

1. INTRODUCTION

1.1 Purpose

Testing was performed on Mini Crown Edge connector.

1.2 Scope

This report covers the Electrical and Mechanical performance of Mini Crown Edge Connector. Testing was performed at the China Engineering Center Testing Laboratory. The test file number for this testing are TP-17-02957 Record.

1.3 Conclusion

The Mini Crown Edge connector conformed to the Electrical and Mechanical performance requirements of Product Specification 108-2301

1.4 Test Specimens

The specimens were representative of normal production lots, specimens identified with the following part numbers were used for test.

Part Number	Description
2204795-1	Mini Crown Edge Connector
DTCP-2017-07	Test board for tail side
DTCP-2017-08	Gold fingers for Mating side

Figure 1

1.5 Product Test Sequence

TEST OR EXAMINATION	TEST GROUP
Mating Force & Un-mating Force	1,3
Low Level Contact Resistance	2,5,7
Durability	4
Temperature Rising	6

Figure 2

2. SUMMARY OR TESTING

2.1 Low Level Contact Resistance -Test 2,5,7

Low Level Contact Resistance was less than 25 milliohms initial and 45 milliohms after test for signal contact and power contact was less than 3 milliohms, Values were measured per individual contacts

Contact	Number of Data points	Condition	LLCR(milliohms)		
			Maximum	Minimum	Average
Signal	5	Initial (actual)	9.72	8.44	8.82
	5	Durability	9.66	8.63	9.07
	5	Temperature Rise	10.32	8.59	8.96
power	5	Initial (actual)	0.70	0.57	0.64
	5	Durability	0.96	0.57	0.82
	5	Temperature Rise	0.95	0.58	0.83

Figure 3

2.2 Mating Force – Test 1

All mating force measurements for whole connector were less than 50 N per connector.

2.3 Un-mating Force – Test 3

All Un-mating force measurements were greater than 20 N per connector

2.4 Durability – Test 4

No physical damage occurred as result of mating and Un-mating.

2.5 Temperature Rise Test 6

Temperature Rise was less than 30°C at the Current almost 25 A for the end of durability

3. TEST METHODS

3.1 Low Level Contact Resistance, Signal and Power Contacts

LLCR measurements at low level current were made using four terminal measuring technique. The test current was maintained at 100 milliamperes maximum with a 20 millivolts maximum open circuit voltage. Measurements were taken by applying current through the series wired boards via the plated ring holes. Voltage measurements were taken by applying voltage to each contact's plated via hole.

3.2 Temperature Rise vs. Current

Stabilize at a single current level until 3 readings at 5 minute intervals are within 1°C. Test with single energized contact and with all adjacent power contacts energized. Test Condition: EIA-364-70, Method 1.

3.3 Durability

Specimens were mated and unmated 50 cycles at a maximum rate of 500 cycles per hour. In accordance with EIA-364-09.

3.4 Mating force

The force required to mate individual specimens was measured using a tensile/compression device with a free-floating fixture and a rate of travel of 5 mm per minute. The maximum force per connector was 50N. In accordance with EIA-364-13B.

3.5 Un-mating force

The force required to mate individual specimens was measured using a tensile/compression device with a free-floating fixture and a rate of travel of 5 mm per minute. The minimum force per connector was 20 N. In accordance with EIA-364-13B.

Temperature Rise Curve

