# Validation Test Report

## SINGLE CIRCUIT, UNIVERSAL MATE-N-LOK

January 16, 2018.

| Tested & Reported By | Reviewed By | Approved By | Test Date | From January 05, 2018<br>To January 15, 2018 |
|---|---|---|---|---|
|  |  |  | Classification | Unrestricted |

# TE CONNECTIVITY RELIABILITY TEST REPORT

Test Name : Validation for SINGLE CIRCUIT, UNIVERSAL MATE-N-LOK

## 1. Introduction

### 1-1 Purpose

Testing was performed on the SINGLE CIRCUIT, UNIVERSAL MATE-N-LOK to determine if it conformance to the requirements of Product Specification 108-1031 Rev.M3
This experiment is intended to verify the reliability of the raw material change.

### 1-2 Scope

This report covers the mechanical performance requirements
of the SINGLE CIRCUIT, UNIVERSAL MATE-N-LOK.
The testing was performed between January 05, 2018 and January 12, 2018.

### 1-3 Test Samples

The test samples were randomly selected from normal current production lots.

| P/N | Description |
|---|---|
| 1-350865-1 | PLUG, SINGLE CIRCUIT, UNIVERSAL MATE-N-LOK |
| 1-350866-1 | CAP,SINGLE CIRCUIT, UNIVERSAL MATE-N-LOK |
| 350851-1 | SOCKET, UNIVERSAL MATE-N-LOK |
| 350561-1 | PIN, UNIVERSAL MATE-N-LOK |

### 1-4 Conclusion

The SINGLE CIRCUIT, UNIVERSAL MATE-N-LOK meets the mechanical performance requirements of Product Specification 108-1031 Rev.M3

### 1-5 Attachment

1) Requirements and Test Procedure
2) Test Result
3) Photograph of Test

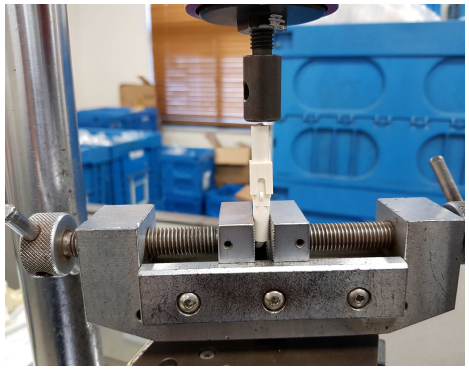
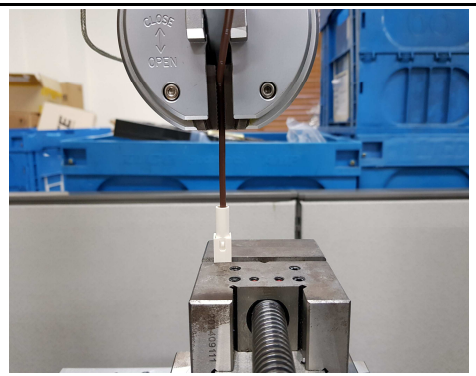
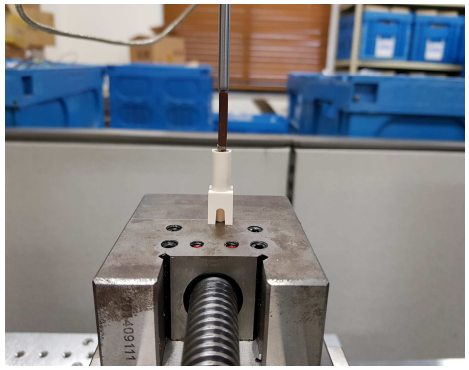
# 1) Requirements and Test Procedure

