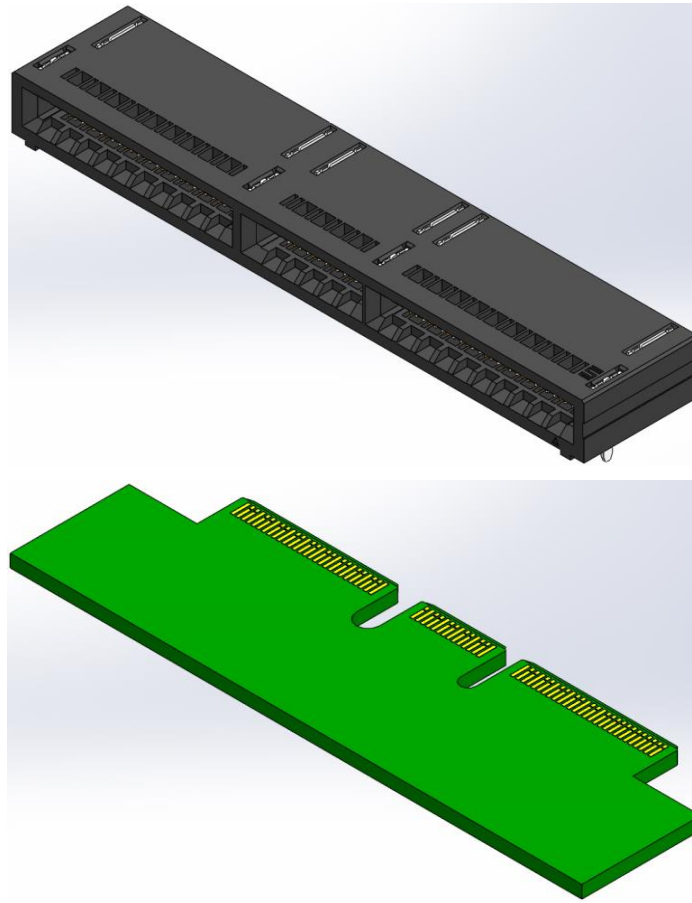




Project Number: Design Qualification Test Report	Tracking Code: CR-1211306_Report_Rev_1
Requested by: Josh Ketron	Date: 5/23/2025
Part #: HSEC6-070-01-S-RA-WT/EDGE CARD	
Part description: HSEC6/CARD	Tech: Daniel Haydon
Test Start: 1/8/2025	Test Completed: 2/18/2025



DESIGN QUALIFICATION TEST REPORT
HSEC6/CARD
HSEC6-070-01-S-RA-WT/EDGE CARD

Tracking Code: CR-1211306_Report_Rev_1	Part #: HSEC6-070-01-S-RA-WT/EDGE CARD
Part description: HSEC6/CARD	

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
5/23/2025	1	Initial test	KH

Tracking Code: CR-1211306_Report_Rev_1	Part #: HSEC6-070-01-S-RA-WT/EDGE CARD
Part description: HSEC6/CARD	

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 the test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364, J-STD-002D.

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) After soldering, the parts to be used for LLCR and DWV/IR testing were cleaned according to CO-SC-WI-3029.
- 4) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
- 5) The automated procedure is used with aqueous compatible soldering materials.
- 6) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
- 7) Any additional preparation will be noted in the individual test sequences.
- 8) Solder Information: Lead Free
- 9) Samtec Test PCBs used: PCB-112211-TST-XX, PCB-112212-TST-XX, PCB-114070-TST-XX,
PCB-114074-TST-XX, PCB-114075-TST-XX, PCB-114082-TST-XX.

FLOWCHARTS

Thermal Aging

Group 1
 HSEC6-070-01-S-RA-WT
 0.062" EDGE CARD
 8 Assemblies

Step	Description
1.	LLCR ⁽¹⁾
2.	Cycles Quantity = 5 Cycles
3.	Thermal Age ⁽²⁾ - Non Standard
4.	LLCR ⁽¹⁾ Max Delta = 15 mOhm
5.	Cycles Quantity = 3 Cycles
6.	LLCR ⁽¹⁾ Max Delta = 15 mOhm

(1) LLCR = EIA-364-23
 Open Circuit Voltage = 20 mV Max
 Test Current = 100 mA Max

(2) Thermal Age = Other
 EIA-364-17 Method A without electrical load
 Test temperature and test duration per EIA-364-1000 Table 8 under 60 degree C field temperature. 105 °C for 108 hours.

