OSFP 112G Cable Assembly

1. INTRODUCTION

1.1 Purpose

Testing was performed on the OSFP 112G Cable Assembly to determine its conformance to the requirements of Product Specification 108-32337 Rev 5.

1.2 Scope

This report covers the electrical, mechanical, and environmental performance of the OSFP 112G Cable Assembly. Testing was performed at the Harrisburg Electrical Components Test Laboratory (HECTL) between May 2, 2022 and September 29, 2022. Test data is on file and maintained at HECTL under EA20220069T.

1.3 Conclusion

The OSFP 112G Cable Assembly listed in paragraph 1.4 conformed to the electrical, mechanical, and environmental performance requirements of Product Specification 108-32337 Rev 5.

1.4 Product Description

TE's Octal Small Form Factor Pluggable (OSFP) cable assemblies add to the wide range of products in the existing OSFP product portfolio providing customers with an 8x112G interconnect solution to support data transfer in next generation high density data center and cloud computing. OSFP products offer high port density and can fit up to 36 ports of an 8-lane interface in a 1RU switch form factor, aligning with current and next-generation silicon roadmaps.

1.5 Test Specimens

The test specimens were representative of normal production lots, and the following part numbers were used for testing:

Table 1 – Specimen Identification

Test Group	Test Set	Quantity	Part Number	Description
1,5,6	1,9,11	3 Each 1 Each 1 Each 1 Each	2380813-8 Rev 9 2324869-1 2317416-1 60-1935203-1	OSFP 112G Cable Assembly, 30 AWG OSFP 60 Pos R/A Receptacle OSFP 1x1 Cage Assembly OSFP LLCR Test PCB
	2,10,12	3 Each 1 Each 1 Each 1 Each	2369405-2 Rev 7 2324869-1 2317416-1 60-1935203-1	OSFP 112G Cable Assembly, 28 AWG OSFP 60 Pos R/A Receptacle OSFP 1x1 Cage Assembly OSFP LLCR Test PCB
2,3	3,5	2 Each 4 Each 4 Each 2 Each	2380813-4 Rev 9 2324869-1 2317416-1 60-1935203-1	OSFP 112G Cable Assembly, 30 AWG OSFP 60 Pos R/A Receptacle OSFP 1x1 Cage Assembly OSFP LLCR Test PCB
	4,6	2 Each 4 Each 4 Each 2 Each	2380813-5 Rev 9 2324869-1 2317416-1 60-1935203-1	OSFP 112G Cable Assembly, 28 AWG OSFP 60 Pos R/A Receptacle OSFP 1x1 Cage Assembly OSFP LLCR Test PCB
4	7	1	2380813-4 Rev 9	OSFP 112G Cable Assembly, 30 AWG
	8	1	2380813-5 Rev 9	OSFP 112G Cable Assembly, 28 AWG

1.6 Qualification Test Sequence

The specimens identified in paragraph 1.4, Table 1 were subjected to the sequence listed in Table 2.

Table 2 – Test Sequence

Test or Examination	Test Group 1	2	3	4	5	6
	Test Set					
	1,2	**3,4**	**5,6**	**7,8**	**9,10**	**11,12**
	Test Sequence (a)					
Initial Examination of Product	1	1	1	1	1	1
Low Level Contact Resistance (LLCR)		2,5,7,9	3,6,9			
High-Speed Test	2,5,7				2,4	2,5,7
Insulation Resistance					5	
Withstanding Voltage					6	
Cable Flex (Dynamic)						3
Cable Flex (Static)						4
Axial Cable Retention						6
Module Retention			4			
Durability (Pre-Conditioning)	3	3				
Durability			5			
Random Vibration			7			
Mechanical Shock			8			
Mate Force			2			
Unmate Force			10			
Re-Seating	6	8				
Thermal Shock	4					
Humidity / Temperature Cycling					3	
Temperature Life (Pre-Conditioning)		4				
Mix Flowing Gas		6				
Airflow Resistance				2		
Final Examination of Product	8	10	11	3	7	8

(a) The numbers indicate the sequence in which tests were performed.

1.7 Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:

Temperature: 15°C to 35°C
Relative Humidity 20% to 80%

2. SUMMARY OF TESTING

2.1 Initial Examination of Product – All Groups

Specimens showed no evidence of physical damage or mechanical non-conformance.

2.2 Low Level Contact Resistance (LLCR) – Groups 2, 3

All measurements met the requirement of a delta R (ΔR) of 20 milliohms maximum for LLCR. See Tables 3 through 6 for a summary of the LLCR data.

Table 3 – LLCR Data Summary (Milliohms) – Test Set 3

Test Set 3	Signal Contacts				Ground Contacts			
	Initial	After Temp Life Pre-Cond	After MFG	After Re-Seating	Initial	After Temp Life Pre-Cond	After MFG	After Re-Seating
	Actual R	Delta (ΔR)			Actual R	Delta (ΔR)		
Min	521.6	0.7	-10.6	-9.0	88.5	-3.2	-5.4	-5.2
Max	538.2	8.0	-2.1	-1.2	95.5	4.1	2.6	2.4
Average	529.8	4.3	-7.5	-5.6	91.3	0.4	-1.4	-1.3
Std. Dev.	3.24	1.34	1.77	1.62	1.62	1.65	1.39	1.66
Count	64	64	64	64	40	40	40	40

Table 4 – LLCR Data Summary (Milliohms) - Test Set 4

Test Set 4	Signal Contacts				Ground Contacts			
	Initial	After Temp Life Pre-Cond	After MFG	After Re-Seating	Initial	After Temp Life Pre-Cond	After MFG	After Re-Seating
	Actual R	Delta (ΔR)			Actual R	Delta (ΔR)		
Min	400.9	-9.3	-13.1	-18.1	64.3	-10.9	-10.3	-12.3
Max	418.5	5.7	3.6	-0.7	76.7	10.6	2.4	1.6
Average	407.4	1.4	-4.9	-4.7	66.9	0.0	-1.3	-1.7
Std. Dev.	3.37	2.27	2.46	2.41	2.50	2.98	2.16	2.29
Count	64	64	64	64	40	40	40	40

