

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.

## **MicroQSFP Single Port and Ganged Cage Assemblies**

### **1. SCOPE**

#### 1.1. Content

This specification covers performance, tests and quality requirements for the TE Connectivity (TE) Micro Quad Small Form-factor Pluggable (MicroQSFP) cage assemblies.

#### 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. Qualification Test Results

Successful qualification testing on the subject product line was completed on 16 June 2017. The Qualification Test Report number is 501-134071. This documentation is 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. TE Documents

- ◆ 114-32151: Application Specification
- ◆ 501-134071: Qualification Test Report

#### 2.2. Industry Documents

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

#### 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
Voltage: 120 volts AC	Signal application only	-55°C to 85°C

### 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.
<b>MECHANICAL</b>		
Cage latch, axial retention	90 N [20.23 lbf] minimum. See Note.	EIA 364-98. Measure force necessary to remove QSFP module from cage assembly with latches enabled.
Durability	See Note.	EIA-364-9. Manually mate and unmate the MicroQSFP module for 200 cycles with latches enabled.
Mating force, MicroQSFP module to PCB connector and MicroQSFP cage	60 N [13.49 lbf] maximum. See Note.	EIA-364-13. Measure force necessary to mate specimens at a maximum rate of 12.7 mm [0.5 in] per minute.
Unmating force, microQSFP module to PCB connector and MicroQSFP cage	30 N [6.74 lbf] maximum. See Note.	EIA-364-13. Measure force necessary to unmate specimens at a maximum rate of 12.7 mm [0.5 in] per minute with latches disabled.
Cage compliant pin insertion force	70.0 N [15.74 lbf] maximum average per pin. See Note.	EIA-364-5. Measure force necessary to push cage into the host board at a maximum rate of 12.7 mm [0.5 in] per minute.
Cage compliant pin retention force	9 N [2.02 lbf] minimum average per pin. See Note.	EIA-364-29. Measure force necessary to remove cage from the host board at a maximum rate of 12.7 mm [0.5 in] per minute.

Figure 1 cont.

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
<b>ENVIRONMENTAL</b>		
Humidity-temperature cycling	See Note.	EIA-364-31. Subject mated specimens to 24 cycles between 25 ± 3°C at 80 ± 3% RH, and 65 ± 3°C at 50 ± 3% RH. Ramp time shall be 0.5 hour. Dwell times shall be 1 hour.
Temperature life	See Note.	EIA-364-17. Subject mated specimens to 115°C for 432 hours.

**i** **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
Initial examination of product	1	1	1	1
Cage latch, axial retention	6			
Durability	5			
Mating force, MicroQSFP module to PCB connector and MicroQSFP cage	3			
Unmating force, microQSFP module to PCB connector and MicroQSFP cage	4			
Cage compliant pin insertion force	2	2	2	2
Cage compliant pin retention force		3	4	4
Humidity-temperature cycling			3	
Temperature life				3
Final examination of product	7	4	5	5

**i** **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 5 cage assemblies.  
 (b) Numbers indicate sequence in which tests are performed.