



Project Number: Design Qualification Test Report	Tracking Code: 2538532_Report_Rev_1
Requested by: Jenny Chou	Date: 10/9/2020
Part #: RSP-122811-03/MH081-MH4RP-01BJ1-0100/MH081-MH4RP-01BJ2-0100/ MH081-MH4RP-01SB1-0100/ MH081-MH4RP-01SR1-0100	
Part description: RSP/MH081	Tech: Peter Chen and Kason He
Test Start: 9/24/2020	Test Completed: 9/28/2020



## DESIGN QUALIFICATION TEST REPORT

### RSP/MH081

MH081-MH4RP-01BJ1-0100/RSP-122811-03

MH081-MH4RP-01BJ2-0100/RSP-122811-03

MH081-MH4RP-01SB1-0100/RSP-122811-03

MH081-MH4RP-01SR1-0100/RSP-122811-03

Tracking Code: 2538532_Report_Rev_1	Part #: RSP-122811-03/MH081-MH4RP-01BJ1-0100
Part description: RSP/MH081	

**REVISION HISTORY**

<b>DATA</b>	<b>REV.NUM.</b>	<b>DESCRIPTION</b>	<b>ENG</b>
10/9/2020	1	Initial Issue	KH

## CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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### SCOPE

To perform the following tests: Design Qualification test. Please see test plan.

### APPLICABLE DOCUMENTS

Standards: EIA Publication 364

### TEST SAMPLES AND PREPARATION

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) Solder Information: Lead free
- 4) Samtec Test PCBs used: PCB-109327-TST

## FLOWCHARTS

### Cable Pull

<u>Group 1</u> MH081-MH4RP-01BJ1-0100	<u>Group 2</u> MH081-MH4RP-01BJ2-0100	<u>Group 3</u> MH081-MH4RP-01SB1-0100	<u>Group 4</u> MH081-MH4RP-01SR1-0100
5 Assemblies 0 Degrees	5 Assemblies 0 Degrees	5 Assemblies 0 Degrees	5 Assemblies 0 Degrees
<b>Step</b> <b>Description</b>	<b>Step</b> <b>Description</b>	<b>Step</b> <b>Description</b>	<b>Step</b> <b>Description</b>
1.   Cable Pull <sup>(1)</sup> - Non Standard	1.   Cable Pull <sup>(1)</sup> - Non Standard	1.   Cable Pull <sup>(1)</sup> - Non Standard	1.   Cable Pull <sup>(1)</sup> - Non Standard

(1) Cable Pull = Other

Pull the cable at speed of 25±3mm/minutes by the tensile strength machine and measure the retention force.  
Retention force 5N Min.

### Cable Retention Force

<u>Group 1</u> MH081-MH4RP-01BJ1-0100 RSP-122811-03	<u>Group 2</u> MH081-MH4RP-01BJ2-0100 RSP-122811-03	<u>Group 3</u> MH081-MH4RP-01SB1-0100 RSP-122811-03	<u>Group 4</u> MH081-MH4RP-01SR1-0100 RSP-122811-03
6 Assemblies 0 Degrees	6 Assemblies 0 Degrees	6 Assemblies 0 Degrees	6 Assemblies 0 Degrees
<b>Step</b> <b>Description</b>	<b>Step</b> <b>Description</b>	<b>Step</b> <b>Description</b>	<b>Step</b> <b>Description</b>
1.   Cable Pull <sup>(1)</sup> - Non Standard <i>Note: Appearance: No abnormality Electrical discontinuity: No electrical discontinuity greater than 1 uS shall occur.</i>	1.   Cable Pull <sup>(1)</sup> - Non Standard <i>Note: Appearance: No abnormality Electrical discontinuity: No electrical discontinuity greater than 1 uS shall occur.</i>	1.   Cable Pull <sup>(1)</sup> - Non Standard <i>Note: Appearance: No abnormality Electrical discontinuity: No electrical discontinuity greater than 1 uS shall occur.</i>	1.   Cable Pull <sup>(1)</sup> - Non Standard <i>Note: Appearance: No abnormality Electrical discontinuity: No electrical discontinuity greater than 1 uS shall occur.</i>

(1) Cable Pull = Other

Apply force (2N Max.) to the cable; During the testing, run 100mA DC to check electrical discontinuity.  
Appearance: No abnormality; Electrical discontinuity: No electrical discontinuity greater than 1 uS shall occur.

## ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

### CABLE PULL:

- 1) Secure cable near center and pull on connector
  - a. At 0°, in-line with cable



Fig. 1  
0° Cable pull

### CABLE RETENTION FORCE:

- 1) Apply force (2N Max.) to the cable; During the testing, run 100mA DC to check electrical discontinuity. Appearance: No abnormality; Electrical discontinuity: No electrical discontinuity greater than 1 us shall occur.
  - a. At 0°, in-line with cable

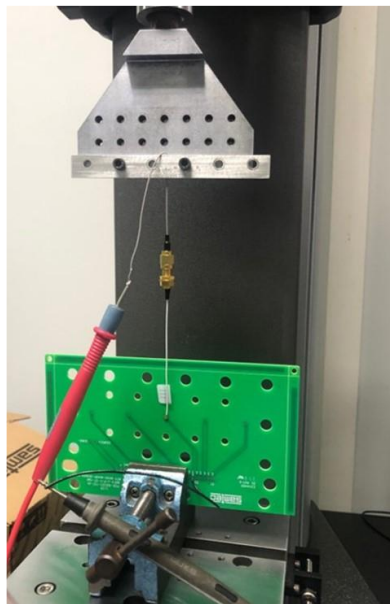


Fig. 2  
0° Cable retention

**RESULTS****Cable Pull Out Force:****0° Pull out force****MH081-MH4RP-01BJ1-0100**

- Min ----- 3.25 lbs
- Max----- 4.01 lbs

**MH081-MH4RP-01BJ2-0100**

- Min ----- 2.72 lbs
- Max----- 3.84 lbs

**MH081-MH4RP-01SB1-0100**

- Min ----- 2.29 lbs
- Max----- 2.78 lbs

**MH081-MH4RP-01SR1-0100**

- Min ----- 2.54 lbs
- Max----- 3.17 lbs

**Cable Retention Force:****MH081-MH4RP-01BJ1-0100**

- 0° Pull----- 2.00 N ---- No Electrical discontinuity greater than 1 microsecond

**MH081-MH4RP-01BJ2-0100**

- 0° Pull----- 2.00 N ---- No Electrical discontinuity greater than 1 microsecond

**MH081-MH4RP-01SB1-0100**

- 0° Pull----- 2.00 N ---- No Electrical discontinuity greater than 1 microsecond

**MH081-MH4RP-01SR1-0100**

- 0° Pull----- 2.00 N ---- No Electrical discontinuity greater than 1 microsecond

**DATA SUMMARIES****Cable Pull Out Force  
0° Pull out****MH081-MH4RP-01BJ1-0100**

	Force (lbs)
Minimum	<b>3.25</b>
Maximum	4.01
Average	3.59

**MH081-MH4RP-01BJ2-0100**

	Force (lbs)
Minimum	<b>2.72</b>
Maximum	3.84
Average	3.36

**MH081-MH4RP-01SB1-0100**

	Force (lbs)
Minimum	<b>2.29</b>
Maximum	2.78
Average	2.55

**MH081-MH4RP-01SR1-0100**

	Force (lbs)
Minimum	<b>2.54</b>
Maximum	3.17
Average	2.72

**DATA SUMMARIES Continued****Cable Retention Force:****0° Pull****MH081-MH4RP-01BJ1-0100/RSP-122811-03**

Sample #	Force (N)	Comments
1	2.00	No electrical discontinuity greater than 1us shall occur.
2	2.00	No electrical discontinuity greater than 1us shall occur.
3	2.00	No electrical discontinuity greater than 1us shall occur.
4	2.00	No electrical discontinuity greater than 1us shall occur.
5	2.00	No electrical discontinuity greater than 1us shall occur.
6	2.00	No electrical discontinuity greater than 1us shall occur.

**MH081-MH4RP-01BJ2-0100/RSP-122811-03**

Sample #	Force (N)	Comments
1	2.00	No electrical discontinuity greater than 1us shall occur.
2	2.00	No electrical discontinuity greater than 1us shall occur.
3	2.00	No electrical discontinuity greater than 1us shall occur.
4	2.00	No electrical discontinuity greater than 1us shall occur.
5	2.00	No electrical discontinuity greater than 1us shall occur.
6	2.00	No electrical discontinuity greater than 1us shall occur.

**MH081-MH4RP-01SB1-0100/RSP-122811-03**

Sample #	Force (N)	Comments
1	2.00	No electrical discontinuity greater than 1us shall occur.
2	2.00	No electrical discontinuity greater than 1us shall occur.
3	2.00	No electrical discontinuity greater than 1us shall occur.
4	2.00	No electrical discontinuity greater than 1us shall occur.
5	2.00	No electrical discontinuity greater than 1us shall occur.
6	2.00	No electrical discontinuity greater than 1us shall occur.

**MH081-MH4RP-01SR1-0100/RSP-122811-03**

Sample #	Force (N)	Comments
1	2.00	No electrical discontinuity greater than 1us shall occur.
2	2.00	No electrical discontinuity greater than 1us shall occur.
3	2.00	No electrical discontinuity greater than 1us shall occur.
4	2.00	No electrical discontinuity greater than 1us shall occur.
5	2.00	No electrical discontinuity greater than 1us shall occur.
6	2.00	No electrical discontinuity greater than 1us shall occur.

**EQUIPMENT AND CALIBRATION SCHEDULES****Equipment #:** HZ-TCT-01**Description:** Normal force analyzer**Manufacturer:** Mecmesin Multitester**Model:** Mecmesin Multitester 2.5-i**Serial #:** 08-1049-04**Accuracy:** Last Cal: 2020-4-27, Next Cal: 2021-4-26