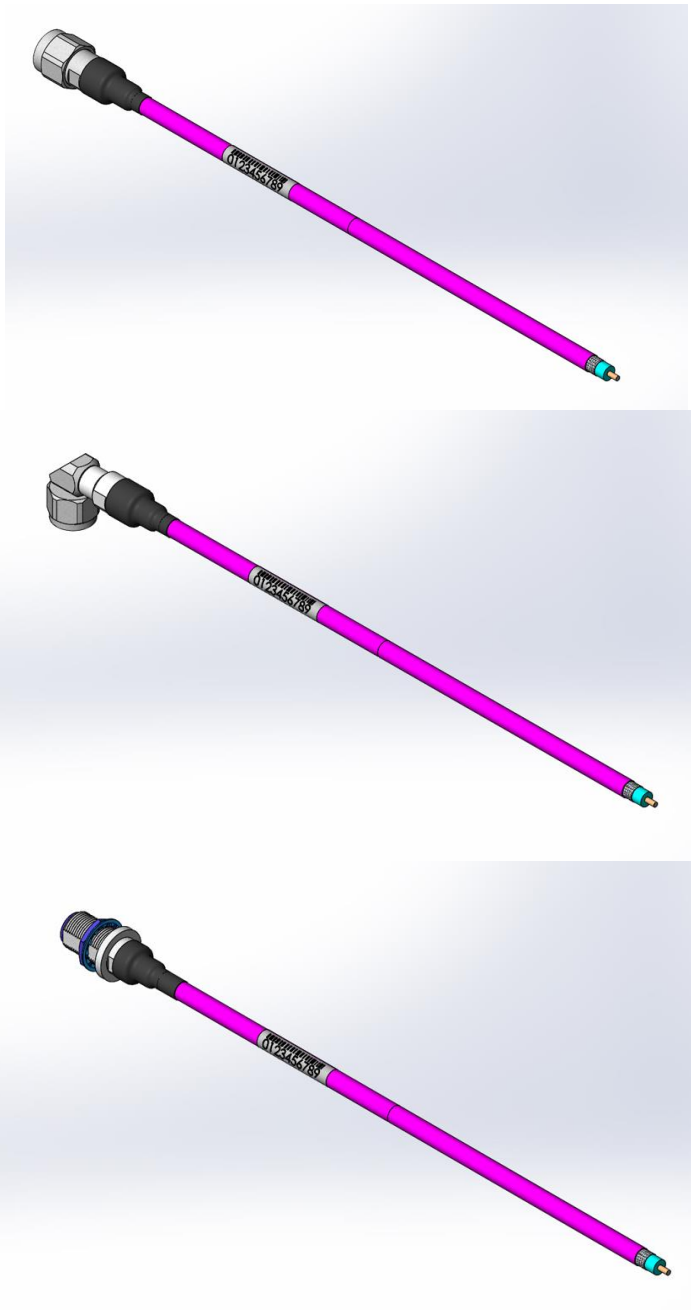
| | |
|---|---|
| Project Number: Design Qualification Test Report | Tracking Code: 3026077_Report_Rev_1 |
| Requested by: Joe Huang | Date: 11/18/2021 |
| Part #: RF280-06SP-505050-0152/RF280-06BJ-505050-0152/RF280-06RP-505050-0152 | |
| Part description: RF280 NTPE CABLE ASSEMBLY | Tech: Keney Chen |
| Test Start: 10/17/2021 | Test Completed: 11/1/2021 |



**DESIGN QUALIFICATION TEST REPORT**

**RF280 NTPE CABLE ASSEMBLY**

**RF280-06SP-505050-0152/RF280-06BJ-505050-0152/RF280-06RP-505050-0152**

## REVISION HISTORY

| DATA | REV.NUM. | DESCRIPTION | ENG |
| --- | --- | --- | --- |
| **11/18/2021** | **1** | **Initial Issue** | **KC** |

