SFF-8621

Former Draft Specification for

MiniLink 4/8X 24 Gb/s Interconnect Solution

Rev 1.0 August 8, 2023

SECRETARIAT: SFF TA TWG

ABSTRACT: This draft specification formerly defined the MiniLink connector and cable assembly specifications which are designed for use in high speed serial, interconnect applications at multi-gigabit speeds

REASON FOR EXPIRATION: Canceled

Development on this draft specification was discontinued per originating company.

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SFF specifications are available at http://www.snia.org/sff/specifications
or ftp://ftp.seagate.com/sff

SFF-8621

Specification for

MiniLink 4/8X 24 Gb/s Interconnect Solution

Rev 0.3 xxxxxx xx, 2016

Secretariat: SFF Committee

Abstract: This specification defines the MiniLink connector and cable assembly specifications which are designed for use in high speed serial, interconnect applications at multi-gigabit speeds.

This specification provides a common reference for systems manufacturers, system integrators, and suppliers. This is an internal working specification of the SFF Committee, an industry ad hoc group.

This specification is made available for public review, and written comments are solicited from readers. Comments received by the members will be considered for inclusion in future revisions of this specification.

The description of a cable assembly in this specification does not assure that the specific assembly is actually available from cable suppliers. If such a cable assembly is supplied it must comply with this specification to achieve interoperability between suppliers.

Support: This specification is supported by the identified member companies of the SFF Committee.

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The user's attention is called to the possibility that implementation to this Specification may require use of an invention covered by patent rights. By distribution of this specification, no position is taken with respect to the validity of a claim or claims or of any patent rights in connection therewith. SNIA SFF TWG members which advise that a patent exists are required to grant a license on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain such a license.

Change History

Rev 0.1
- The speed characteristics and electrical considerations of SFF-8611 and SFF-8612 were used to create SFF-8621.

Rev 0.2
- Corrected Figure 3-1
- Replaced Figure 4-2

Foreword

The development work on this specification was done by the SNIA SFF TWG, an industry group. Since its formation as the SFF Committee in August 1990, the membership has included a mix of companies which are leaders across the industry.

When 2 1/2" diameter disk drives were introduced, there was no commonality on external dimensions e.g. physical size, mounting locations, connector type, connector location, between vendors. The SFF Committee provided a forum for system integrators and vendors to define the form factor of disk drives.

During their definition, other activities were suggested because participants in SFF faced more challenges than the form factors. In November 1992, the charter was expanded to address any issues of general interest and concern to the storage industry. The SFF Committee became a forum for resolving industry issues that are either not addressed by the standards process or need an immediate solution.

In July 2016, the SFF Committee transitioned to SNIA (Storage Networking Industry Association), as a TA (Technology Affiliate) TWG (Technical Work Group).

The Members' support of a specification is identified on the second page of each specification. Industry consensus is not a requirement to publish a specification because it is recognized that in an emerging product area, there is room for more than one approach. By making the documentation on competing proposals available, an integrator can examine the alternatives available and select the product that is felt to be most suitable.

SFF meets during the T10 (see www.t10.org) and T11 (see www.t11.org) weeks, and SSWGs (Specific Subject Working Groups) are held at the convenience of the participants. Material presented to SFF becomes public domain, and there are no restrictions on the open mailing of the presented material by Members.

Many of the specifications developed by SFF have either been incorporated into standards or adopted as standards by ANSI, EIA, JEDEC and SAE.

For those who wish to participate in the activities of the SFF TWG, the signup for membership can be found at:
http://www.snia.org/sff/join

The complete list of specifications which have been completed or are currently being worked on by SFF can be found at:
http://www.snia.org/sff/specifications/SFF-8000.TXT

If you wish to know more about the SFF TWG, the principles which guide the activities can be found at:
http://www.snia.org/sff/specifications/SFF-8032.PDF

Suggestions for improvement of this specification will be welcome, they should be submitted to: http://www.snia.org/feedback

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FIGURES

1. Scope

This document specifies the MiniLink Connector and Cable assembly specs that define the 24Gbps MiniLink Interconnect Solution. This solution is designed for use in high speed serial, interconnect applications at multi-gigabit speeds.

1.1 Application Specific Criteria

This connector is capable of meeting the interface requirements for the internal I/O requirements of T10 SAS-4.

1.2 Copyright

1.3 Disclaimer

The information contained in this publication is subject to change without notice. The SNIA makes no warranty of any kind with regard to this specification, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The SNIA shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this specification.

Suggestions for revisions should be directed to http://www.snia.org/feedback/

2. References

2.1 Industry Documents

The following interface standards and specifications are relevant to this Specification.

- INCITS 519 SAS-3 (Serial Attached SCSI - 3)
- INCITS 534 SAS-4 (Serial Attached SCSI - 4)
- SFF-8410 HSS Copper Testing and Performance Requirements

- SFF-8611 MiniLink 4/8X I/O Cable Assemblies
- SFF-8612 MiniLink 4/8X Unshielded Connector

2.2 Sources

There are several projects active within the SFF TWG. The complete list of specifications which have been completed or are still being worked on are listed in http://www.snia.org/sff/specifications/SFF-8000.TXT

Copies of ANSI standards may be purchased from the InterNational Committee for Information Technology Standards (http://www.techstreet.com/incitsgate.tmpl).

2.3 Conventions

The dimensioning conventions are described in ANSI-Y14.5M, Geometric Dimensioning and Tolerancing. All dimensions are in millimeters, which are the controlling dimensional units (if inches are supplied, they are for guidance only).

