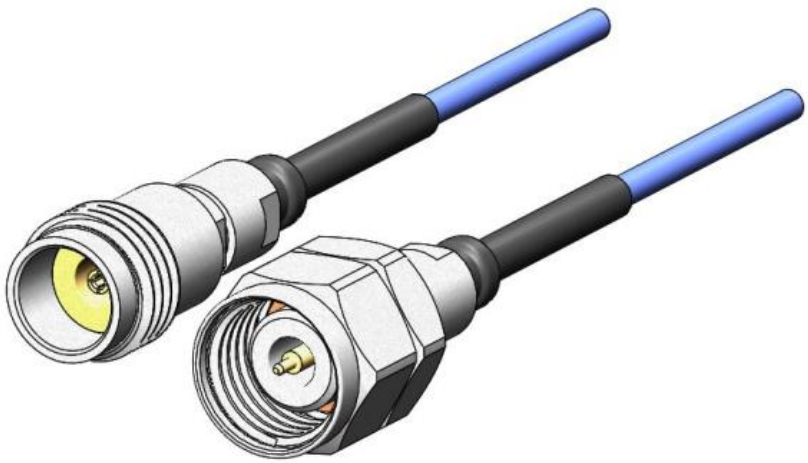
Project Number: Design Qualification Test Report	Tracking Code: 2697054_Report_Rev_1
Requested by: Alvin Wang	Date: 4/17/2021
Part #: RF047-A-24SP-505050-0152/RF047-A-24SJ-505050-0152	
Part description: RF047/RF047	Tech: Kason He
Test Start: 3/7/2021	Test Completed: 3/25/2021



DESIGN QUALIFICATION TEST REPORT

RF047/RF047

RF047-A-24SP-505050-0152/RF047-A-24SJ-505050-0152

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
4/16/2021	**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: Design Qualification test. Please see test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364, MIL-PRF-39012.

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) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
4) Any additional preparation will be noted in the individual test sequences.

FLOWCHARTS

Mating/Unmating/Durability

Group 1
RF047-A-24SJ-505050-0152
RF047-A-24SP-505050-0152
4 Assemblies

Step	Description
1.	Length & Mass
2.	Interface Gaging
3.	DWV at Test Voltage(1) - Non Standard DWV = 500 VAC
4.	LLCR (2) - Non Standard *Note: Signal and ground.*
5.	Cycles Quantity = 500 Cycles *Note: By hand. Torque each time to 8 in-lbs. Rotate plug coupling nut only. Do not rotate entire assembly. MIL-PRF-39012, Paragraph. 4.6.12*
6.	LLCR (2) - Non Standard Max Delta = 15 mOhm *Note: Signal and ground.*
7.	Interface Gaging

(1) DWV at Test Voltage = Other
Test Condition = 1 (Sea Level) Test voltage applied for 60 seconds
MIL-PRF-39012, Paragraph. 4.6.14 per MIL-STD-202-301

(2) LLCR = Other
Open Circuit Voltage = 20 mV Max
Test Current = 100 mA Max
MIL-PRF-39012, Paragraph 4.6.13 except current to be 100mA nominal and voltage to be 20 mV maximum.

FLOWCHARTS Continued

IR/DWV

Pin-to-Ground

Group 1

RF047-A-24SJ-505050-1000

RF047-A-24SP-505050-1000

4 Assemblies

Note: For STEP 6, please put the following additional cable assemblies in the thermal shock chamber (ride along parts).
Plug & jack versions are mated with dust caps (Yellow) on open ends.
Plug version: RF047A-24SP-24SP-1000 (4 PCS)
Jack version: RF047A-24SJ-24SJ-1000 (4 PCS)

Step	Description
1.	Length & Mass
2.	Interface Gaging
3.	IR (2) - Non Standard
4.	DWV at Test Voltage (1) - Non Standard Test Voltage = 500 VAC
5.	LLCR (3) - Non Standard *Note: Signal and ground.*
6.	Thermal Shock (4) - Non Standard
7.	IR (2) - Non Standard
8.	DWV at Test Voltage (1) - Non Standard Test Voltage = 500 VAC
9.	LLCR (3) - Non Standard Max Delta = 15 mOhm *Note: Signal and ground.*
10.	Interface Gaging