## 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: 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

## IR/DWV

***Pin-to-Ground***

Group 1
RF280-06SP-505050-0152
RF280-06BJ-505050-0152
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: RF280-06SP-06SP-1000 (4 PCS)*
*Jack version: RF280-06BJ-06BJ-1000 (4 PCS)*

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

Group 2
RF280-06RP-505050-0152
RF280-06BJ-505050-0152
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: RF280-06RP-06RP-1000 (4 PCS)*
*Jack version: RF280-06BJ-06BJ-1000 (4 PCS)*

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

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(1) DWV at Test Voltage = Other
Test Condition = 1 (Sea Level) Test voltage applied for 60 seconds
MIL-PRF-39012, Paragraph. 4.6.8 per MIL-STD-202-302

(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 (-55°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

## Mating/Unmating/Durability

| Group 1<br>RF280-06SP-505050-0152<br>RF280-06BJ-505050-0152<br>4 Assemblies | | Group 2<br>RF280-06RP-505050-0152<br>RF280-06BJ-505050-0152<br>4 Assemblies | |
|---|---|---|---|
| **Step** | **Description** | **Step** | **Description** |
| 1. | Length & Mass | 1. | Length & Mass |
| 2. | Interface Gaging | 2. | Interface Gaging |
| 3. | DWV at Test Voltage(1) - Non Standard<br>DWV = 500 VAC | 3. | DWV at Test Voltage(1) - Non Standard<br>DWV = 500 VAC |
| 4. | LLCR (2) - Non Standard<br>*Note: Signal and ground.* | 4. | LLCR (2) - Non Standard<br>*Note: Signal and ground.* |
| 5. | Cycles<br>Quantity = 500 Cycles<br>*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* | 5. | Cycles<br>Quantity = 500 Cycles<br>*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<br>Max Delta = 15 mOhm<br>*Note: Signal and ground.* | 6. | LLCR (2) - Non Standard<br>Max Delta = 15 mOhm<br>*Note: Signal and ground.* |
| 7. | Interface Gaging | 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

## Cable Pull

**Group 1**
RF280-06SP-505050-0152
2 Assemblies
0 Degrees

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

**Group 2**
RF280-06BJ-505050-0152
2 Assemblies
0 Degrees

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

**Group 3**
RF280-06SP-505050-0152
RF280-06BJ-505050-0152
4 Assemblies
0 Degrees

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

**Group 4**
RF280-06RP-505050-0152
2 Assemblies
0 Degrees

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

**Group 5**
RF280-06RP-505050-0152
RF280-06BJ-505050-0152
4 Assemblies
0 Degrees

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

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(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: -55°C to +125°C
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.

### 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 5 pounds (2.3 kg) for cable retention test.
2) Pull to destruct.
3) MIL-PRF-30192, paragraph. 4.6.21.

### MATING/UNMATING:

1) MIL-PRF-30192, paragraph. 4.6.12.
2) By hand. Torque each time to 8 in-lbs.

