Project Number: Retention and Torque Force Test Report	Tracking Code: 1550429_Report_Rev_1
Requested by: Roy Luo	Date: 5/8/2018
Part #: JSOM-0515-01	
Part description: JSOM	Tech: Kason He
Test Start: 5/3/2018	Test Completed: 5/4/2018

RETENTION AND TORQUE FORCE TEST REPORT

JSOM

JSOM-0515-01

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
5/8/2018	**1**	**Initial Issue**	**KH**

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to IS0 10012-l and ANSI/NCSL 2540-1, as applicable.

SCOPE

To perform the following tests: Retention force and Torque 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) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
4) The automated procedure is used with aqueous compatible soldering materials.
5) Any additional preparation will be noted in the individual test sequences.

FLOWCHARTS

Pull Out Force

Note: Pull out force will be tested using three separate PCB options, the differences being the diameter of the holes for the JSOM assemblies.

Group 1 JSOM-0515-01 PCB BOARD 4.45mm Diameter PCB		Group 2 JSOM-0515-01 PCB BOARD 4.32mm Diameter PCB		Group 3 JSOM-0515-01 PCB BOARD 4.58mm Diameter PCB	
Step	**Description**	**Step**	**Description**	**Step**	**Description**
1.	Pull Out Force *Note: Tesing was performed using SK-PCB-TEST-01 which is a .062 thick PCB with 0.250 inch diameter holes.*	1.	Pull Out Force *Note: Tesing was performed using SK-PCB-TEST-19 which is a .062 thick PCB with 0.239 inch diameter holes.*	1.	Pull Out Force *Note: Tesing was performed using SK-PCB-TEST-20 which is a .062 thick PCB with 0.251 inch diameter holes.*

Torque

Note: Torque will be tested using three separate PCB options, the differences being the diameter of the holes for the JSOM assemblies.

Group 1 JSOM-0515-01 PCB BOARD 4.45mm Diameter PCB		Group 2 JSOM-0515-01 PCB BOARD 4.32mm Diameter PCB		Group 3 JSOM-0515-01 PCB BOARD 4.58mm Diameter PCB	
Step	**Description**	**Step**	**Description**	**Step**	**Description**
1.	Torque Force *Note: Tesing was performed using SK-PCB-TEST-01 which is a .062 thick PCB with 0.250 inch diameter holes.*	1.	Torque Force *Note: Tesing was performed using SK-PCB-TEST-01 which is a .062 thick PCB with 0.250 inch diameter holes.*	1.	Torque Force *Note: Tesing was performed using SK-PCB-TEST-01 which is a .062 thick PCB with 0.250 inch diameter holes.*

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

PULL OUT FORCE:

1) Secure connector near center and pull on connector

TORQUE:

1) Record the peak forces required to break JSOM free.

RESULTS

Retention force:

HOLE DIA 0.170 inch

Min ----------120.10 lbs
Max----------141.88 lbs

HOLE DIA 0.175 inch

Min ----------98.18 lbs
Max----------125.03 lbs

HOLE DIA 0.177 inch

Min ----------53.82 lbs
Max----------63.65 lbs

Torque force:

HOLE DIA 0.170 inch

Min ----------42.30 in-lbs
Max----------44.60 in-lbs

HOLE DIA 0.175 inch

Min ----------37.90 in-lbs
Max----------38.50 in-lbs

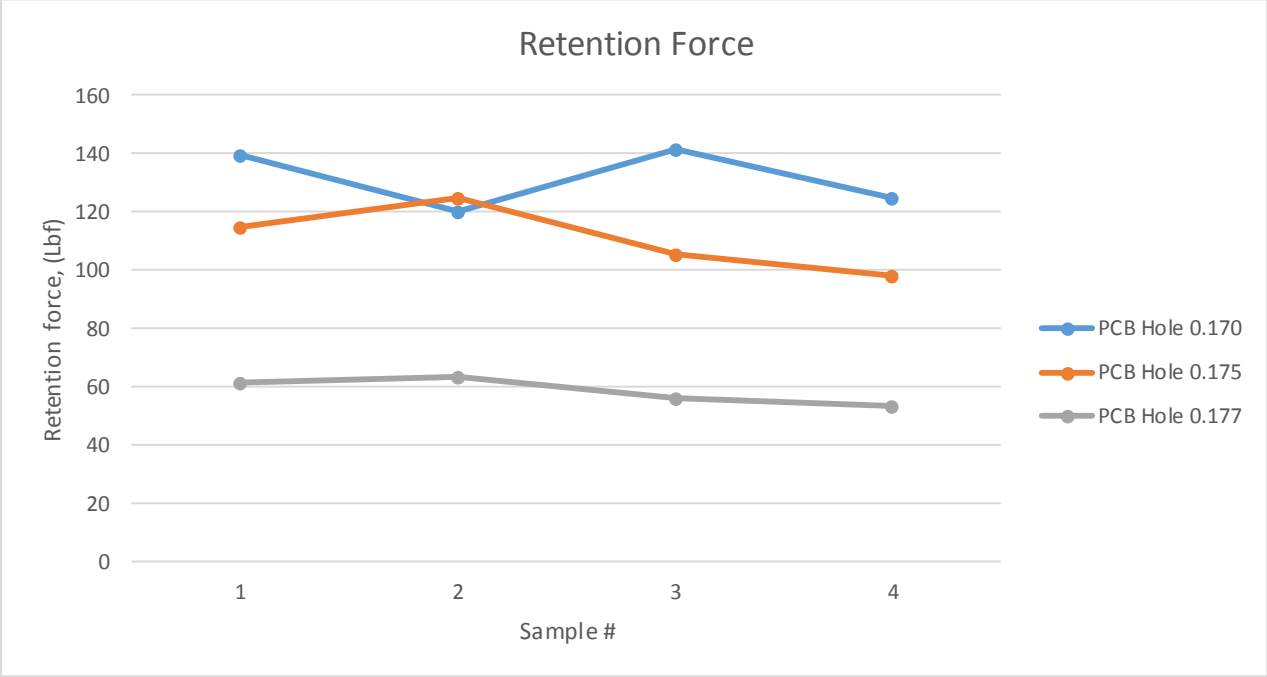
HOLE DIA 0.177 inch

Min ----------25.10 in-lbs
Max----------26.40 in-lbs

DATA SUMMARIES

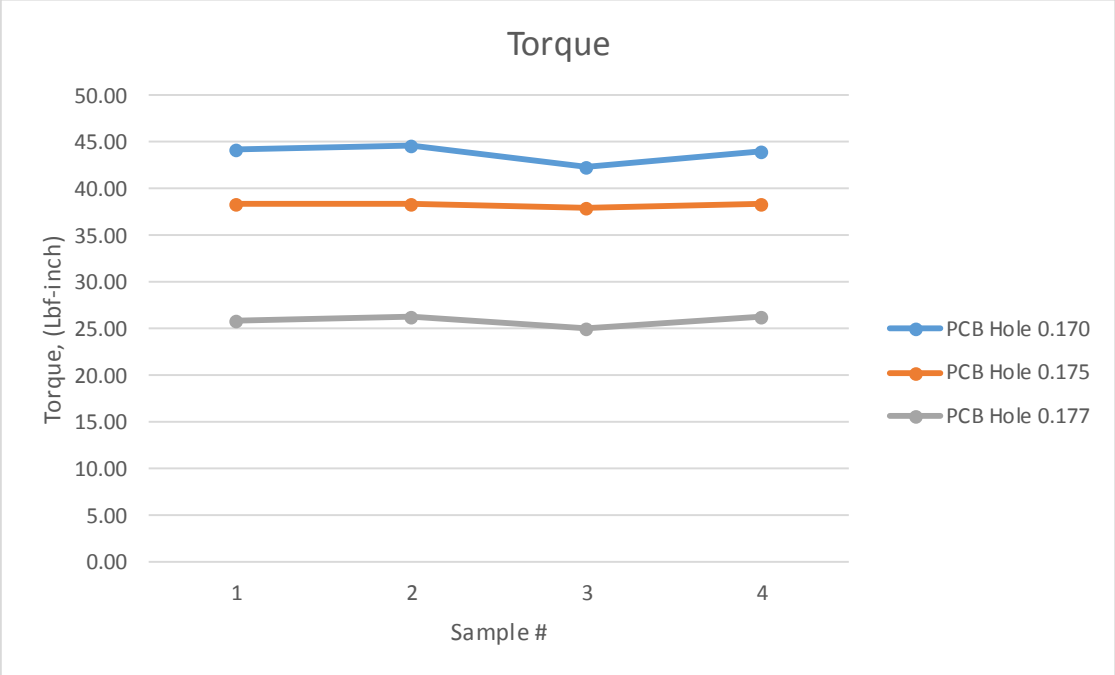
Pull out force and Torque:

Sample #	JSOM					
	Retention Force				Unit: Lbf	
	PCB Hole	Force	PCB Hole	Force	PCB Hole	Force
1	**0.17191**	**139.63**	0.17410	115.25	0.17767	61.63
2	**0.17197**	**120.1**	0.17406	125.03	0.17766	63.65
3	**0.17190**	**141.88**	0.17402	105.72	0.17768	56.06
4	**0.17188**	**124.75**	0.17380	98.18	0.17772	53.82
Min	0.17188	120.10	0.17380	98.18	0.17766	53.82
Max	0.17197	141.88	0.17410	125.03	0.17772	63.65
Average	0.17192	131.59	0.17400	111.05	0.17768	58.79



DATA SUMMARIES

Sample #	JSOM					
	Torque Testing				Unit: Lbf-inch	
	PCB Hole	Torque	PCB Hole	Torque	PCB Hole	Torque
1	0.17183	44.25	0.17413	38.40	0.17765	25.85
2	0.17154	44.60	0.17412	38.45	0.17764	26.40
3	0.17194	42.30	0.17393	37.90	0.17776	25.10
4	0.17199	44.00	0.17406	38.50	0.17772	26.30
Min	0.17154	42.30	0.17393	37.90	0.17764	25.10
Max	0.17199	44.60	0.17413	38.50	0.17776	26.40
Average	0.17183	43.79	0.17406	38.31	0.17769	25.91



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: 3/13/2018, Next Cal: 3/12/2019

Equipment #: DG-DTG-01
Description: Torque gauge analyzer
Manufacturer: Mark-10 Corporation
Model: MITT03-50
Serial #: 3862898
Accuracy: Last Cal: 12/14/2017, Next Cal: 12/13/2018