



Sliver 2.0 Cable Assemblies

1. SCOPE

1.1. Content

This specification defines the performance, testing and quality requirements for Sliver 2.0 cable assemblies.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Table 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Qualification Test Results

Successful qualification testing on the subject product line has been completed. The Qualification Test Report number for this testing is 501-60090.

2. APPLICABLE DOCUMENTS AND FORMS

The following documents and forms constitute a part of this specification to the extent specified herein. Unless otherwise indicated, the latest edition of the document applies.

2.1. TE Documents

- 108-130021: Product Specification, Sliver Connectors
- 501-60090: Qualification Test Report (Sliver 2.0 cable assembly)
- 2340876-1 – C/A, 1C, STR-STR, PROFILED LATCH/WITH BUTTON, 30AWG
- 2340861-1 – C/A, 2C, STR-STR, PROFILED LATCH/WITH BUTTON, 30AWG
- 2340882-1 – C/A, 4C, STR-STR, PROFILED LATCH/WITH BUTTON, 30AWG
- 2360727-1 – C/A, 2C, STR-STR, FORMED LATCH WITH PULL TAB, 30AWG
- 2351375-1 – PIGTAIL, 1C, LATERAL, FORMED LATCH WITH PULL TAB, 30AWG
- 2354866-1 – C/A, 0.5C, STR, PROFILED LATCH/WITH BUTTON, 30AWG
- 2361331-1 – C/A, 1C, STR-STR, FORMED LATCH/WITH PULL TAB, 30AWG
- 2361342-1 – C/A, 2C, STR-STR, PROFILED LATCH/WITH PULL TAB, 30AWG
- 2361353-1 – C/A, 4C, STR-STR, PROFILED LATCH/WITH PULL TAB, 30AWG
- 2375584-3– C/A, 4C+, STR-STR, PROFILED LATCH/WITH PULL TAB, 30AWG

Above cable assemblies P/N's are representative of all platformed products. But are not the only cable assemblies P/N's that this specification applies to.

2.2. Industry Documents

- EIA-364 "Electrical Connector/Socket Test Procedure Including Environmental Classification"
- SFF-TA-1002 Specification for Protocol Agnostic Multi-Lane High Speed Connector
- Gen-Z Scalable Connector Specification

2.3. Reference Document

- [109-197](#) Test Specification (TE Test Specification vs EIA and IEC Test Methods)

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of the design, construction, materials and physical dimensions specified on the applicable product drawing.

3.2. Ratings

Voltage	Current	Temperature
3.3VDC per contact	Signal Only	0°C to 80°C

3.3. Performance and Test Description

The product is designed to meet electrical, mechanical and environmental performance specified in this paragraph as tested per test sequence specified in Paragraph 3.5.

3.4. Test Requirements and Procedures Summary

Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

Table 1

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Initial examination of product	Meets requirements of product drawing.	EIA-364-18. Visual and dimensional (C of C) inspection per product drawing.
Final examination of product	Meets visual requirements.	EIA-364-18 Visual inspection

ELECTRICAL

High Speed Test	Tested per requirements established by TE Connectivity, Signal Integrity Engineering for S-Parameters. IL Limit line @16Ghz = (-19dB) RL limit line @16Ghz = (-10dB) Limit lines include trace loss from host boards	EIA 364-108
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MECHANICAL

Pre-Conditioning	5 Cycles	EIA364-09
Latch Retention Axial	50N [11.2lbs] Min	Applied specific load to engaged/mated straight cable plug connector and held for a minimum of 60 seconds. For formed latches, please see section 3.4.C for specific requirements.
Lateral/Longitudinal Force	25N force applied perpendicular to mating interface. 360degree in 45degree increments, beginning perpendicular to long end of connector body. Force applied to	Monitor discontinuities of DUT; 1 microsecond max discontinuity duration. Measure at all defined test conditions, per requirements.