Table 5 – LLCR Data Summary (Milliohms) - Test Set 5

Test Set 5	Signal Contacts			Ground Contacts		
	Initial	After 50 Cycles	After Vibe & Shock	Initial	After 50 Cycles	After Vibe & Shock
	Actual R	Delta (ΔR)		Actual R	Delta (ΔR)	
Min	514.9	-1.7	-2.0	82.5	-2.1	-0.8
Max	531.2	3.4	5.6	87.5	2.6	4.7
Average	522.0	0.9	0.8	85.1	0.1	1.2
Std. Dev.	3.48	1.04	1.56	1.18	1.15	1.31
Count	64	64	64	40	40	40

Table 6 – LLCR Data Summary (Milliohms) - Test Set 6

Test Set 6	Signal Contacts			Ground Contacts		
	Initial	After 50 Cycles	After Vibe & Shock	Initial	After 50 Cycles	After Vibe & Shock
	Actual R	Delta (ΔR)		Actual R	Delta (ΔR)	
Min	393.9	-6.7	-6.4	59.6	-2.2	-1.7
Max	409.6	3.5	7.5	63.0	2.5	5.6
Average	400.9	0.5	1.0	60.9	0.3	1.3
Std. Dev.	3.32	1.52	2.10	0.99	1.29	1.57
Count	64	64	64	40	40	40

2.3 High-Speed Test – Groups 1, 5, 6

See Appendix A for high-speed testing results.

2.4 Insulation Resistance – Group 5

Specimens exceeded the minimum requirement of 1000 MΩ.

2.5 Dielectric Withstanding Voltage – Group 5

Specimens showed no evidence of dielectric breakdown or flashover, and leakage current measurements did not exceed the maximum requirement of 1 mA.

2.6 Cable Flex (Dynamic) – Group 6

Specimens showed no visual damage detrimental to product performance as a result of cable flex testing.

2.7 Cable Flex (Static) – Group 6

See Appendix A for cable flex (static) testing results.

2.8 Axial Cable Retention – Group 6

Specimens met the 90 N axial cable retention force requirement.

2.9 Module Retention – Group 3

Specimens met the 125 N module retention force requirement.

2.10 Durability (Pre-Conditioning) – Groups 1, 2

Specimens showed no visual damage detrimental to product performance after 10 mate/unmate cycles.

2.11 Durability – Group 3

Specimens showed no visual damage detrimental to product performance after 50 mate/unmate cycles.

2.12 Random Vibration – Group 3

Specimens had no apparent physical damage or discontinuities of 1 microsecond or longer during vibration testing.

2.13 Mechanical Shock – Group 3

Specimens had no apparent physical damage or discontinuities of 1 microsecond or longer during shock testing.

2.14 Mate Force – Group 3

Specimens met the 40 N maximum mate force requirement. See Table 7 for mate force data results.

Table 7 – Mate Force Data (Newtons) - Test Sets 5 and 6

Test Set 5 - 30 AWG			Test Set 6 - 28 AWG		
Specimen	Position	Force	Specimen	Position	Force
501	1	21.23	601	1	19.47
501	2	27.39	601	2	25.79
502	1	21.00	602	1	22.52
502	2	20.13	602	2	19.12

2.15 Unmate Force – Group 3

Specimens met the 30 N maximum unmate force requirement. See Table 8 for unmate force data results.

Table 8 – Unmate Force Data (Newtons) - Test Sets 5 and 6

Test Set 5 - 30 AWG			Test Set 6 - 28 AWG		
Specimen	Position	Force	Specimen	Position	Force
501	1	10.92	601	1	7.23
501	2	9.61	601	2	10.68
502	1	8.95	602	1	7.49
502	2	8.50	602	2	9.94

2.16 Re-Seating – Groups 1, 2

Specimens showed no visual damage detrimental to product performance after 3 mate/unmate cycles.

2.17 Thermal Shock – Group 1

Specimens showed no visual damage detrimental to product performance as a result of thermal shock exposure.

2.18 Humidity / Temperature Cycling – Group 5

Specimens showed no visual damage detrimental to product performance as a result of humidity/temp exposure.

2.19 Temperature Life (Pre-Conditioning) – Group 2

Specimens showed no visual damage detrimental to product performance as a result of temperature life exposure.

2.20 Mix Flowing Gas – Group 2

Specimens showed no visual damage detrimental to product performance as a result of mixed flowing gas exposure.

2.21 Airflow Resistance – Group 4

The airflow properties met the requirements of the OSFP MSA Rev 3.0 (March 14, 2020).

2.22 Final Examination of Product – All Groups

Specimens were visually examined and no evidence of physical damage detrimental to product performance was observed.

3. TEST METHODS

3.1. Initial Examination of Product

A C of C was issued stating that all specimens in this test package were produced, inspected, and accepted as conforming to product drawing requirements, and were manufactured using the same core manufacturing processes and technologies as production parts.

3.2 Low Level Contact Resistance

Testing was conducted in accordance with EIA-364-23C. Low level contact resistance measurements at low level current were made using a four terminal measuring technique. The test current was maintained at 100 milliamperes maximum with a 20 millivolt maximum open circuit voltage. Current and voltage were applied to the contacts through discrete headers on the PCB. See Figure 1 for test setup.

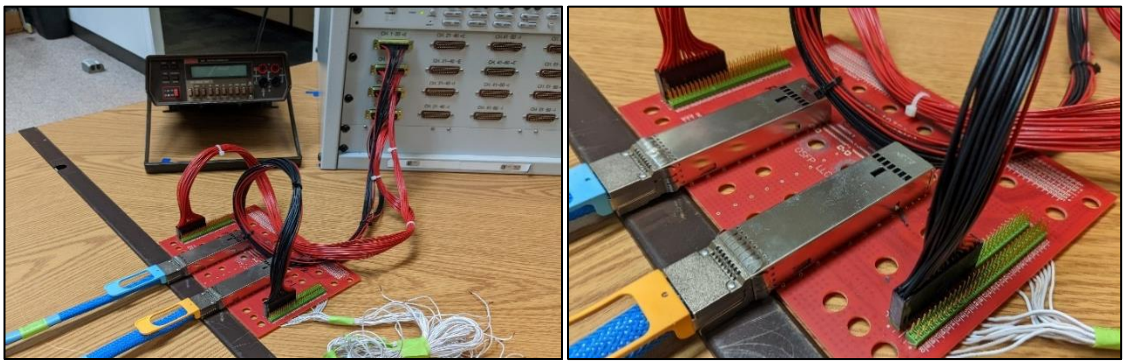


Figure 1 – Typical LLCR Test Setup

3.3 High-Speed Test

High speed testing was performed at Fulling Mill Road. See Appendix A for high-speed test method.