(1) DWV at Test Voltage = Other
Test Condition = 1 (Sea Level) Test voltage applied for 60 seconds
MIL-PRF-39012, Paragraph. 4.6.14 per MIL-STD-202-301

(2) IR = Other
Test Condition = 500V DC, 2 Minutes Max
MIL-PRF-39012, Paragraph 4.6.8 per MIL-STD-202-302

(3) LLCR = Other
Open Circuit Voltage = 20 mV Max
Test Current = 100 mA Max
MIL-PRF-39012, Paragraph 4.6.13 except current to be 100mA nominal and voltage to be 20 mV maximum.

(4) Thermal Shock = Other
Exposure Time at Temperature Extremes = 1/2 Hour
Test Condition = I (-65°C to +125°C)
Test Duration = test condition B except 10 cycles instead of 5.
MIL-PRF-39012, Paragraph. 4.6.17 per MIL-STD-202-107

FLOWCHARTS Continued

Cable Pull

Group 1
RF047-A-24SJ-505050-0152
2 Assemblies
0 Degrees

Step	Description
1.	Cable Retention (2) - Non Standard *Note: Pull-to-destruct.*

Group 2
RF047-A-24SP-505050-0152
2 Assemblies
0 Degrees

Step	Description
1.	Cable Retention (2) - Non Standard *Note: Pull-to-destruct.*

Group 3
RF047-A-24SJ-505050-0152
RF047-A-24SP-505050-0152
4 Assemblies
0 Degrees

Step	Description
1.	Length & Mass
2.	Interface Gaging
3.	LLCR (3) - Non Standard *Note: Signal and ground.*
4.	Cable Retention (1) - Non Standard *Note: Apply 5 pounds (2.3 kg) for Cable Retention test.*
5.	LLCR (3) - Non Standard *Note: Signal and ground.*
6.	Interface Gaging

(1) Cable Retention = Other
Apply 10 pounds (4.6 kg) for Cable Retention test.
MIL-PRF-30192, Paragraph 4.6.21

(2) Cable Retention = Other
Pull-to-destruct.
MIL-PRF-30192, Paragraph 4.6.21

(3) LLCR = Other
Open Circuit Voltage = 20 mV Max
Test Current = 100 mA Max
MIL-PRF-39012, Paragraph 4.6.13 except current to be 100mA nominal and voltage to be 20 mV maximum.

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

THERMAL SHOCK:

1) MIL-PRF-39012, paragraph. 4.6.17 per MIL-STD-202-107.
2) Test Condition I: -65℃ to +125℃
3) Test Time: ½ hour dwell at each temperature extreme
4) Test Duration: test condition B except 10 cycles instead of 5.
5) All test samples are pre-conditioned at ambient.
6) All test samples are exposed to environmental stressing in the mated condition.

Cycles:

1) By hand. Torque each time to 8 in-lbs. Rotate plug coupling nut only. Do not rotate entire assembly. MIL-PRF-39012, paragraph. 4.6.12.

LLCR:

1) MIL-PRF-39012, Paragraph 4.6.13 except current to be 100 mA nominal and voltage to be 20 mV maximum.
2) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
3) The following guidelines are used to categorize the changes in LLCR as a result from stressing
    a. <= +5.0 mOhms: ----------Stable
    b. +5.1 to +10.0 mOhms:----------Minor
    c. +10.1 to +15.0 mOhms: ----------Acceptable
    d. +15.1 to +50.0 mOhms: ----------Marginal
    e. +50.1 to +1000 mOhms: ----------Unstable
    f. >+1000 mOhms:----------Open Failure

CABLE RETENTION:

1) Apply 10 pounds (4.6 kg) for cable retention test.
2) Pull to destruct.
3) MIL-PRF-30192, paragraph. 4.6.21.