## 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 RF280-06SP-505050-0152**

- **Min ---------- 154.24 lbs**
- **Max ---------- 161.36 lbs**

**Group 2 RF280-06BJ-505050-0152**

- **Min ---------- 153.53 lbs**
- **Max ---------- 161.23 lbs**

**Group 4 RF280-06RP-505050-0152**

- **Min ---------- 166.90 lbs**
- **Max ---------- 184.22 lbs**

## Insulation Resistance minimums, IR

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

**Pin to Ground**

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

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

**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**

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

**Pin to Ground**

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

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

**Pin to Ground**

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

## Mating-Unmating Durability Group Dielectric Withstanding Voltage minimums, DWV

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

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

**Pin to Ground**

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

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

**Pin to Ground**

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

## RESULTS Continued

# Length & Mass

## IR/DWV Group

### Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152

**Length**

**06SP**

- **Min ---------- 156.00 mm**
- **Max ---------- 157.00 mm**

**06BJ**

- **Min ---------- 157.00 mm**
- **Max ---------- 157.00 mm**

**Mass**

**06SP**

- **Min ----------63.00 g**
- **Max ----------63.16 g**

**06BJ**

- **Min ----------61.92 g**
- **Max ----------62.01 g**

### Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152

**Length**

**06RP**

- **Min ---------- 155.00 mm**
- **Max ---------- 155.00mm**

**06BJ**

- **Min ---------- 157.00 mm**
- **Max ---------- 157.00 mm**

**Mass**

**06RP**

- **Min ----------82.22 g**
- **Max ----------82.36 g**

**06BJ**

- **Min ----------61.79 g**
- **Max ----------62.13 g**

## RESULTS Continued

### Cable Pull Group

**Group 3 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

**Length**

**06SP**

- **Min ---------- 156.00 mm**
- **Max ---------- 157.00 mm**

**06BJ**

- **Min ---------- 156.00 mm**
- **Max ---------- 157.00 mm**

**Mass**

**06SP**

- **Min ----------62.84 g**
- **Max ----------63.03 g**

**06BJ**

- **Min ----------61.92 g**
- **Max ----------62.02 g**

**Group 5 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

**Length**

**06RP**

- **Min ---------- 155.00 mm**
- **Max ---------- 155.00 mm**

**06BJ**

- **Min ---------- 155.00 mm**
- **Max ---------- 156.00 mm**

**Mass**

**06RP**

- **Min ----------82.15 g**
- **Max ----------82.46 g**

**06BJ**

- **Min ----------61.70 g**
- **Max ----------61.93 g**

## RESULTS Continued

### Mating-Unmating Durability Group

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

**Length**

**06SP**

- **Min ---------- 156.00 mm**
- **Max ---------- 157.00 mm**

**06BJ**

- **Min ---------- 156.00 mm**
- **Max ---------- 157.00 mm**

**Mass**

**06SP**

- **Min ----------62.93 g**
- **Max ----------63.10 g**

**06BJ**

- **Min ----------61.74 g**
- **Max ----------61.95 g**

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

**Length**

**06RP**

- **Min ---------- 155.00 mm**
- **Max ---------- 155.00 mm**

**06BJ**

- **Min ---------- 156.00 mm**
- **Max ---------- 157.00 mm**

**Mass**

**06RP**

- **Min ----------82.29 g**
- **Max ----------82.38 g**

**06BJ**

- **Min ----------61.78 g**
- **Max ----------62.01 g**

## RESULTS Continued

### Interface Gaging

#### Mating-Unmating Durability Group

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

**06SP**

**Initial**

- **Min ---------- 5.155 mm**
- **Max ---------- 5.185 mm**

**After 500 Cycles**

- **Min ---------- 5.189 mm**
- **Max ---------- 5.225 mm**

**06BJ**

**Initial**

- **Min ---------- 5.197 mm**
- **Max ---------- 5.219 mm**

**After 500 Cycles**

- **Min ---------- 5.178mm**
- **Max ---------- 5.223 mm**

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

**06RP**

**Initial**

- **Min ---------- 5.189 mm**
- **Max ---------- 5.233 mm**

**After 500 Cycles**

- **Min ---------- 5.149 mm**
- **Max ---------- 5.168 mm**

**06BJ**

**Initial**

- **Min ---------- 5.193 mm**
- **Max ---------- 5.219 mm**

**After Thermal Shock**

- **Min ---------- 5.176 mm**
- **Max ---------- 5.187 mm**

## RESULTS Continued

# Interface Gaging

## IR/DWV Group

### Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152