3.4 Insulation Resistance

Testing was performed in accordance with EIA-364-21F. 30AWG wires were soldered to the tails of a connector assembly and grouped into signal and ground groups. The specimens were then mated to the connector assembly to facilitate measurements. Specimens were subjected to 100 VDC between adjacent contacts for a duration of 1 minute. See Figure 2 for images of the typical test setup.

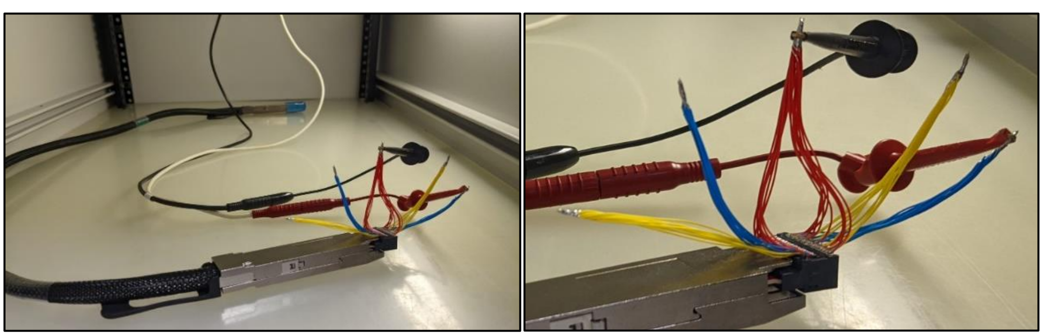


Figure 2 – Typical IR Test Setup

3.5 Dielectric Withstanding Voltage

Testing was performed in accordance with EIA-364-20F. 30AWG wires were soldered to the tails of a connector assembly and grouped into signal and ground groups. The specimens were then mated to the connector assembly to facilitate measurements. Specimens were subjected to 300 VDC between adjacent contacts for a duration of 1 minute. See Figure 3 for images of the typical test setup.

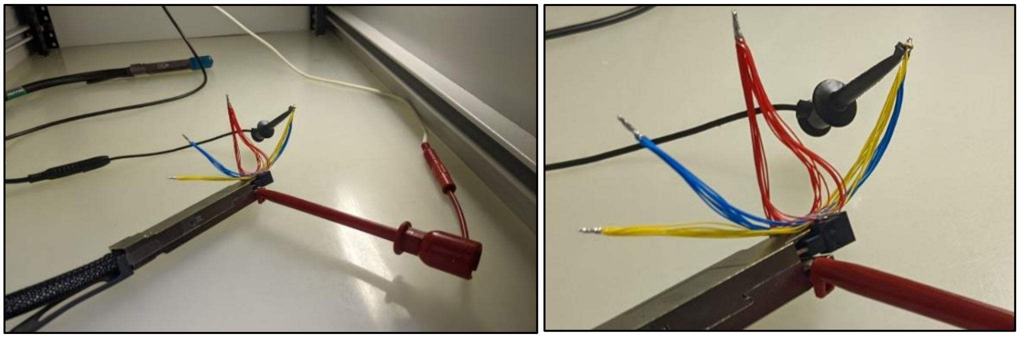


Figure 3 – Typical DWV Test Setup

3.6 Cable Flex (Dynamic)

Testing was conducted in accordance with specification SFF-8417, Type C, according to section 6.2.2. All specimens were placed in a cable flex machine and subjected to 100 cycles of flex with the connector under test coincident with the plane of the arc, and 100 cycles with the connector under test orthogonal to the plane of the arc. The arc was 90° from vertical in both directions and the speed was 13 ± 1 cycle per minute. The mandrels used for testing were 65 and 77 mm in diameter for Test Sets 13 and 14 respectively. See Figure 4 for typical setup photographs.

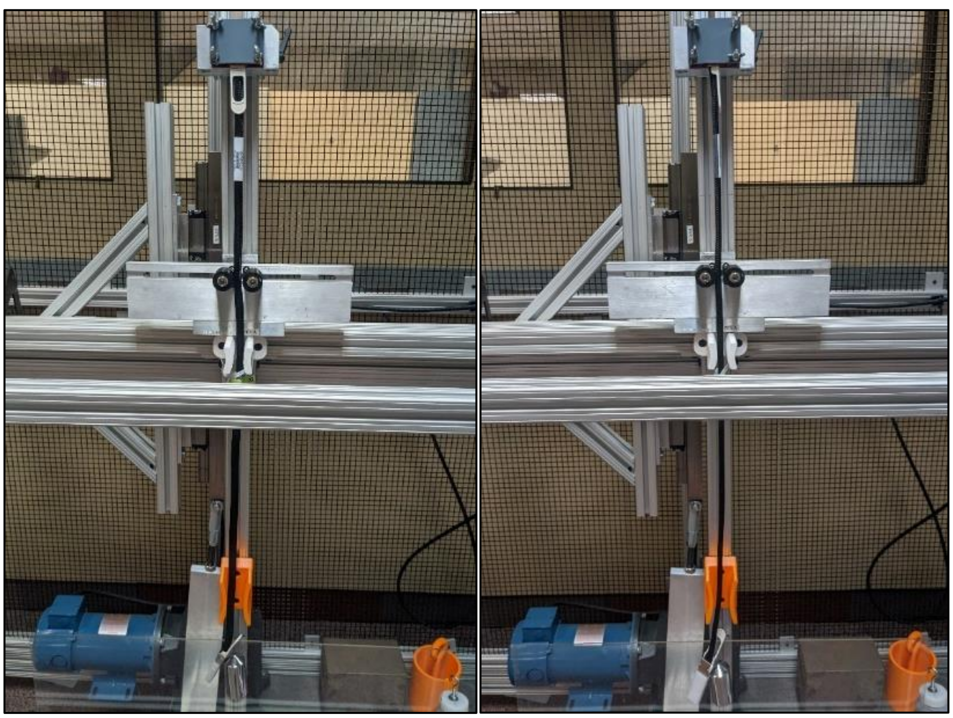


Figure 4 – Typical Cable Flex (Dynamic) Test Setup

3.7 Cable Flex (Static)

Cable flex (static) testing was performed at Fulling Mill Road. See Appendix A for cable flex (static) test method.