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes

INSULATION RESISTANCE (IR):

To determine the resistance of insulation materials to leakage of current through or on the surface of these materials when a DC potential is applied.

1) PROCEDURE:
    a. Reference document: MIL-PRF-39012, paragraph. 4.6.8 per MIL-STD-202-302.
    b. Test Conditions:
        i. Between Adjacent Contacts or Signal-to-Ground
        ii. Electrification Time 2.0 minutes
        iii. Test Voltage (500 VDC) corresponds to calibration settings for measuring resistances.
2) MEASUREMENTS:
3) When the specified test voltage is applied (VDC), the insulation resistance shall not be less than 1000 megohms.

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

To determine if the sockets can operate at its rated voltage and withstand momentary over potentials due to switching, surges, and other similar phenomenon. Separate samples are used to evaluate the effect of environmental stresses so not to influence the readings from arcing that occurs during the measurement process.

1) PROCEDURE:
    a. Reference document: MIL-PRF-39012, paragraph. 4.6.14 per MIL-STD-202-301.
    b. Test Conditions:
        i. Between Adjacent Contacts or Signal-to-Ground
        ii. Barometric Test Condition 1(Sea Level) Test voltage applied for 60 seconds.
        iii. Rate of Application 500 V/Sec
        iv. Test Voltage (VAC) until breakdown occurs
2) MEASUREMENTS/CALCULATIONS
    a. The breakdown voltage shall be measured and recorded.
    b. The dielectric withstanding voltage shall be recorded as 75% of the minimum breakdown voltage.
    c. The working voltage shall be recorded as one-third (1/3) of the dielectric withstanding voltage (one-fourth of the breakdown voltage).

RESULTS

Cable Pull force

- **0° Pull**

Group 1 RF047-A-24SJ-505050-0152

- **Min ----------16.11 lbs**
- **Max ----------16.27 lbs**

Group 2 RF047-A-24SP-505050-0152

- **Min ----------15.62 lbs**
- **Max ----------16.14 lbs**

Insulation Resistance minimums, IR

Pin to Ground

- **Initial**
  - **Mated ----------45000 Meg Ω ---------- Passed**
- **Thermal Shock**
  - **Mated ----------45000 Meg Ω ---------- Passed**