	the cable, no more than 100mm length of cable to be used.	For formed latches, please see section 3.4.C for specific requirements.
Mechanical Shock	Contact Discontinuity 1 microsecond Maximum. No more than 100mm length of free hanging cable to be used. Cable is permitted to be fixed and strain relieved at greater than 100mm length.	EIA364-27, Test Condition A, Subject mated specimens to 30G's half sine shock pulses of 11 milliseconds duration. 3 shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.
Mating Force Insertion	Per Gen Z Spec 0.5C-15.4N+10N=25.4N Max 1C-30.8N+10N=40.8N Max 2C-46.2N+10N=56.2N Max 4C-77N+10N=87N Max 4C+-92.4N+10N=102.4N Max	EIA-364-13
Unmating Force	Per Gen Z Spec 0.5C-2.5N Min 1C-5N Min 2C-7.5N Min 4C-12.5N Min 4C+-15N Min	EIA-364-13
Durability	25 cycles	EIA-364-9
Vibration	No Discontinuity of greater than 1 microsecond. No more than 100mm length of free hanging cable to be used. Cable is permitted to be fixed and strain relieved at greater than 100mm length.	EIA-364-28 Test Condition IIV, Test Condition, Letter D. Subject mated specimens to 3.1G RMS between 20-500 Hz. 15 minutes in each of 3 mutually perpendicular planes.

ENVIRONMENTAL

Temperature Cycling Test	See note	EIA 364-110, Subject cable assemblies to 10 cycles between -40°C and 75°C, a minimum dwell of 10 minutes at extremes and a 4°-6° ramp rate.
Damp Heat Steady State	See note	85%RH/85°C for 500 hours

Table 1 End



NOTE

Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Table 2.

3.5. Product Qualification and Requalification Test Sequence

Table 2

TEST OR EXAMINATION	TEST GROUP (a)		
	1	2	3
	TEST SEQUENCE (b)		
Initial examination of product	1	1	1
Pre-Conditioning	2	2	2,6
High Speed Test			3,8
Latch Retention	5		7
Lateral/Longitudinal Force	6		
Mechanical Shock		4	
Vibration		3	
Mating force	3		
Unmating force	7		
Durability	4		
Thermal Cycling			5
Temperature/Humidity			4
Final examination of product	8	5	9

Table 2



NOTE

- (a) See paragraph 4.1.A regarding qualification testing below.
- (b) Numbers indicate sequence in which tests are performed.

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

- A. Specimen selection
Specimens shall be prepared in accordance with applicable instruction sheets and shall be selected at random from current production. A sample size of 5 cables will be used for each test group.
- B. Test sequence
Qualification inspection shall be verified by testing specimens as specified in Paragraph 3.5.
- C. For all profiled latch samples, cables will be tested, as identified in the above table for Test Sequence and the Test Requirements and Procedure table. For all formed latches, the same testing will be conducted, with the exception of Latch Retention and Lateral/Longitudinal force testing will have values of 30N for Latch Retention, and 15N for Lateral/longitudinal force testing.

- D. For test group 3, sequences 1, 2, and 3 can be done at the manufacturing plant in DGN, if the cables will be qualification tested at the lab in Shanghai. As such, the lab in Shanghai would start testing at sequence 4, then return the cables to DGN for sequences 8 and 9.
- E. For test Group 3, cables will not use the same receptacle connector that was used for SI testing, during environmental testing. During environmental testing, each cable will be mated with another receptacle connector mounted on a test card.

4.2. Re-Qualification Testing

If changes that significantly affecting form, fit, or function are made to the product or manufacturing process, product assurance shall coordinate re-qualification testing consisting of all or part of the original testing sequence as determined by development/product, quality, and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements of Paragraph 3.4. Failures attributed to equipment, test set up, or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and specimens re-submitted for qualification. Testing to confirm corrective action is required before re-submittal.

4.4. Quality Conformance Inspection

This applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.