3.8 Axial Cable Retention

Testing was performed in accordance with EIA-364-38E, Method B. The OSFP 112G Cable Assembly was held in a clamp attached to the load cell and moveable crosshead of the tensile/compression machine. Tension was applied to the cable by securing a free weight (90 N) to the cable and pulling in an upward direction at a rate of 25.4 mm/min until the free weight was no longer resting on the base. The force was held for 5 minutes, then lowered back down to the base of the tensile/compression machine. See Figure 5 for images of the typical test setup.

Figure 5 – Typical Axial Cable Retention Test Setup

3.9 Module Retention

Testing was performed in accordance with EIA-364-13E. The PCB was attached to a right angle plate mounted to the moveable crosshead of the tensile/compression machine. Tension was applied to the module by securing a free weight (125 N) to the cable and pulling in an upward direction at a rate of 25.4 mm/min until the free weight was no longer resting on the base. The force was held for 2 seconds, then lowered back down to the base of the tensile/compression machine. See Figure 6 for images of the typical test setup.

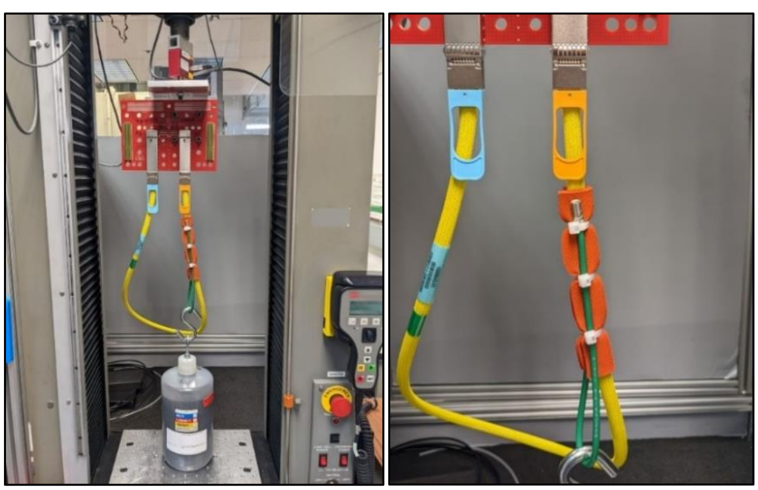


Figure 6 – Typical Module Retention Test Setup

3.10 Durability (Pre-Conditioning)

Testing was performed in accordance with EIA-364-09D. Specimens were mated and unmated 10 times by hand at a rate of 300 cycles per hour.

3.11 Durability

Testing was performed in accordance with EIA-364-09D. Specimens were mated and unmated 50 times by hand at a rate of 300 cycles per hour.

3.12 Random Vibration

Test specimens were subjected to a Random Vibration test in accordance with EIA-364-28F, Test Condition VII, Test Condition Letter D. The parameters of this test condition are specified by a random vibration spectrum with excitation frequency bounds of 20 and 500 Hertz (Hz). The spectrum remains flat at 0.02 g^2/Hz from 20 Hz to the upper bound frequency of 500 Hz. The root-mean square amplitude of the excitation was 3.10 GRMS. Test specimens were subjected to this test condition for 15 minutes in each of the three mutually perpendicular axes, for a total test time of 45 minutes per test specimen. An electrical load was applied to the test specimens that was maintained at 100 milliamperes maximum and was monitored for discontinuities of 1 microsecond or longer. Random vibration test setups are shown in Figures 7 through 9.

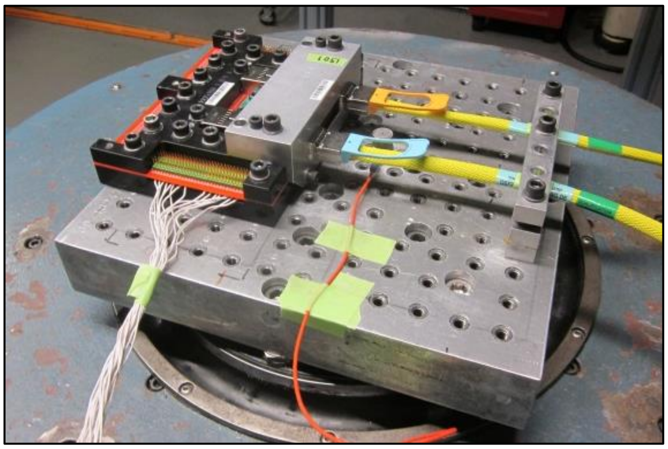


Figure 7 – Random Vibration Test Setup

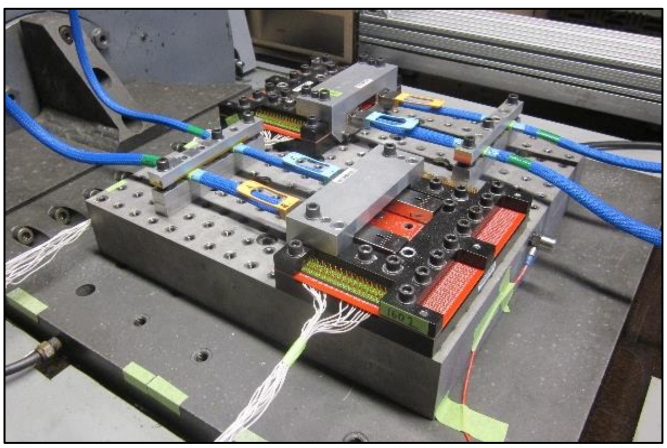


Figure 8 – Random Vibration Test Setup

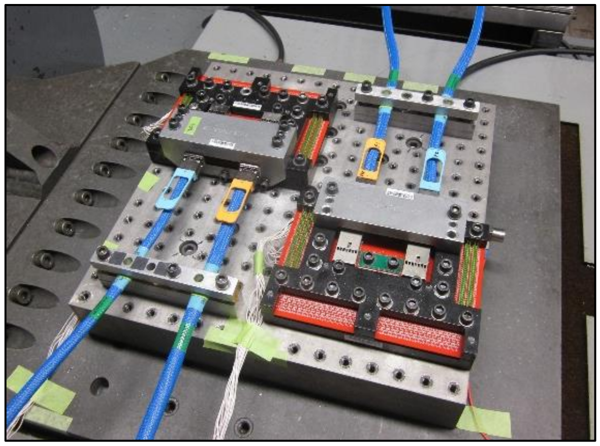


Figure 9 – Random Vibration Test Setup

3.13 Mechanical Shock

Test specimens were subjected to a Mechanical Shock test in accordance with EIA-364-27C, Test Condition H. The parameters of this test condition are a half-sine waveform with an acceleration amplitude of 30 gravity units (g's peak) and a duration of 11 milliseconds. Three shocks in each direction were applied along the three mutually perpendicular axes of the test specimen, for a total of 18 shocks. An electrical load was applied to the test specimens that was maintained at 100 milliamperes maximum and was monitored for discontinuities of 1 microsecond or longer. Mechanical shock test setups are shown in Figures 10 through 12.