FLOWCHARTS Continued**Mating/Unmating/Durability**Group 1

HSEC6-070-01-S-RA-WT

0.062" EDGE CARD

8 Assemblies

Step	Description
1.	LLCR (2)
2.	Cycles Quantity = 5 Cycles
3.	Thermal Shock (3) - Non Standard
4.	LLCR (2) Max Delta = 15 mOhm
5.	Humidity (1) - Non Standard
6.	LLCR (2) Max Delta = 15 mOhm
7.	Cycles Quantity = 3 Cycles
8.	LLCR (2) Max Delta = 15 mOhm

- (1) Humidity = EIA-364-31
Test Condition = B (240 Hours)
Test Method = III (+25°C to +65°C @ 90% RH to 98% RH)
Test Exceptions: ambient pre-condition and delete steps 7a and 7b
- (2) LLCR = EIA-364-23
Open Circuit Voltage = 20 mV Max
Test Current = 100 mA Max
- (3) Thermal Shock = Other
EIA-364-32 Exposure Time at Temperature Extremes = 1/2 Hour
Method A, Test Condition = I (-55°C to +85°C)
Test Duration = 5 Cycles

IR/DWV**Pin-to-Pin**Group 1

HSEC6-070-01-S-RA-WT

0.062" EDGE CARD

2 Assemblies

Group 2

HSEC6-070-01-S-RA-WT

0.062" EDGE CARD

2 Assemblies

Step	Description	Step	Description
1.	DWV at Test Voltage (1) - Non Standard Test Voltage = 300 V	1.	IR (2) - Non Standard

- (1) DWV at Test Voltage = Other
EIA-364-20C Method B
Test Voltage 300VAC, Leakage 0.5mA MAX.
- (2) IR = Other
EIA-364-21 Test Condition = 100 Vdc, 1 Minutes Max
Requirement=1000Meg Ohms MIN.

FLOWCHARTS Continued**Mechanical Shock/Random Vibration/LLCR**Group 1

HSEC6-070-01-S-RA-WT

0.062" EDGE CARD

8 Assemblies

Step	Description
1.	LLCR ⁽¹⁾
2.	Cycles Quantity = 5 Cycles
3.	LLCR ⁽¹⁾ Max Delta = 15 mOhm
4.	Random Vibration ⁽³⁾ - Non Standard
5.	LLCR ⁽¹⁾ Max Delta = 15 mOhm
6.	Mechanical Shock ⁽²⁾ - Non Standard
7.	LLCR ⁽¹⁾ Max Delta = 15 mOhm

(1) LLCR = EIA-364-23

Open Circuit Voltage = 20 mV Max

Test Current = 100 mA Max

(2) Mechanical Shock = EIA-364-27

Test Condition = C (100 G Peak, 6 milliseconds, Half Sine)

Number of Shocks = 3 Per Direction, Per Axis, 18 Total

(3) Random Vibration = OtherEIA-364 -28 Random profile: 5 Hz @ 0.01 g²/Hz to 20 Hz @ 0.02 g²/Hz (slope up) 20 Hz to 500 Hz @ 0.02 g²/Hz (flat) Input acceleration is 3.13 g RMS 10 minutes per axis for all 3 axes on all samples Random control limit tolerance is ± 3 dB Shock and Vibration board, Annex D

No discontinuities of = 1 microsecond

SolderabilityGroup 1

HSEC6-070-01-S-RA-WT

0.062" EDGE CARD

5 Assemblies

Lead Free Solder

Step	Description
1.	Precondition <i>Note: Place in humidity chamber for 8hrs±15min at 93°C and 94%RH</i>
2.	Precondition <i>Note: Place in oven at 100°C for 1 hour.</i>
3.	Solderability ⁽²⁾ - Non Standard Leaded Or Lead Free = Lead Free Solder <i>Note: Perform solderability test within 72hrs of the drying chamber in step 2.</i>
4.	Visual Inspection
5.	Photos ⁽¹⁾

(1) Photos

Attach 2-3 photos of contact area

(2) Solderability = Other

8 hours ± 15 minutes steam per J-STD-002D

FLOWCHARTS Continued**Mate/Unmate Force**Group 1

HSEC6-070-01-S-RA-WT

0.057" EDGE CARD

8 Assemblies

Minimum Thickness Card

Step	Description
1.	Mating/Unmating Force ⁽¹⁾ - Non Standard Max Mating Force = 32 N <i>Note: Mate the connectors at 25.4mm/min. Record the max insertion force.</i>
2.	Mating/Unmating Force ⁽¹⁾ - Non Standard Minimum Unmate Force = 10 N <i>Note: Unmate the connectors at 12.7mm/min. Record the max unmating force.</i>
3.	Cycles Quantity = 25 Cycles
4.	Mating/Unmating Force ⁽¹⁾ - Non Standard Max Mating Force = 32 N <i>Note: Mate the connectors at 25.4mm/min. Record the max insertion force.</i>
5.	Mating/Unmating Force ⁽¹⁾ - Non Standard Minimum Unmate Force = 10 N <i>Note: Unmate the connectors at 12.7mm/min. Record the max unmating force.</i>

Group 2

HSEC6-070-01-S-RA-WT

0.067" EDGE CARD

8 Assemblies

Maximum Thickness Card

Step	Description
1.	Mating/Unmating Force ⁽¹⁾ - Non Standard Max Mating Force = 32 N <i>Note: Mate the connectors at 25.4mm/min. Record the max insertion force.</i>
2.	Mating/Unmating Force ⁽¹⁾ - Non Standard Minimum Unmate Force = 10 N <i>Note: Unmate the connectors at 12.7mm/min. Record the max unmating force.</i>
3.	Cycles Quantity = 25 Cycles
4.	Mating/Unmating Force ⁽¹⁾ - Non Standard Max Mating Force = 32 N <i>Note: Mate the connectors at 25.4mm/min. Record the max insertion force.</i>
5.	Mating/Unmating Force ⁽¹⁾ - Non Standard Minimum Unmate Force = 10 N <i>Note: Unmate the connectors at 12.7mm/min. Record the max unmating force.</i>