**06SP**

**Initial**

- **Min ---------- 5.175 mm**
- **Max ---------- 5.233 mm**

**After Thermal Shock**

- **Min ---------- 5.177 mm**
- **Max ---------- 5.239 mm**

**06BJ**

**Initial**

- **Min ---------- 5.195 mm**
- **Max ---------- 5.229mm**

**After Thermal Shock**

- **Min ---------- 5.183 mm**
- **Max ---------- 5.231 mm**

### Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152

**06RP**

**Initial**

- **Min ---------- 5.165 mm**
- **Max ---------- 5.208 mm**

**After Thermal Shock**

- **Min ---------- 5.076 mm**
- **Max ---------- 5.162 mm**

**06BJ**

**Initial**

- **Min ---------- 5.182 mm**
- **Max ---------- 5.204 mm**

**After Thermal Shock**

- **Min ---------- 5.175 mm**
- **Max ---------- 5.199 mm**

## RESULTS Continued

### Cable Pull Group

**Group 3 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

**06SP**

**Initial**

- **Min ---------- 5.155 mm**
- **Max ---------- 5.237mm**

**After Retention (5 lbs)**

- **Min ---------- 5.196 mm**
- **Max ---------- 5.238 mm**

**06BJ**

**Initial**

- **Min ---------- 5.201 mm**
- **Max ---------- 5.228 mm**

**After Retention (5 lbs)**

- **Min ---------- 5.191 mm**
- **Max ---------- 5.223 mm**

**Group 5 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

**06RP**

**Initial**

- **Min ---------- 5.163 mm**
- **Max ---------- 5.205 mm**

**After Retention (5 lbs)**

- **Min ---------- 5.166 mm**
- **Max ---------- 5.201 mm**

**06BJ**

**Initial**

- **Min ---------- 5.188 mm**
- **Max ---------- 5.204 mm**

**After Retention (5 lbs)**

- **Min ---------- 5.175 mm**
- **Max ---------- 5.194 mm**

## RESULTS Continued

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

#### Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152

**Ground pin**

- **Initial ---------- 5.98 mOhms Max**
- **After 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**

**Signal pin**

- **Initial ---------- 2.82 mOhms Max**
- **After 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**

#### Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152

**Ground pin**

- **Initial ---------- 5.58 mOhms Max**
- **After 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**

**Signal pin**

- **Initial ---------- 4.07 mOhms Max**
- **After 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 IR/DWV (4 ground and 4 signal LLCR test points)

#### Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152

**Ground pin**

- **Initial ---------- 8.28 mOhms Max**
- **After 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**

**Signal pin**

- **Initial ---------- 2.44 mOhms Max**
- **After 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**

#### Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152

**Ground pin**

- **Initial ---------- 7.18 mOhms Max**
- **After 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**

**Signal pin**

- **Initial ---------- 2.85 mOhms Max**
- **After 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)

#### Group 3 RF280-06SP-505050-0152/RF280-06BJ-505050-0152

**Ground pin**

- **Initial ---------- 3.77 mOhms Max**
- **After Retention (5 lbs)**
  - **<= +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 ---------- 1.95 mOhms Max**
- **After Retention (5 lbs)**
  - **<= +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**

#### Group 5 RF280-06RP-505050-0152/RF280-06BJ-505050-0152

**Ground pin**

- **Initial ---------- 6.12 mOhms Max**
- **After Retention (5 lbs)**
  - **<= +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 ---------- 4.47 mOhms Max**
- **After Retention (5 lbs)**
  - **<= +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): IR/DWV Group

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| | Pin to Ground |
|---|---|
| | Mated |
| Minimum | RF280-06SP/RF280-06BJ |
| Initial | 45000 |
| Thermal Shock | 45000 |

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| | Pin to Ground |
|---|---|
| | Mated |
| Minimum | RF280-06RP/RF280-06BJ |
| Initial | 45000 |
| Thermal Shock | 45000 |

## DIELECTRIC WITHSTANDING VOLTAGE (DWV): IR/DWV Group

| Voltage Rating Summary | |
|---|---|
| Minimum | RF280/RF280 |
| Test Voltage | 500 |

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

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

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

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

## DIELECTRIC WITHSTANDING VOLTAGE (DWV): Mating-Unmating Durability Group

| Voltage Rating Summary | |
|---|---|
| Minimum | RF280/RF280 |
| Test Voltage | 500 |

