to SFF-8679 (QSFP Electrical):

- Updates from QSFP-DD

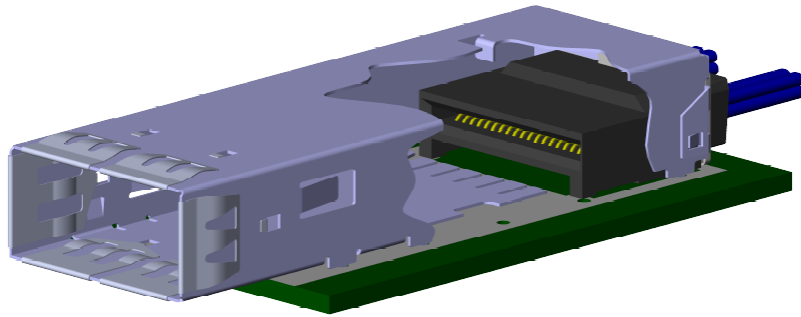
- Improved Thermals
 - High power module table
 - Surface roughness, flatness specs for high power modules
- Updated power supply decoupling, ramp, noise sections
- Add Type 2 and Type 2A module types to support higher power modules

- Updates to support CMIS

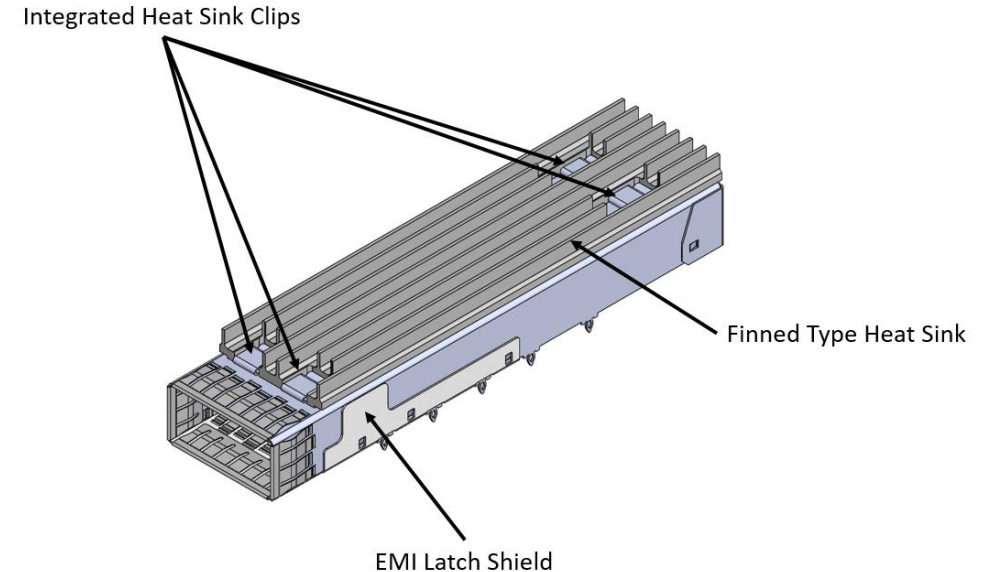
- New timing for low speed signals and management interface
- New functional description for LPMode

SFF-TA-1029 (QSFP Cabled Cage and Connector)

