



# TEST REPORT

REPORT No.: 502-160781

## AMP-LATCH\* and IDC Header Connectors, .100 X .100 Inch Grid

### 1. INTRODUCTION

#### 1.1 Objective

Testing was performed on AMP-LATCH\* and IDC Header Connectors to determine their conformance to the requirements of Product Specification 108-40018, Revision F.

#### 1.2 Scope

This report covers the electrical, mechanical, and environmental performance of AMP-LATCH\* and IDC Header Connectors. Testing was performed at TE Connectivity Shanghai Electrical Components Test Laboratory between 18 Nov 2022 and 02 Dec 2022, the test file numbers for this testing are TP-22-02660-01-002. This documentation is on file at and available from the TE Connectivity Shanghai Electrical Components Test Laboratory.

#### 1.3 Conclusion

Specimens listed in paragraph 1.4. conformed to the electrical, mechanical, and environmental performance requirements of Product Specification 108-40018, Revision F.

#### 1.4 Product Description

Product Part No.	Description
2-1761603-3	IDC LOW PRO HDR 10P VERT BLUE
2-1761603-9	IDC LOW PRO HDR 26P VERT BLU
3-1761603-5	IDC LOW PRO HDR 50P VERT BLUE
1761685-6	IDC LOW PRO HDR 16P VERT SHT LAT

### 2. TEST PURPOSE

This is product qualification test. The purpose of this test is to evaluate the performance of Amp latch and IDC header connectors. Testing was performed on below products to determine it compliance with the requirements of 108-40018 Rev F.

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**3. TEST SEQUENCE**

Test Examination	1	2	Test Group (a)
			3
			TEST SEQUENCE (b)
Examination of Product	1,3,5	1,3	1,8
Insulation resistance			2,6
Withstanding voltage			3,7
solderability		2	
Component resistance to wave soldering	2		
Contact retention	4		
Thermal shock			4
Humidity/temperature cycling			5

Numbers indicate sequence in which tests are performed.

**4. SUMMARY OF TEST RESULTS**

**4.1 Examination of Product**

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

**4.2. Insulation Resistance**

All insulation resistance measurements were greater than 5000 megohms initially, and greater than 1000 megohms after testing.

**4.3. Withstanding Voltage**

No dielectric breakdown or flashover occurred.

**4.4. Solderability**

All contact leads had a minimum of 95% solder coverage.

**4.5. Component Resistance to Wave Soldering**

No specimen exhibited any visual evidence of blistering, warpage, or significant discoloration. Slight discoloration was observed around the contacts as viewed from the bottom of the connectors using a microscope. No discoloration or other anomalies were observed when viewing the connectors from the inside.

**4.6. Contact Retention**

No physical damage occurred to either the contacts or the housing as a result applying an axial load to the contacts for 6 seconds.

**2.7. Thermal Shock**

No evidence of physical damage was visible as a result of thermal shock testing.

## 2.8. Humidity/temperature Cycling

No evidence of physical damage was visible as a result of humidity/temperature cycling.

## 5. TEST METHODS

### 5.1. Examination of Product

Specimens were visually examined for evidence of physical damage detrimental to product performance.

### 5.2. Insulation Resistance

Insulation resistance was measured between adjacent contacts of unmated specimens. A test voltage of 500 volts DC was applied for 2 minutes before the resistance was measured.

### 5.3. Withstanding Voltage

A test potential of 1000 volts AC was applied between adjacent contacts of unmated specimens. This potential was applied for 1 minute and then returned to zero.

### 5.4. Solderability

Contact solder tails were immersed in a non-activated rosin flux for 5 to 10 seconds, allowed to drain for 10 to 60 seconds and then held over molten Sn60/Pb40 solder maintained at 245°C without contact for 2 seconds. The contact solder tails were then immersed in the molten solder at a maximum rate of 1 inch per second, held in the molten solder for 3 to 5 seconds and then withdrawn at a maximum rate of 1 inch per second. Specimens were cleaned using isopropyl alcohol and then visually examined for solder coverage.

### 5.5. Component Resistance to Wave Soldering

Specimens were placed on .061-inch-thick printed circuit board and the solderable areas of the specimens immersed in non-activated rosin flux type ROL0 maintained at room temperature for 5 to 10 seconds, removed from the flux, and allowed to drain for 5 to 20 seconds. The specimens were attached to a dipping machine and immersed at a rate of approximately 1 inch per second into a Sn60/Pb40 solder bath maintained at  $240 \pm 5^\circ\text{C}$  to a point where the component body was 1 to 2 mm above the solder surface, held in the solder bath for 10 seconds, and then removed at a rate of approximately 1 inch per second. Specimens were cleaned for 5 minutes using isopropyl alcohol and then given a visual examination under 30X magnification.

### 5.6 Contact Retention

An axial load of 2 pounds was applied to each individual contact and held for 6 seconds.

### 5.7. Thermal Shock

Unmated specimens were subjected to 5 cycles between -65 and 105°C with 30-minute dwells at each temperature extreme. Transition between extremes was less than 1 minute.

5.8. Humidity/temperature Cycling

Unmated specimens were exposed to 10 humidity/temperature cycles. Each cycle lasted 24 hours and consisted of cycling the temperature between 25 and 65°C twice while maintaining high humidity.

**ENVIRONMENTAL CONDITION**

Unless otherwise stated, the following environmental conditions prevailed during testing:  
Temperature:15°C to 35°C, Relative Humidity: 25% R.H to 75% R.H

**Test Requirements and Procedures Summary**

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

----- **END OF REPORT** -----