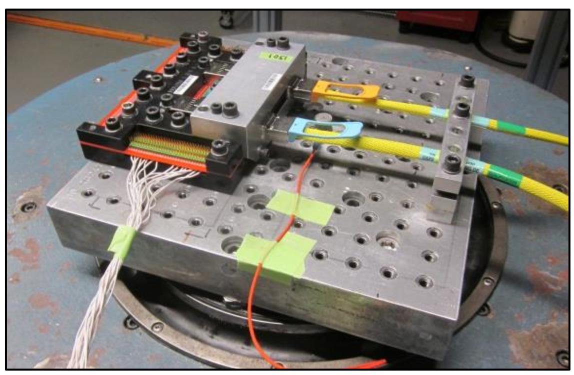


Figure 10 – Mechanical Shock Test Setup

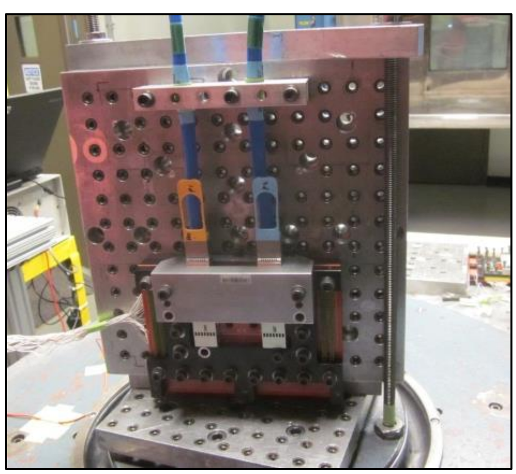


Figure 11 – Mechanical Shock Test Setup

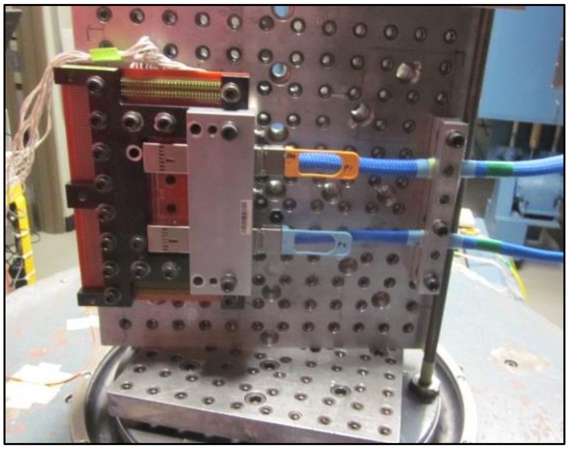


Figure 12 – Mechanical Shock Test Setup

3.14 Mate Force

Testing was performed in accordance with EIA-364-13E. The PCB was secured to a right angle plate attached to a mill table mounted at the base of the tensile/compression machine. The OSFP 112G Cable Assembly was manually aligned with the receptacle and pushed in by a goal post fixture attached to the load cell and moveable crosshead of the tensile/compression machine. Force was then applied in a downward direction at a speed of 25.4 mm/min until the cable assembly was fully mated with the receptacle. See Figure 13 for images of the typical test setup.

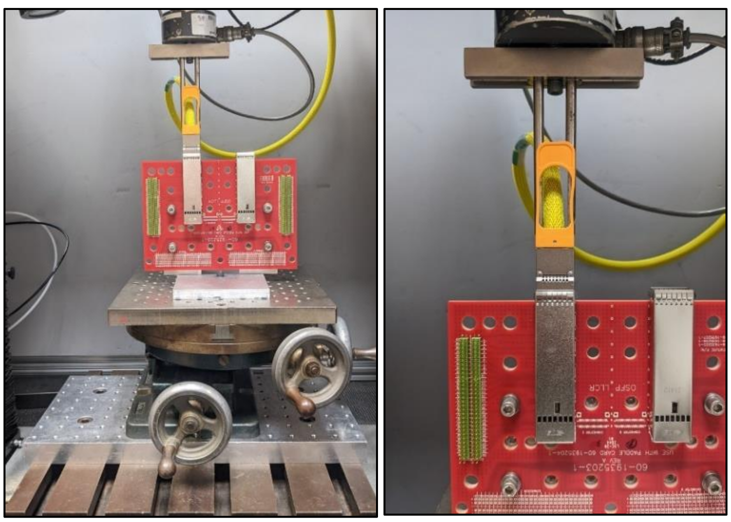


Figure 13 – Typical Mating Force Test Setup

3.15 Unmate Force

Testing was performed in accordance with EIA-364-13E. The PCB was secured to a right angle plate attached to a free floating x/y and rotational table mounted at the base of the tensile/compression machine. The pull tab was engaged using a hook attached to the load cell and moveable crosshead of the tensile/compression machine. Force was then applied in an upward direction at a speed of 25.4 mm/min until the cable assembly was fully unmated from the receptacle. See Figure 14 for images of the typical test setup.

