The product described in this document has not been fully tested to ensure conformance to the requirements outlined below. Therefore, TE Connectivity (TE) makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, TE may change these requirements based on the results of additional testing and evaluation. Contact TE Engineering for further details.

CFP2/CFP4 Pluggable Host Connector and Transceiver Plug Connector System

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for the TE Connectivity CFP2/CFP4 Pluggable Host Connector and Transceiver Plug Connector System.

1.2. Qualification

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

1.3. Successful qualification testing on the subject product line was not completed. The Qualification Test Report number for this testing is 501-TBA. This documentation is on file at and available from Engineering Practices and Standards (EPS).

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. Documents

- 501-TBA: Qualification Test Report (CFP2/CFP4 Pluggable Host Connector and Transceiver Plug Connector System.)

2.2. Industry Document

- EIA-364: Electrical Connector/Socket Test Procedures Including Environmental Classifications

2.3. Reference Document

- 109-197: Test Specification (Tyco Electronics Test Specifications 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: 3.3 volts DC
- Current: Signal application only
- Temperature: -55 to 85°C

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3.3. Test Requirements and Procedures Summary

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

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		
Low Level Contact Resistance (LLCR).	ΔR 20 milliohms maximum for shield and signal contacts.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.
Insulation resistance.	100 megohms.	EIA-364-21. 300 volts DC, 2 minute hold. Test between adjacent contacts of mated and unmounted specimens.
Withstanding voltage.	One minute hold with no breakdown or flashover.	EIA-364-20, Condition I. 300 volts AC at sea level. Test between adjacent contacts of mated and unmounted specimens.
MECHANICAL		
Random vibration.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-28, Test Condition VII, Condition Letter D. Subject mated specimens to 3.10 G's rms between 20 to 500 Hz. Fifteen minutes in each of 3 mutually perpendicular planes.
Mechanical shock.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-27, Method A. Subject mated specimens to 30 G's half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks.
Durability.	See Note.	EIA-364-9. Mate and unmate specimens for 200 cycles at a maximum rate of 500 cycles per hour.
Transceiver insertion force, CFP2/CFP4 module to PCB connector and cage.	80 N [18 lbf] maximum for CFP2. 60 N [13.5 lbf] maximum for CFP4.	EIA-364-13. Measure force necessary to mate specimens at a maximum rate of 12.7 mm [.5 in] per minute.
Transceiver extraction force, CFP2/CFP4 module form PCB connecter and cage.	50 N [11.24 lbf] maximum for CFP2 and CFP4.	EIA-364-13. Measure force necessary to unmate specimens at a maximum rate of 12.7 mm [.5 in] per minute.
Cage press fit extraction force	TBD minimum for single port cage. TBD minimum per pin for ganged cage. See note	EIA-364-5 Measure force necessary to push the cage out of the host board by applying specified force in a vertical direction at a maximum rate of 12.7 mm [0.5 in] per minute.

Figure 1 cont.

Test Description	Requirement	Procedure
Cage press fit insertion force	TBD maximum per pin for single port cage. TBD maximum per pin for ganged cage. See note.	EIA-364-5 Measure force necessary to push the cage into the host board at a maximum rate of 12.7 mm [0.5 in] per minute.
Cage latch strength	180 N [40.5 lbf] minimum. See Note	EIA 364-98 Apply specified axial load to latch at a maximum rate of 12.7 mm [0.5 in] per minute and hold for 1 minute to verify cage latch strength.
ENVIRONMENTAL		
Thermal shock.	See Note.	EIA-364-32, Test Condition VII. Subject mated specimens to 5 cycles between -55 and 105°C with 30 minute dwells at temperature extremes and 1 minute transition between temperatures.
Thermal cycling.	See Note.	EIA-364-110, Condition A. Subject mated specimens to 10 cycles between 15 and 85°C with 30 minute dwells at temperature extremes and a transition rate of 5°C per minute between temperatures.
Humidity/temperature cycling.	See Note.	EIA-364-31, Method III. Subject mated specimens to 10 cycles (10 days) between 25 and 65°C at 80 to 100% RH.
Temperature life.	See Note.	EIA-364-17, Method A. Subject mated specimens to 90°C for 840 hours.
Temperature life, pre-conditioning.	See Note.	EIA-364-17, Method A. Subject mated specimens to 90°C for 360 hours.
Mixed flowing gas.	See Note.	EIA-364-65, Class IIA (4 gas). Subject 2 specimens to 7 days of unmated exposure followed by 7 days of mated exposure. Subject 2 mated specimens to 14 days exposure.
Dust.	See Note.	EIA-364-91. Subject both unmated connector halves to benign dust composition #1 for 1 hour.
Minute disturbance.	See Note.	Manually unmate and remate the specimen 1 time.

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 Figure 2.

Figure 1 end

3.4. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)					
	1	2	3	4	5	6
	Test Sequence (b)					
Initial Examination of Product	1	1	1	1	1	1
LLCR	3,5,8	2,4,6,8	2,4,7		2,4,6,8	
Insulation Resistance				2,6		
Withstanding voltage				3,7		
Random vibration	6					
Mechanical shock	7					
Durability	4					
Transceiver insertion force	2					
Transceiver Extraction force	9					
Cage Latch Strength	10					
Cage press fit insertion force						2
Cage press fit extraction force						4
Thermal shock				4		
Thermal cycling					5	
Humidity/temperature cycling		7		5		
Temperature life		3(c)				3
Temperature life, pre-conditioning			3(c)			
Mixed flowing gas			5			
Dust					3(c)	
Minute disturbance		5	6		7	
Final examination of product	11	9	8	8	9	5

NOTE

a) Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Each test group shall consist of 4 specimens.

b) Numbers indicate sequence in which tests are performed.

c) *Precondition specimens with 20 durability cycles.*

Figure 2