Improved Signal Integrity

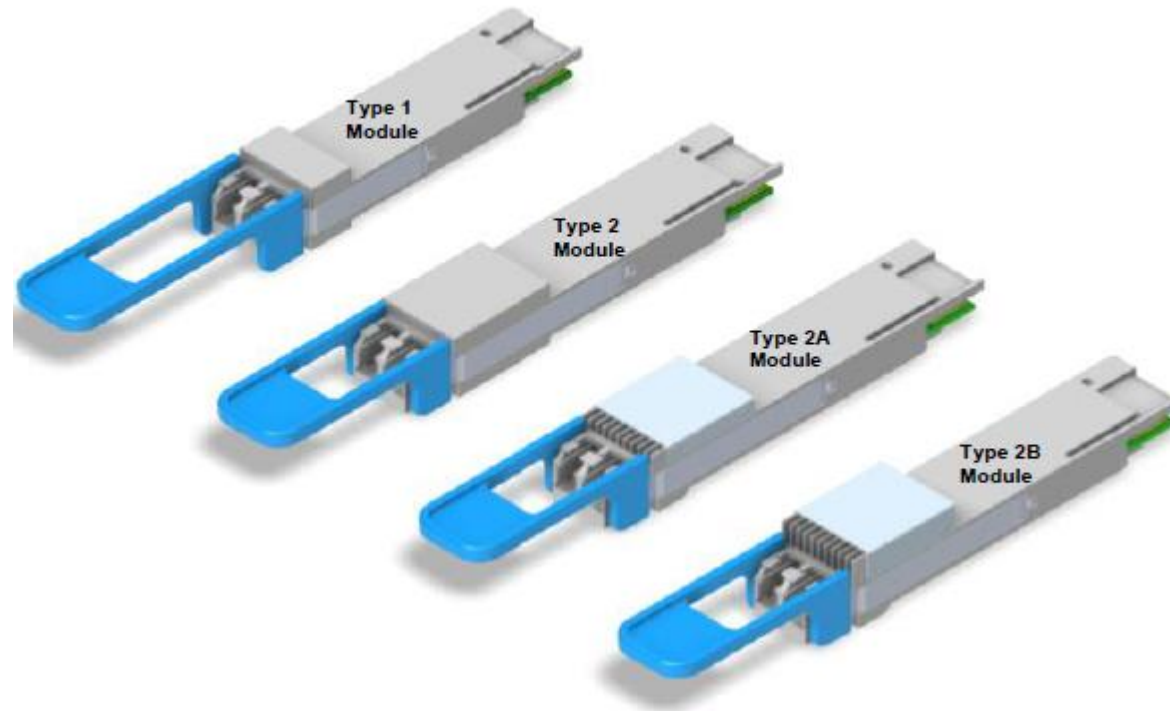


Improved Thermals



Updates to SFF-8661 (QSFP Module)

- Add Type 2 module types to support 'longer' and higher power modules



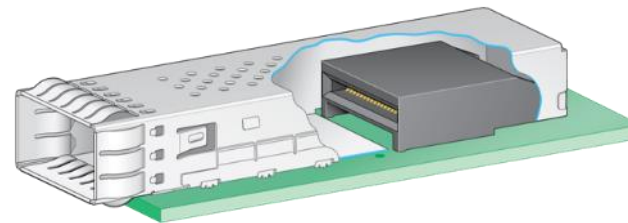


SFF-TA-1027: Next Generation QSFP

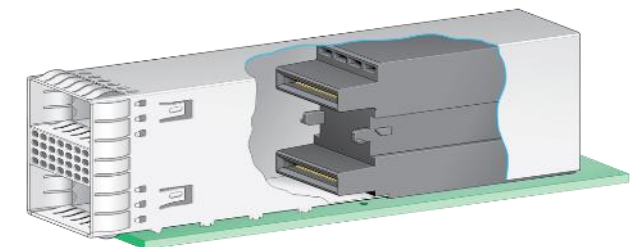
Presented by Alex Haser

SFF-TA-1027: Next Generation QSFP

- SFF-TA-1027 (Title TBD) defines QSFP modules, connectors, and cages to support 112G+ applications
 - Technical work based on work done by the QSFP-DD MSA
 - Speed-independent mechanical document to be utilized for future generations
- Management Interface dictated by CMIS (managed by OIF)
- Editors:
 - Paul Coddington, Amphenol
 - Alex Haser, Molex
 - Michael Scholeno, Amphenol



1x1 variant



2x1 (stacked) variant

SFF-TA-1027: Next Generation QSFP Details

- Modules: Type 1, Type 2, Type 2A, and Type 2B (thermally enhanced)
 - Updated paddle card definitions including pad width and length
 - Surface roughness and flatness definitions, label locations
- Connectors & cages: 1x1 and 2x1 variations with normative footprints
 - 1x1 footprints include two layout options, one of which is to be used with a QSFP28 Style A cage
 - 2x1 footprints include two different connector host layout implementations

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