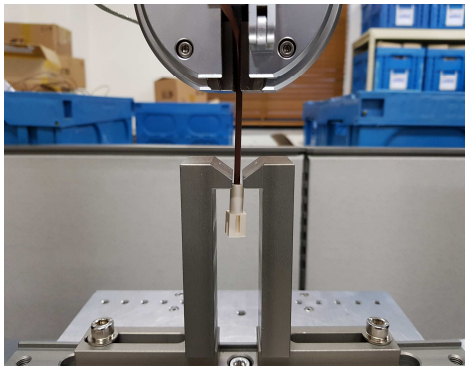
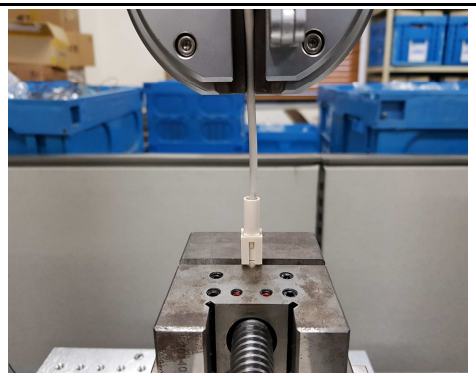
| Test Description | Requirement | Procedure |
|---|---|---|
| Mating Force | Will not exceed 5 lbs average per contact when fully mated (based on a sample size of 30 mated, loaded housings.<br>6.67 N [1.5 lbf] maximum per contact for split pins. | EIA 364-13B and IEC 60512-13-1<br>Measure force necessary to mate connector assembly with locking latches removed. Calculate force per contact. |
| Un-Mating Force | 3.11 N [0.7 lbf] minimum per contact for solid pins.<br>2.22 N [0.5 lbf] minimum per contact for split pins. | EIA 364-13B and IEC 60512-13-1<br>Measure force necessary to un-mate connector assembly with locking latches removed. Calculate force per contact. |
| Contact Insertion Force | 22.2 N [5 lbf] maximum per contact. | EIA-364-5<br>Measure force to insert contact into housing. |
| Contact Retention Force | 66.7 N [15 lbf] minimum.<br>111.2 N [25 lbf] minimum for high retention contacts. | EIA-364-29 and IEC 60512-15-1. (except grip wire)<br>Apply an axial load to contact at a rate of 12.7 mm [.5 in.] per minute. |

## 2) Test Result

| NO | Test Items | Test Condition | Acceptance criteria | | Unit | Test Result | | | | | | | | | Judgment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Wire (AWG) | S1 | S2 | S3 | S4 | S5 | Min. | Max. | Avg. | |
| 1 | Mating Force | Initial | 22.24 N Max. | | N | - | 9.52 | 9.35 | 9.64 | 8.95 | 9.40 | 8.95 | 9.64 | 9.37 | OK |
| 2 | Un-Mating Force | Initial | 2.22 N Min. | | | - | 15.05 | 14.89 | 14.26 | 15.33 | 14.28 | 14.26 | 15.33 | 14.76 | OK |
| 3 | Contact Insertion Force | Initial | CAP | 22.2 N Max. | | - | 7.35 | 7.30 | 8.00 | 7.65 | 8.70 | 7.30 | 8.70 | 7.80 | OK |
| | | | PLUG | | | | 8.60 | 10.50 | 5.60 | 8.00 | 6.75 | 5.60 | 10.50 | 7.89 | OK |
| 4 | Contact Retention Force | Initial | CAP | 66.7 N Min. | | - | 132.70 | 158.00 | 146.70 | 132.85 | 138.42 | 132.70 | 158.00 | 141.73 | OK |
| | | | PLUG | | | | 123.75 | 116.75 | 127.75 | 118.20 | 116.85 | 116.75 | 127.75 | 120.66 | OK |

## 3) Photograph of Test

| NO. | Test Items | Photograph | Remark |
|---|---|---|---|
| 1 | Mating Force |  | - |
| 2 | Un-Mating Force |  | - |
| 3 | Contact Insertion Force |  | - |

| NO. | Test Items | Photograph | Remark |
|---|---|---|---|
| 4 | Contact Retention Force |  | - |
| 5 | Housing Lock Strength |  | - |
| 6 | - | - | - |