The ISO convention of numbering is used i.e., the thousands and higher multiples are separated by a space and a period is used as the decimal point. This is equivalent to the English/American convention of a comma and a period.

American	French	ISO
0.6	0,6	0.6
1,000	1 000	1 000
1,323,462.9	1 323 462,9	1 323 462.9

3. General Description

This specification identifies the documentation required to implement four or eight lane 24 Gb/s MiniLink connector and cable assemblies.

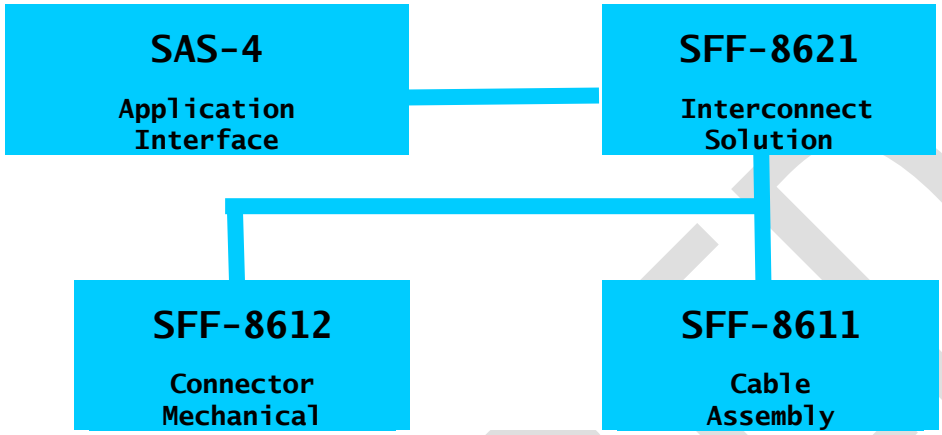


FIGURE 3-1 DOCUMENTATION TO IMPLEMENT A 24 GB/S INTERCONNECT SOLUTION

4. Overview of Referenced Specifications

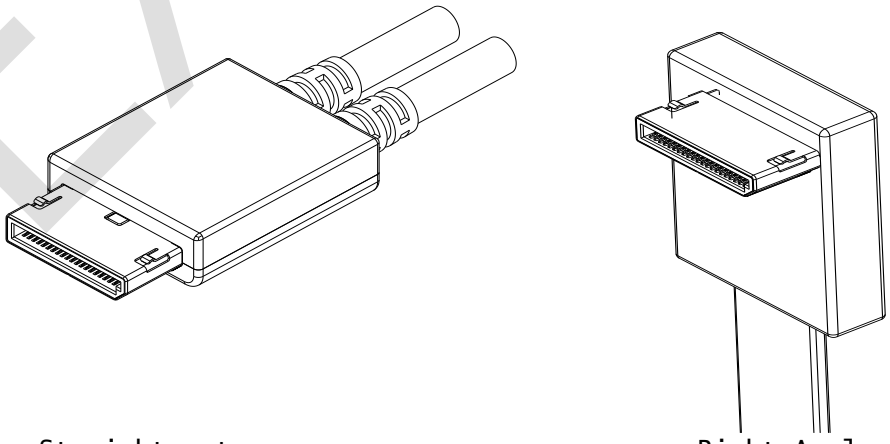
4.1 Application Requirements

The electrical and EMI considerations for the use of this connector are specified by the using standards listed in Section 1.1.

4.2 SFF-8611

The cable assembly system is based upon straight-out and right angle cable exit (free) mating plugs. The integral plug shell functions as the guide for the free (plug) connector interface and also provides the latches for mating with the receptacles in SFF-8612. This connector system provides positive retention along with ease of insertion and removal.

This specification provides for 1x1 (4X) and 1x1 (8X) (free side) straight-out and right angle cable exit mating cable plugs.

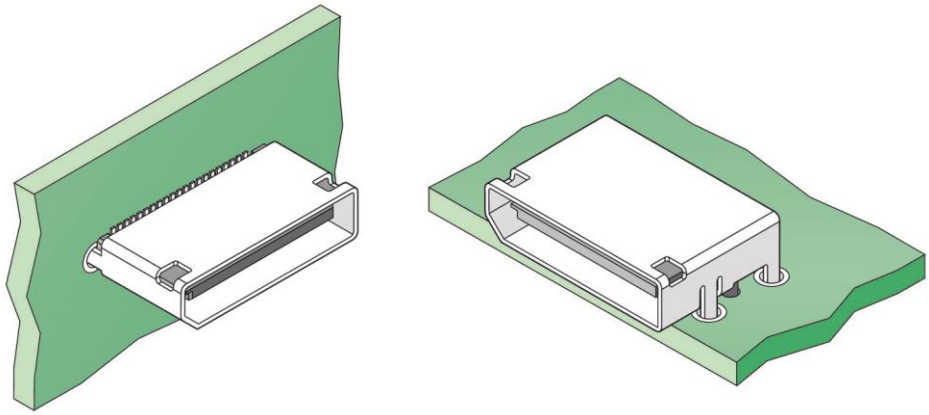


Straight-out Right Angle

FIGURE 4-1 FREE CABLE EXIT CONFIGURATIONS

4.3 SFF-8612

This specification provides for 1x1 (4X) and 1x1 (8X) vertical and right angle receptacles (fixed side).



Vertical Right Angle

FIGURE 4-2 FIXED CONNECTOR CONFIGURATIONS