Dielectric Withstanding Voltage minimums, DWV

- **Minimums**
  - **Test Voltage ----------500 VAC**

Pin to Ground

- **Initial DWV ----------Passed**
- **Thermal DWV----------Passed**

Mating/Unmating Durability Group

Pin to Ground

- **Initial DWV ----------Passed**

RESULTS Continued

Length & Mass

Mating/Unmating Durability Group

Length

24SP

- **Min ---------- 154.00 mm**
- **Max ---------- 154.00 mm**

24SJ

- **Min ---------- 154.00 mm**
- **Max ---------- 154.00 mm**

Mass

24SP

- **Min ---------- 3.69 g**
- **Max ---------- 3.70 g**

24SJ

- **Min ---------- 3.02 g**
- **Max ---------- 3.02 g**

IR/DWV Group

Length

24SP

- **Min ----------1004.00 mm**
- **Max ----------1005.00mm**

24SJ

- **Min ----------1004.00 mm**
- **Max ----------1005.00 mm**

Mass

24SP

- **Min ---------- 8.36 g**
- **Max ---------- 8.38 g**

24SJ

- **Min ---------- 7.70 g**
- **Max ---------- 7.71 g**

Cable Pull Group

Length

24SP

- **Min ---------- 154.00 mm**
- **Max ---------- 154.00 mm**

24SJ

- **Min ---------- 154.00 mm**
- **Max ---------- 154.00 mm**

Mass

24SP

- **Min ---------- 3.68 g**
- **Max ---------- 3.70 g**

24SJ

- **Min ---------- 3.02 g**
- **Max ---------- 3.04 g**

RESULTS Continued

Interface Gaging

Mating/Unmating Durability Group

24SP

Initial

- **Min ---------- 0.0448 mm**
- **Max ---------- 0.0614 mm**

After 500 cycles

- **Min ---------- 0.0404 mm**
- **Max ---------- 0.0666 mm**

24SJ

Initial

- **Min ---------- 0.0309 mm**
- **Max ---------- 0.0406 mm**

After 500 cycles

- **Min ---------- 0.0099 mm**
- **Max ---------- 0.0406 mm**

IR/DWV Group

24SP

Initial

- **Min ---------- 0.0392 mm**
- **Max ---------- 0.0672 mm**

After Thermal Shock

- **Min ---------- 0.0447 mm**
- **Max ---------- 0.0557 mm**

24SJ

Initial

- **Min ---------- 0.0334 mm**
- **Max ---------- 0.0419 mm**

After Thermal Shock

- **Min ---------- 0.0336 mm**
- **Max ---------- 0.0509 mm**

Cable Pull Group

24SP

Initial

- **Min ---------- 0.0317 mm**
- **Max ---------- 0.0522 mm**

After Retention

- **Min ---------- 0.0206 mm**
- **Max ---------- 0.0337 mm**

24SJ

Initial

- **Min ---------- 0.0207 mm**
- **Max ---------- 0.0609 mm**

After Retention

- **Min ---------- 0.0248 mm**
- **Max ---------- 0.0353 mm**

RESULTS Continued

LLCR Mating/Unmating Durability (4 ground and 4 signal LLCR test points)

Ground pin

- **Initial ---------- 35.45 mOhms Max**
- **After 500 cycles**
  - **<= +5.0 mOhms----------4 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms----------0 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ----------0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**

Signal pin

- **Initial ---------- 81.95 mOhms Max**
- **After 500 cycles**
  - **<= +5.0 mOhms----------4 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms----------0 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ----------0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**

LLCR IR/DWV (4 ground and 4 signal LLCR test points)

Ground pin

- **Initial ----------216.8 mOhms Max**
- **Thermal Shock**
  - **<= +5.0 mOhms----------3 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms----------1 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ----------0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**

Signal pin

- **Initial ----------547.1 mOhms Max**
- **Thermal Shock**
  - **<= +5.0 mOhms----------4 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms----------0 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ----------0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**

RESULTS Continued

LLCR Cable Pull (4 ground and 4 signal LLCR test points)

Ground pin

- **Initial ---------- 33.32 mOhms Max**
- **After 5lb Retention**
  - **<= +5.0 mOhms----------4 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms----------0 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ----------0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**

Signal pin

- **Initial ---------- 81.98 mOhms Max**
- **After 5lb Retention**
  - **<= +5.0 mOhms----------4 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms----------0 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ----------0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ----------0 Points ---------- Marginal**
  - **+50.1 to +1000 mOhms----------0 Points ---------- Unstable**
  - **>+1000 mOhms----------0 Points ---------- Open Failure**

DATA SUMMARIES

INSULATION RESISTANCE (IR):

	Pin to Ground
	Mated
Minimum	RF047/RF047
Initial	45000
Thermal Shock	45000

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Voltage Rating Summary	
Minimum	RF047/RF047
Test Voltage	500

Pin to Ground	
Initial Test Voltage	Pass
After Thermal ShockTest Voltage	Pass

Mating/Unmating Durability Group

Pin to Ground	
Initial Test Voltage	Pass

Cable Pull Force:

0° Pull

Group 1 RF047-A-24SJ-505050-0152

	Force (lbs)
Minimum	**16.11**
Maximum	16.27
Average	16.19

Group 2 RF047-A-24SP-505050-0152

	Force (lbs)
Minimum	**15.62**
Maximum	16.14
Average	15.88

DATA SUMMARIES Continued

LENGTH & MASS

Mating/Unmating Durability Group

24SP	Length (mm)	Mass (g)
1	154.00	3.69
2	154.00	3.70
3	154.00	3.69
4	154.00	3.69

24SJ	Length (mm)	Mass (g)
1	154.00	3.02
2	154.00	3.02
3	154.00	3.02
4	154.00	3.02