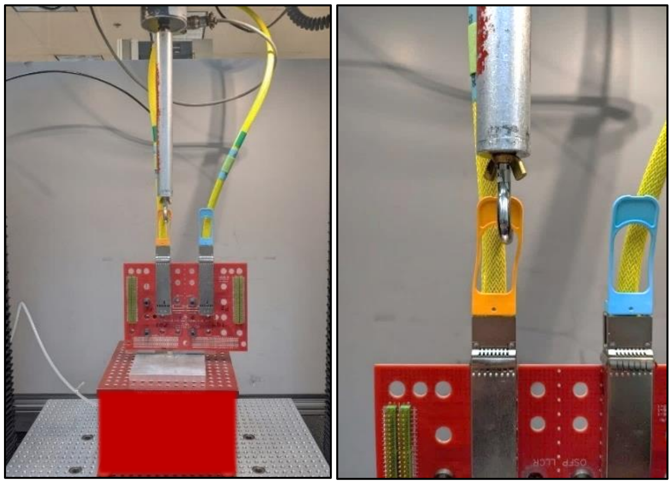


Figure 14 – Typical Unmating Force Test Setup

3.16 Re-Seating

Specimens were mated and unmated 3 times by hand.

3.17 Thermal Shock

Testing was conducted in accordance with EIA-364-32G. Unmated specimens were subjected to 10 cycles of thermal shock between 0°C and 70°C with 1 hour dwell times at each temperature extreme.

3.18 Humidity / Temperature Cycling

Testing was performed in accordance with EIA-364-31F. Unmated specimens were subjected to 10 cycles (10 days) of humidity exposure at 25°C to 65°C and 80% to 100% relative humidity.

3.19 Temperature Life (Pre-Conditioning)

Testing was performed in accordance with EIA-364-17C. Mated specimens were exposed to 70°C for 120 hours.

3.20 Mix Flowing Gas

Testing was performed in accordance with EIA-364-65B, Class IIA.

Specimens were subjected to a 4-gas environment for 14 days. Test specimens 301 & 401 were exposed in the unmated condition (cables only) for the first 7 days and mated for the final 7 days. Specimens 302 & 402 were exposed mated for the 14-day test duration. No LLCR measurements were required during the exposure period. See Table 9 for MFG test parameters.

Table 9 – MFG Test Parameters

Environment	Class IIA
Temperature (^{0}C)	**30±1**
Relative Humidity (%)	**70±2**
Chlorine (Cl2) Concentration (ppb)	**10±3**
Hydrogen Sulfide (H2S) Concentration (ppb)	**10±5**
Nitrogen Dioxide (NO2) Concentration (ppb)	**200±50**
Sulfur Dioxide (SO2) Concentration (ppb)	**100±20**
Exposure Period [actual]	**14 days**
Chamber Volume Exchange Rate [minimum of 6/hr.]	**8.8/hr. (a)**

(a) Volume exchange rate for 105-liter test chamber [Total flow rate of 15.4 L/Min]

3.21 Airflow Resistance

An OSFP test jig designed per Figure 8-3 of OSFP MSA Specification Rev 3, was mounted to the end of a wind tunnel. A test specimen was inserted into the test jig. The pressure differential between the outside and inside of the airflow chamber was set at approximately 0.25 inch-water and the corresponding airflow was recorded. The procedure was repeated for 0.5, 1.0, 1.5, 2.0, 2.5, 3.0 and 3.5 inch-water pressures. The arrow shows the direction of airflow. See Figure 15 for a view of the test setup.

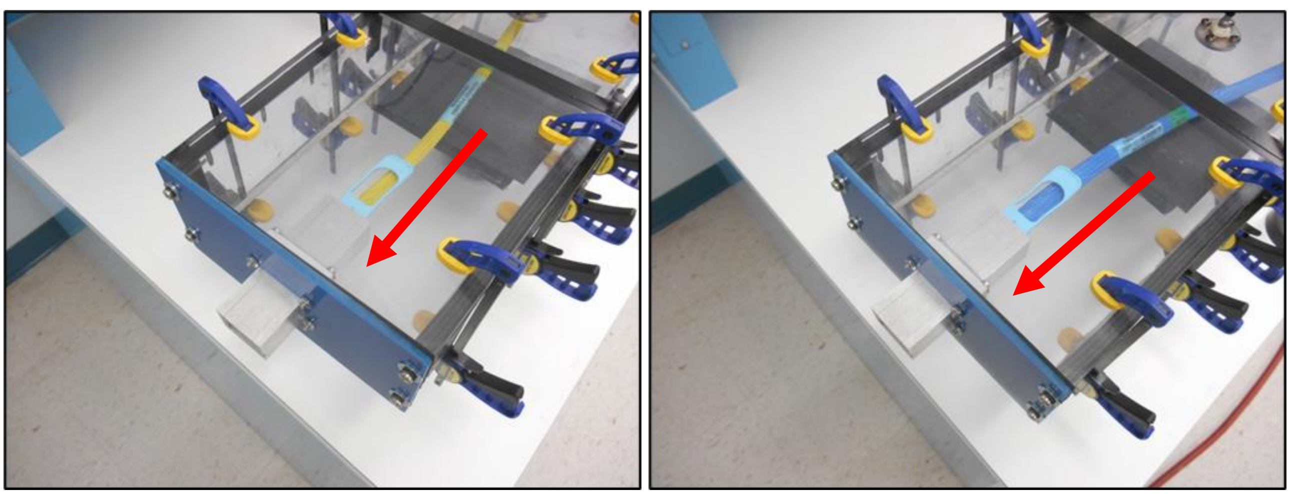


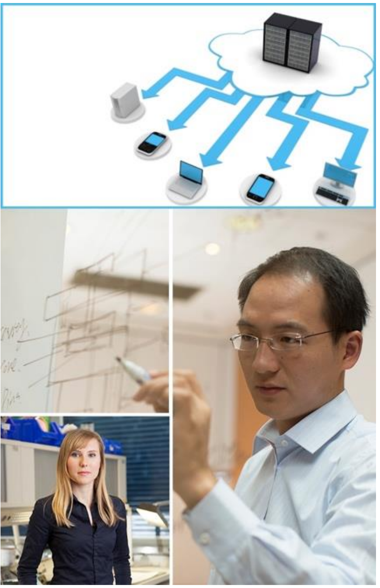
Figure 15 – Typical Airflow Resistance Test Setup

3.22 Final Examination of Product

Testing was performed in accordance with EIA-364-18B. Specimens were visually examined with an unaided eye.