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

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

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

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

## DATA SUMMARIES Continued

### Cable Pull Force:

**0° Pull**

**Group 1 RF280-06SP-505050-0152**

| | Force (lbs) |
| --- | --- |
| Minimum | **154.24** |
| Maximum | 161.36 |
| Average | 157.80 |

**Group 2 RF280-06BJ-505050-0152**

| | Force (lbs) |
| --- | --- |
| Minimum | **166.90** |
| Maximum | 184.22 |
| Average | 175.56 |

**Group 4 RF280-06RP-505050-0152**

| | Force (lbs) |
| --- | --- |
| Minimum | **153.53** |
| Maximum | 161.23 |
| Average | 157.38 |

## DATA SUMMARIES Continued

### LENGTH & MASS

**IR/DWV Group**

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| 06SP | Length (mm) | Mass (g) |
| --- | --- | --- |
| 1 | 156.00 | 63.13 |
| 2 | 157.00 | 63.07 |
| 3 | 156.00 | 63.00 |
| 4 | 157.00 | 63.16 |

| 06BJ | Length (mm) | Mass (g) |
| --- | --- | --- |
| 1 | 157.00 | 61.92 |
| 2 | 157.00 | 61.93 |
| 3 | 157.00 | 62.01 |
| 4 | 157.00 | 62.00 |

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| 06RP | Length (mm) | Mass (g) |
| --- | --- | --- |
| 1 | 155.00 | 82.33 |
| 2 | 155.00 | 82.36 |
| 3 | 155.00 | 82.22 |
| 4 | 155.00 | 82.34 |

| 06BJ | Length (mm) | Mass (g) |
| --- | --- | --- |
| 1 | 157.00 | 61.79 |
| 2 | 157.00 | 61.83 |
| 3 | 157.00 | 61.93 |
| 4 | 157.00 | 62.13 |

## DATA SUMMARIES Continued

**Cable Pull Group**

**Group 3 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| Group 3 | | |
| --- | --- | --- |
| 06SP | Length (mm) | Mass (g) |
| 1 | 157.0 | 63.030 |
| 2 | 157.0 | 62.910 |
| 3 | 156.0 | 62.930 |
| 4 | 156.0 | 62.840 |

| Group 3 | | |
| --- | --- | --- |
| 06BJ | Length (mm) | Mass (g) |
| 1 | 156.0 | 61.940 |
| 2 | 156.0 | 61.970 |
| 3 | 157.0 | 62.020 |
| 4 | 157.0 | 61.920 |

**Group 5 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| Group 5 | | |
| --- | --- | --- |
| 06RP | Length (mm) | Mass (g) |
| 1 | 155.0 | 82.460 |
| 2 | 155.0 | 82.200 |
| 3 | 155.0 | 82.150 |
| 4 | 155.0 | 82.310 |

| Group 5 | | |
| --- | --- | --- |
| 06BJ | Length (mm) | Mass (g) |
| 1 | 156.0 | 61.880 |
| 2 | 156.0 | 61.700 |
| 3 | 155.0 | 61.890 |
| 4 | 155.0 | 61.930 |

## DATA SUMMARIES Continued

## INTERFACE GAGING

**Mating-Unmating Durability Group**

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| Gaging (5.21 /0.205)(mm) | | | |
| --- | --- | --- | --- |
| 06SP | Initial | Post 500 Cycles | Delta |
| 1 | 5.1590 | 5.2080 | 0.0490 |
| 2 | 5.1780 | 5.1890 | 0.0110 |
| 3 | 5.1550 | 5.2250 | 0.0700 |
| 4 | 5.1850 | 5.2060 | 0.0210 |

| Gaging (5.26 /0.207)(mm) | | | |
| --- | --- | --- | --- |
| 06BJ | Initial | Post 500 Cycles | Delta |
| 1 | 5.2190 | 5.2230 | 0.0040 |
| 2 | 5.1970 | 5.1810 | 0.0160 |
| 3 | 5.2050 | 5.2090 | 0.0040 |
| 4 | 5.2080 | 5.1780 | 0.0300 |