IR/DWV Group

24SP	Length (mm)	Mass (g)
1	1004.00	8.38
2	1005.00	8.36
3	1004.00	8.36
4	1004.00	8.37

24SJ	Length (mm)	Mass (g)
1	1004.00	7.70
2	1004.00	7.71
3	1005.00	7.70
4	1004.00	7.71

Cable Pull Group

Group 3		
24SP	Length (mm)	Mass (g)
1	154.0	3.700
2	154.0	3.680
3	154.0	3.690
4	154.0	3.690

Group 3		
24SJ	Length (mm)	Mass (g)
1	154.0	3.020
2	154.0	3.030
3	154.0	3.040
4	154.0	3.030

DATA SUMMARIES Continued

INTERFACE GAGING

Mating/Unmating Durability Group

Gaging (0.08 /-0.00) (mm)			
24SP	Initial	Post 500 Cycles	Delta
1	0.0512	0.05020	0.00100
2	0.0614	0.06660	0.00520
3	0.0448	0.04040	0.00440
4	0.0518	0.06070	0.00890

Gaging (0.08 /-0.00) (mm)			
24SJ	Initial	Post 500 Cycles	Delta
1	0.0406	0.0099	0.0307
2	0.0362	0.0324	0.0038
3	0.0327	0.0406	0.0079
4	0.0309	0.0245	0.0064

IR/DWV Group

Gaging (0.08 /-0.00) (mm)			
24SP	Initial	Post Ther Shock	Delta
1	0.0467	0.0557	0.009
2	0.0672	0.0483	0.0189
3	0.0392	0.0505	0.0113
4	0.0524	0.0447	0.0077

Gaging (0.08 /-0.00) (mm)			
24SJ	Initial	Post Ther Shock	Delta
1	0.0404	0.0491	0.0087
2	0.0419	0.0406	0.0013
3	0.0334	0.0509	0.0175
4	0.0387	0.0336	0.0051

Cable Pull Group

Gaging (0.08 /-0.00) (mm)			
24SP	Initial	Retention	Delta
1	0.0521	0.023300	0.0288
2	0.0522	0.020600	0.0316
3	0.0317	0.024400	0.0073
4	0.0444	0.0337	0.0107

Gaging (0.08 /-0.00) (mm)			
24SJ	Initial	Retention	Delta
1	0.0328	0.031800	0.0010
2	0.0207	0.024800	0.0041
3	0.0609	0.033600	0.0273
4	0.0511	0.0353	0.0158

DATA SUMMARIES Continued

LLCR Durability:

1) A total of 4 signal and 4 ground points were measured.
2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets.*
3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
   a. <= +5.0 mOhms: ----------Stable
   b. +5.1 to +10.0 mOhms: ----------Minor
   c. +10.1 to +15.0 mOhms:----------Acceptable
   d. +15.1 to +50.0 mOhms:----------Marginal
   e. +50.1 to +1000 mOhms----------Unstable
   f. >+1000 mOhms:----------Open Failure

LLCR Measurement Summaries by Pin Type				
Date	2021/3/11	3/17/2021		
Room Temp (Deg C)	22	22		
Rel Humidity (%)	50	50		
Technician	Kason He	Kason He		
mOhm values	Actual	**Delta**		
	Initial	**500 Cycles**		
Pin Type: Signal 1				
Average	81.03	0.64		
St. Dev.	0.82	0.58		
Min	80.23	0.19		
Max	81.95	1.46		
Summary Count	4	4		
Total Count	4	4		
Pin Type: GND 1				
Average	34.46	0.34		
St. Dev.	0.79	0.12		
Min	33.77	0.24		
Max	35.45	0.48		
Summary Count	4	4		
Total Count	4	4		

LLCR Delta Count by Category						
	Stable	**Minor**	**Acceptable**	**Marginal**	**Unstable**	**Open**
mOhms	**<=5**	**>5 & <=10**	**>10 & <=15**	**>15 & <=50**	**>50 & <=1000**	**>1000**
After 500 Cycles	**8**	**0**	**0**	**0**	**0**	**0**