Appendix A

High Speed Testing



OSFP Cable Assembly 108-32337 Signal Integrity Report

June 14th, 2023

Test Summary

- Testing was performed according to 108-32337

- Signal integrity test applies to High-Speed Test for test groups 1, 5 & 6

- Equipment:
  - High speed tester ARC64PSTA25
  - Module Compliance Boards PN 60-1946328 R05 with TE OSFP connector and 2.92mm test points compliant to IEEE 802.3ck

Test Summary

Test or Examination	Test Group					
	1	2	3	4	5	6
	Test Set					
	1,2	3,4	5,6	7,8	9,10	11,12
	Test Sequence (a)					
Initial Examination of Product	1	1	1	1	1	1
Low Level Contact Resistance (LLCR)		2,5,7,9	3,6,9			
High-Speed Test	2,5,7				2,4	2,5,7
Insulation Resistance					5	
Withstanding Voltage					6	
Cable Flex (Dynamic)						3
Cable Flex (Static)						4
Axial Cable Retention						6
Module Retention			4			
Durability (Pre-Conditioning)	3	3				
Durability			5			
Random Vibration			7			
Mechanical Shock			8			
Mate Force			2			
Unmate Force			10			
Re-Seating	6	8				
Thermal Shock	4					
Humidity / Temperature Cycling					3	
Temperature Life (Pre-Conditioning)		4				
Mix Flowing Gas		6				
Airflow Resistance				2		
Final Examination of Product	8	10	11	3	7	8

Cable Summary

- Test Group 1
  1.0m 30AWG
  PN 2380813-8 220350096
  PN 2380813-8 220350110
  PN 2380813-8 220350123
  1.0m 28AWG
  PN 2369405-2 57ADUAA220400K
  PN 2369405-2 57ADUAA220400L
  PN 2369405-2 57ADUAA220400M

- Test Group 5
  1.0 30AWG
  PN 2380813-8 220350098
  PN 2380813-8 220350113
  PN 2380813-8 220350118
  1.0m 28AWG
  PN 2369405-2 57ADUAA2204008
  PN 2369405-2 57ADUAA220400J
  PN 2369405-2 57ADUAA220400P

- Test Group 6
  1.0m 30AWG
  PN 2380813-8 220350112
  PN 2380813-8 220350117
  PN 2380813-8 220350121
  1.0m 28AWG
  PN 2369405-2 57ADUAA220400C
  PN 2369405-2 57ADUAA220400Q
  PN 2369405-2 57ADUAA220400R

TE OSFP MCB 60-1946328 R05

Test Fixtures:

- TE OSFP MCB PN 60-1946328 R05 with 2.92mm test points
- Per IEEE 802.3ck spec

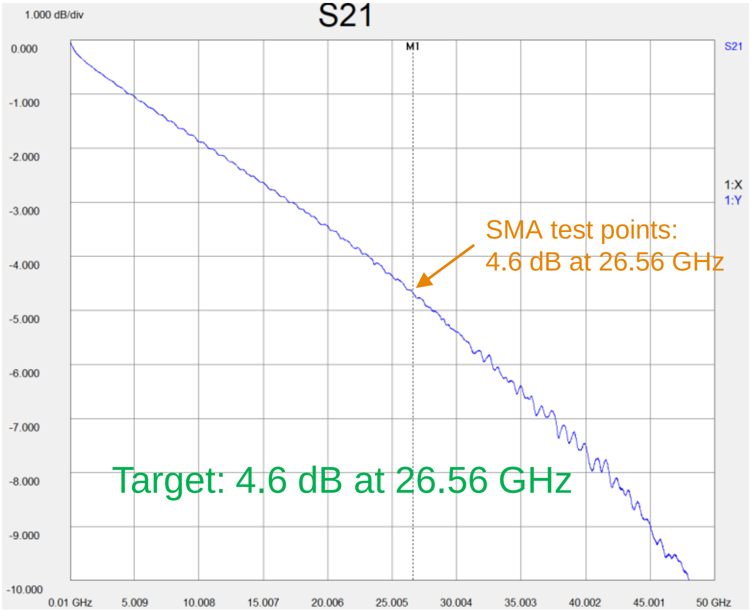


Table of Contents

Test Group 1:
THERMAL SHOCK AND RESEATING

High Speed Test Data per IEEE 802.3ck

Test Group 1, Test Seq 2, 5, 7

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SDD21		
TG1	2380813-8 220350096	PASS	PASS	PASS
	2380813-8 220350110			
	2380813-8 220350123			
	2369405-2 57ADUAA220400K	PASS	PASS	PASS
	2369405-2 57ADUAA220400L			
	2369405-2 57ADUAA220400M			

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SCD21-SDD21		
TG1	2380813-8 220350096	PASS	PASS	PASS
	2380813-8 220350110			
	2380813-8 220350123			
	2369405-2 57ADUAA220400K	PASS	PASS	PASS
	2369405-2 57ADUAA220400L			
	2369405-2 57ADUAA220400M			

Test Group 1, Test Seq 2, 5, 7

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SDD11		
TG1	2380813-8 220350096 2380813-8 220350110 2380813-8 220350123	PASS	PASS	PASS
	2369405-2 57ADUAA220400K 2369405-2 57ADUAA220400L 2369405-2 57ADUAA220400M	PASS	PASS	PASS

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SDD22		
TG1	2380813-8 220350096 2380813-8 220350110 2380813-8 220350123	PASS	PASS	PASS
	2369405-2 57ADUAA220400K 2369405-2 57ADUAA220400L 2369405-2 57ADUAA220400M	PASS	PASS	PASS

Test Group 1, Test Seq 2, 5, 7

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SCD11		
TG1	2380813-8 220350096	PASS	PASS	PASS
	2380813-8 220350110			
	2380813-8 220350123			
	2369405-2 57ADUAA220400K	PASS	PASS	PASS
	2369405-2 57ADUAA220400L			
	2369405-2 57ADUAA220400M			

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SCD22		
TG1	2380813-8 220350096	PASS	PASS	PASS
	2380813-8 220350110			
	2380813-8 220350123			
	2369405-2 57ADUAA220400K	PASS	PASS	PASS
	2369405-2 57ADUAA220400L			
	2369405-2 57ADUAA220400M			

Test Group 1, Test Seq 2, 5, 7

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SCC11		
TG1	2380813-8 220350096	PASS	PASS	PASS
	2380813-8 220350110			
	2380813-8 220350123			
	2369405-2 57ADUAA220400K	PASS	PASS	PASS
	2369405-2 57ADUAA220400L			
	2369405-2 57ADUAA220400M			