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| Gaging (5.21 /0.205)(mm) | | | |
| --- | --- | --- | --- |
| 06RP | Initial | Post 500 Cycles | Delta |
| 1 | 5.2330 | 5.1680 | 0.0650 |
| 2 | 5.1890 | 5.1510 | 0.0380 |
| 3 | 5.2250 | 5.1490 | 0.0760 |
| 4 | 5.2080 | 5.1630 | 0.0450 |

| Gaging (5.26 /0.207)(mm) | | | |
| --- | --- | --- | --- |
| 06BJ | Initial | Post 500 Cycles | Delta |
| 1 | 5.1930 | 5.1780 | 0.0150 |
| 2 | 5.2090 | 5.1840 | 0.0250 |
| 3 | 5.2190 | 5.1760 | 0.0430 |
| 4 | 5.1960 | 5.1870 | 0.0090 |

## DATA SUMMARIES Continued

### INTERFACE GAGING

**IR/DWV Group**

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| Gaging (5.21 /0.205)(mm) | | | |
|---|---|---|---|
| 06SP | Initial | Post Ther Shock | Delta |
| 1 | 5.204 | 5.177 | 0.027 |
| 2 | 5.233 | 5.226 | 0.007 |
| 3 | 5.225 | 5.239 | 0.014 |
| 4 | 5.1750 | 5.189 | 0.014 |

| Gaging (5.26 /0.207)(mm) | | | |
|---|---|---|---|
| 06BJ | Initial | Post Ther Shock | Delta |
| 1 | 5.1950 | 5.231 | 0.036 |
| 2 | 5.2070 | 5.183 | 0.024 |
| 3 | 5.2220 | 5.205 | 0.017 |
| 4 | 5.2290 | 5.209 | 0.020 |

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| Gaging (5.21 /0.205)(mm) | | | |
|---|---|---|---|
| 06RP | Initial | Post Ther Shock | Delta |
| 1 | 5.208 | 5.162 | 0.046 |
| 2 | 5.176 | 5.096 | 0.080 |
| 3 | 5.165 | 5.076 | 0.089 |
| 4 | 5.1760 | 5.144 | 0.032 |

| Gaging (5.26 /0.207)(mm) | | | |
|---|---|---|---|
| 06BJ | Initial | Post Ther Shock | Delta |
| 1 | 5.1910 | 5.175 | 0.016 |
| 2 | 5.1820 | 5.199 | 0.017 |
| 3 | 5.1950 | 5.192 | 0.003 |
| 4 | 5.2040 | 5.183 | 0.021 |

## DATA SUMMARIES Continued

**Cable Pull Group**

**Group 3 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| Gaging (5.21 /0.205)(mm) | | | |
| --- | --- | --- | --- |
| 06SP | Initial | Retention | Delta |
| 1 | 5.237 | 5.2380 | 0.0010 |
| 2 | 5.209 | 5.1960 | 0.0130 |
| 3 | 5.236 | 5.2190 | 0.0170 |
| 4 | 5.155 | 5.2130 | 0.0580 |

| Gaging (5.26 /0.207)(mm) | | | |
| --- | --- | --- | --- |
| 06BJ | Initial | Retention | Delta |
| 1 | 5.2280 | 5.2080 | 0.0200 |
| 2 | 5.2010 | 5.1930 | 0.0080 |
| 3 | 5.2190 | 5.1910 | 0.0280 |
| 4 | 5.2060 | 5.2230 | 0.0170 |