DATA SUMMARIES Continued

LLCR IR/DWV:

1) A total of 4 signal and 4 ground points were measured.
2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets.*
3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
   a. <= +5.0 mOhms: ----------Stable
   b. +5.1 to +10.0 mOhms:----------Minor
   c. +10.1 to +15.0 mOhms: ----------Acceptable
   d. +15.1 to +50.0 mOhms: ----------Marginal
   e. +50.1 to +1000 mOhms: ----------Unstable
   f. >+1000 mOhms:----------Open Failure

LLCR Measurement Summaries by Pin Type				
Date	3/8/2021	3/10/2021		
Room Temp (Deg C)	22	22		
Rel Humidity (%)	50	50		
Technician	Kason He	Kason He		
mOhm values	Actual **Initial**	**Delta Thermal Shock**		
Pin Type: Signal 1				
Average	546.7	0.675		
St. Dev.	0.2944	0.6021		
Min	546.4	0.1		
Max	547.1	1.5		
Summary Count	4	4		
Total Count	4	4		
Pin Type: GND 1				
Average	199	3.675		
St. Dev.	12.9936	3.4053		
Min	185.7	1		
Max	216.8	8.2		
Summary Count	4	4		
Total Count	4	4		

LLCR Delta Count by Category						
	Stable	**Minor**	**Acceptable**	**Marginal**	**Unstable**	**Open**
mOhms	**<=5**	**>5 & <=10**	**>10 & <=15**	**>15 & <=50**	**>50 & <=1000**	**>1000**
After Thermal Shock	**7**	**1**	**0**	**0**	**0**	**0**

DATA SUMMARIES Continued

LLCR Cable Pull:

1) A total of 4 signal and 4 ground points were measured.
2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets.*
3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
   a. <= +5.0 mOhms: ----------Stable
   b. +5.1 to +10.0 mOhms: ----------Minor
   c. +10.1 to +15.0 mOhms:----------Acceptable
   d. +15.1 to +50.0 mOhms:----------Marginal
   e. +50.1 to +1000 mOhms: ----------Unstable
   f. >+1000 mOhms:----------Open Failure

LLCR Measurement Summaries by Pin Type				
Date	3/16/2021	3/18/2021		
Room Temp (Deg C)	20	23		
Rel Humidity (%)	50	50		
Technician	Kason He	Kason He		
mOhm values	Actual **Initial**	**Delta 5lb Retention**		
Pin Type: Signal 1				
Average	81.12	0.57		
St. Dev.	0.78	0.61		
Min	80.22	0.13		
Max	81.98	1.27		
Summary Count	4	4		
Total Count	4	4		
Pin Type: GND 1				
Average	32.40	0.67		
St. Dev.	1.15	0.31		
Min	30.79	0.34		
Max	33.32	0.95		
Summary Count	4	4		
Total Count	4	4		

LLCR Delta Count by Category						
	Stable	**Minor**	**Acceptable**	**Marginal**	**Unstable**	**Open**
mOhms	**<=5**	**>5 & <=10**	**>10 & <=15**	**>15 & <=50**	**>50 & <=1000**	**>1000**
After 5lb Retention	**8**	**0**	**0**	**0**	**0**	**0**

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: 3/4/2021, Next Cal: 3/3/2022

Equipment #: HZ-TSC-01
Description: Vertical Thermal Shock Chamber
Manufacturer: Cincinnatti Sub Zero
Model: VTS-3-6-6-SC/AC
Serial #: 10-VT14994
Accuracy: See Manual
… Last Cal: 04/16/2020, Next Cal: 04/15/2021

Equipment #: DG-HPT-01
Description: Hipot Safety Tester
Manufacturer: Vitrek
Model: V73
Serial #: 025866
Accuracy:
… Last Cal: 04/16/2020, Next Cal: 04/15/2021

Equipment #: HZ-MO-05
Description: Micro-ohmmeter
Manufacturer: Keithley
Model: 3706
Serial #: 1285188
Accuracy: Last Cal: 12/17/2020, Next Cal: 12/16/2021