		INITIAL	POST THERMAL SHOCK	POST RESEATING
		SCC22		
TG1	2380813-8 220350096	PASS	PASS	PASS
	2380813-8 220350110			
	2380813-8 220350123			
	2369405-2 57ADUAA220400K	PASS	PASS	PASS
	2369405-2 57ADUAA220400L			
	2369405-2 57ADUAA220400M			

Test Group 5:
TEMP / HUMIDITY

High Speed Test Data per IEEE 802.3ck

Test Group 5, Test Seq 2, 4

		INITIAL	POST TEMP / HUMIDITY
		SDD21	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

		INITIAL	POST TEMP / HUMIDITY
		SCD21-SDD21	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

Test Group 5, Test Seq 2, 4

		INITIAL	POST TEMP / HUMIDITY
		SDD11	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

		INITIAL	POST TEMP / HUMIDITY
		SDD11	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

Test Group 5, Test Seq 2, 4

		INITIAL	POST TEMP / HUMIDITY
		SCD11	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

		INITIAL	POST TEMP / HUMIDITY
		SCD22	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

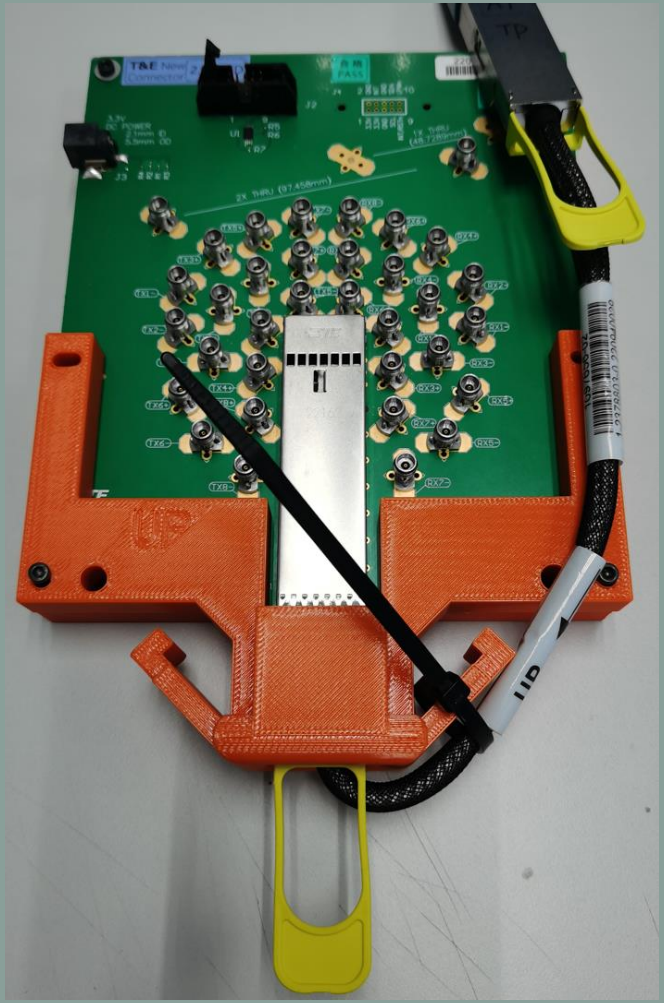
Test Group 5, Test Seq 2, 4

		INITIAL	POST TEMP / HUMIDITY
		SCC11	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

		INITIAL	POST TEMP / HUMIDITY
		SCC22	
TG5	2380813-8 220350098	PASS	PASS
	2380813-8 220350113		
	2380813-8 220350118		
	2369405-2 57ADUAA2204008	PASS	PASS
	2369405-2 57ADUAA220400J		
	2369405-2 57ADUAA220400P		

Test Group 6:
CABLE FLEX & AXIAL PULL

High Speed Test Data per IEEE 802.3ck



Representative Cable Flex (Static) Setup

Test Group 6, Test Seq 2, 4, 5, 7

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SDD21			
TG6	2380813-8 220350112	PASS	PASS	PASS	PASS
	2380813-8 220350117				
	2380813-8 220350121				
	2369405-2 57ADUAA220400C	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400Q				
	2369405-2 57ADUAA220400R				

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SCD21-SDD21			
TG6	2380813-8 220350112	PASS	PASS	PASS	PASS
	2380813-8 220350117				
	2380813-8 220350121				
	2369405-2 57ADUAA220400C	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400Q				
	2369405-2 57ADUAA220400R				

Test Group 6, Test Seq 2, 4, 5, 7

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SDD11			
TG6	2380813-8 220350112	PASS	PASS	PASS	PASS
	2380813-8 220350117				
	2380813-8 220350121				
	2369405-2 57ADUAA220400C	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400Q				
	2369405-2 57ADUAA220400R				

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SDD22			
TG6	2380813-8 220350112	PASS	PASS	PASS	PASS
	2380813-8 220350117				
	2380813-8 220350121				
	2369405-2 57ADUAA220400C	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400Q				
	2369405-2 57ADUAA220400R				

Test Group 6, Test Seq 2, 4, 5, 7

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SCD11			
TG6	2380813-8 220350112 2380813-8 220350117 2380813-8 220350121	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400C 2369405-2 57ADUAA220400Q 2369405-2 57ADUAA220400R	PASS	PASS	PASS	PASS

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SCD22			
TG6	2380813-8 220350112 2380813-8 220350117 2380813-8 220350121	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400C 2369405-2 57ADUAA220400Q 2369405-2 57ADUAA220400R	PASS	PASS	PASS	PASS

Test Group 6, Test Seq 2, 4, 5, 7

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SCC11			
TG6	2380813-8 220350112	PASS	PASS	PASS	PASS
	2380813-8 220350117				
	2380813-8 220350121				
	2369405-2 57ADUAA220400C	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400Q				
	2369405-2 57ADUAA220400R				

		INITIAL	POST CABLE FLEX (STATIC)	POST CABLE FLEX (DYNAMIC)	POST AXIAL PULL
		SCC22			
TG6	2380813-8 220350112	PASS	PASS	PASS	PASS
	2380813-8 220350117				
	2380813-8 220350121				
	2369405-2 57ADUAA220400C	PASS	PASS	PASS	PASS
	2369405-2 57ADUAA220400Q				
	2369405-2 57ADUAA220400R				