**Group 5 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| Gaging (5.21 /0.205)(mm) | | | |
| --- | --- | --- | --- |
| 06RP | Initial | Retention | Delta |
| 1 | 5.185 | 5.1790 | 0.0060 |
| 2 | 5.163 | 5.1660 | 0.0030 |
| 3 | 5.179 | 5.1880 | 0.0090 |
| 4 | 5.205 | 5.2010 | 0.0040 |

| Gaging (5.26 /0.207)(mm) | | | |
| --- | --- | --- | --- |
| 06BJ | Initial | Retention | Delta |
| 1 | 5.1920 | 5.1790 | 0.0130 |
| 2 | 5.2040 | 5.1940 | 0.0100 |
| 3 | 5.1940 | 5.1920 | 0.0020 |
| 4 | 5.1880 | 5.1750 | 0.0130 |

## 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

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| | LLCR Measurement Summaries by Pin Type | | | |
|---|---|---|---|---|
| Date | 10/21/2021 | 11/1/2021 | | |
| Room Temp (Deg C) | 22 | 22 | | |
| Rel Humidity (%) | 50 | 50 | | |
| Technician | Keney Chen | Keney Chen | | |
| **mOhm values** | Actual<br>**Initial** | **Delta**<br>**Thermal Shock** | | |
| | **Pin Type: Signal 1** | | | |
| Average | 2.1825 | 0.165 | | |
| St. Dev. | 0.1909 | 0.1266 | | |
| Min | 1.98 | 0.01 | | |
| Max | 2.44 | 0.32 | | |
| Summary Count | 4 | 4 | | |
| Total Count | 4 | 4 | | |
| | **Pin Type: GND 1** | | | |
| Average | 7.0875 | 1.075 | | |
| St. Dev. | 0.9510 | 0.8778 | | |
| Min | 5.98 | 0.43 | | |
| Max | 8.28 | 2.37 | | |
| 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** |
| **Thermal Shock** | **8** | **0** | **0** | **0** | **0** | **0** |

# DATA SUMMARIES Continued

**Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| | LLCR Measurement Summaries by Pin Type | | | |
|---|---|---|---|---|
| Date | 10/21/2021 | 11/1/2021 | | |
| Room Temp (Deg C) | 22 | 22 | | |
| Rel Humidity (%) | 50 | 50 | | |
| Technician | Keney Chen | Keney Chen | | |
| **mOhm values** | Actual<br>**Initial** | **Delta**<br>**Thermal Shock** | | |
| | **Pin Type: Signal 1** | | | |
| Average | 2.66 | 0.2325 | | |
| St. Dev. | 0.1685 | 0.1436 | | |
| Min | 2.49 | 0.08 | | |
| Max | 2.85 | 0.36 | | |
| Summary Count | 4 | 4 | | |
| Total Count | 4 | 4 | | |
| | **Pin Type: GND 1** | | | |
| Average | 5.8825 | 0.82 | | |
| St. Dev. | 1.4363 | 0.4628 | | |
| Min | 3.92 | 0.26 | | |
| Max | 7.18 | 1.39 | | |
| 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** |
| **Thermal Shock** | **8** | **0** | **0** | **0** | **0** | **0** |

## DATA SUMMARIES Continued

**LLCR Mating-Unmating 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

**Group 1 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| | LLCR Measurement Summaries by Pin Type | | | |
|---|---|---|---|---|
| Date | 10/20/2021 | 10/27/2021 | | |
| Room Temp (Deg C) | 22 | 22 | | |
| Rel Humidity (%) | 50 | 50 | | |
| Technician | Keney Chen | Keney Chen | | |
| **mOhm values** | Actual **Initial** | **Delta 500 CYCLES** | | |
| | **Pin Type: Signal 1** | | | |
| Average | 4.04 | 0.10 | | |
| St. Dev. | 0.02 | 0.03 | | |
| Min | 4.02 | 0.07 | | |
| Max | 4.07 | 0.13 | | |
| Summary Count | 4 | 4 | | |
| Total Count | 4 | 4 | | |
| | **Pin Type: GND 1** | | | |
| Average | 5.43 | 1.01 | | |
| St. Dev. | 0.20 | 0.85 | | |
| Min | 5.17 | 0.06 | | |
| Max | 5.58 | 1.96 | | |
| 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

## Group 2 RF280-06RP-505050-0152/RF280-06BJ-505050-0152

| | LLCR Measurement Summaries by Pin Type | | | |
|---|---|---|---|---|
| Date | 10/20/2021 | 10/27/2021 | | |
| Room Temp (Deg C) | 22 | 22 | | |
| Rel Humidity (%) | 50 | 50 | | |
| Technician | Keney Chen | Keney Chen | | |
| **mOhm values** | Actual **Initial** | **Delta 500 CYCLES** | | |
| | **Pin Type: Signal 1** | | | |
| Average | 2.44 | 0.47 | | |
| St. Dev. | 0.30 | 0.27 | | |
| Min | 2.1 | 0.12 | | |
| Max | 2.82 | 0.78 | | |
| Summary Count | 4 | 4 | | |
| Total Count | 4 | 4 | | |
| | **Pin Type: GND 1** | | | |
| Average | 5.04 | 1.01 | | |
| St. Dev. | 1.12 | 0.70 | | |
| Min | 3.62 | 0.22 | | |
| Max | 5.98 | 1.82 | | |
| 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 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

**Group 3 RF280-06SP-505050-0152/RF280-06BJ-505050-0152**

| | LLCR Measurement Summaries by Pin Type | | | |
|---|---|---|---|---|
| Date | 10/19/2021 | 10/19/2021 | | |
| Room Temp (Deg C) | 22 | 22 | | |
| Rel Humidity (%) | 50 | 50 | | |
| Technician | Keney Chen | Keney Chen | | |
| **mOhm values** | Actual | **Delta** | | |
| | **Initial** | **5 lbf Retention** | | |
| | **Pin Type: Signal 1** | | | |
| Average | 1.93 | 0.06 | | |
| St. Dev. | 0.04 | 0.05 | | |
| Min | 1.86 | 0.01 | | |
| Max | 1.95 | 0.13 | | |
| Summary Count | 4 | 4 | | |
| Total Count | 4 | 4 | | |
| | **Pin Type: GND 1** | | | |
| Average | 3.50 | 0.13 | | |
| St. Dev. | 0.30 | 0.10 | | |
| Min | 3.17 | 0.06 | | |
| Max | 3.77 | 0.27 | | |
| 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** |
| **20 lbf Retention** | **8** | **0** | **0** | **0** | **0** | **0** |

# DATA SUMMARIES Continued

**Group 5 RF280-06RP-505050-0152/RF280-06BJ-505050-0152**

| | LLCR Measurement Summaries by Pin Type | | | |
|---|---|---|---|---|
| Date | 10/19/2021 | 10/19/2021 | | |
| Room Temp (Deg C) | 22 | 22 | | |
| Rel Humidity (%) | 50 | 50 | | |
| Technician | Keney Chen | Keney Chen | | |
| **mOhm values** | Actual | **Delta** | | |
| | **Initial** | **5 lbf Retention** | | |
| | **Pin Type: Signal 1** | | | |
| Average | 4.39 | 0.10 | | |
| St. Dev. | 0.06 | 0.06 | | |
| Min | 4.34 | 0.03 | | |
| Max | 4.47 | 0.18 | | |
| Summary Count | 4 | 4 | | |
| Total Count | 4 | 4 | | |
| | **Pin Type: GND 1** | | | |
| Average | 5.67 | 0.18 | | |
| St. Dev. | 0.37 | 0.11 | | |
| Min | 5.37 | 0.02 | | |
| Max | 6.12 | 0.27 | | |
| 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** |
| **20 lbf 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: 04/15/2021, Next Cal: 04/14/2022

**Equipment #:** DG-HPT-01
**Description:** Hipot Safety Tester
**Manufacturer:** Vitrek
**Model:** V73
**Serial #:** 025866
**Accuracy:**
… Last Cal: 04/15/2021, Next Cal: 04/14/2022

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