(1) Mating/Unmating Force = Other

See Note

See Note

FLOWCHARTS Continued**Durability**Group 1

HSEC6-070-01-S-RA-WT
0.067" EDGE CARD
8 Assemblies
Max Card

Step	Description
1.	LLCR ⁽¹⁾
2.	Cycles Quantity = 50 Cycles <i>Note: EIA-364-99</i> <i>Plug and unplug cycles at a rate of 25.4 mm/minutes.</i> <i>Replace mating card after 25 cycles.</i>
3.	LLCR ⁽¹⁾
4.	Cycles Quantity = 50 Cycles <i>Note: EIA-364-99</i> <i>Plug and unplug cycles at a rate of 25.4 mm/minutes.</i> <i>Replace mating card after 25 cycles.</i>
5.	LLCR ⁽¹⁾
6.	Cycles Quantity = 100 Cycles <i>Note: EIA-364-99</i> <i>Plug and unplug cycles at a rate of 25.4 mm/minutes.</i> <i>Replace mating card after 25 cycles.</i>
7.	LLCR ⁽¹⁾

Group 2

HSEC6-070-01-S-RA-WT
0.057" EDGE CARD
8 Assemblies
Min Card

Step	Description
1.	LLCR ⁽¹⁾
2.	Cycles Quantity = 50 Cycles <i>Note: EIA-364-99</i> <i>Plug and unplug cycles at a rate of 25.4 mm/minutes.</i> <i>Replace mating card after 25 cycles.</i>
3.	LLCR ⁽¹⁾
4.	Cycles Quantity = 50 Cycles <i>Note: EIA-364-99</i> <i>Plug and unplug cycles at a rate of 25.4 mm/minutes.</i> <i>Replace mating card after 25 cycles.</i>
5.	LLCR ⁽¹⁾
6.	Cycles Quantity = 100 Cycles <i>Note: EIA-364-99</i> <i>Plug and unplug cycles at a rate of 25.4 mm/minutes.</i> <i>Replace mating card after 25 cycles.</i>
7.	LLCR ⁽¹⁾

(1) LLCR = EIA-364-23

Open Circuit Voltage = 20 mV Max
Test Current = 100 mA Max

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

THERMAL SHOCK:

- 1) EIA-364-32, *Thermal Shock (Temperature Cycling) Test Procedure for Electrical Connectors*.
- 2) Test Condition I: -55°C to +85°C.
- 3) Test Time: ½ hour dwell at each temperature extreme.
- 4) Number of Cycles: 5
- 5) All test samples are pre-conditioned at ambient.
- 6) All test samples are exposed to environmental stressing in the mated condition.

THERMAL:

- 1) EIA-364-17, *Temperature Life with or without Electrical Load Test Procedure for Electrical Connectors*.
- 2) Test Condition 4 at 105° C
- 3) Test Time Condition C for 108 hours.
- 4) All test samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

HUMIDITY:

- 1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors*.
- 2) Test Condition B, 240 Hours.
- 3) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
- 4) All samples are pre-conditioned at ambient.
- 5) All test samples are exposed to environmental stressing in the mated condition.

MECHANICAL SHOCK (Specified Pulse):

- 1) Reference document: EIA-364-27, *Mechanical Shock Test Procedure for Electrical Connectors*
- 2) Test Condition C
- 3) Peak Value: 100 G
- 4) Duration: 6 Milliseconds
- 5) Wave Form: Half Sine
- 6) Velocity: 12.3 ft/s
- 7) Number of Shocks: 3 Shocks / Direction, 3 Axis (18 Total)

VIBRATION:

- 1) Reference document: EIA-364-28, *Vibration Test Procedure for Electrical Connectors*
- 2) Test Condition V, Letter B
- 3) Power Spectral Density: 0.01 G² / Hz~0.02 G² / Hz.
- 4) G 'RMS': 3.13
- 5) Frequency: 5 to 500 Hz
- 6) Duration: 10 minutes per axis (3 axis total)

NANOSECOND-EVENT DETECTION:

- 1) Reference document: EIA-364-87, *Nanosecond-Event Detection for Electrical Connectors*
- 2) Prior to test, the samples were characterized to assure the low nanosecond event being monitored will trigger the detector.
- 3) After characterization it was determined the test samples could be monitored for 50 nanosecond events

MATING/UNMATING:

- 1) Reference document: EIA-364-13, *Mating and Unmating Forces Test Procedure for Electrical Connectors*.
- 2) The full insertion position was to within 0.003" to 0.004" of the plug bottoming out in the receptacle to prevent damage to the system under test.
- 3) One of the mating parts is secured to a floating X-Y table to prevent damage during cycling.

ATTRIBUTE DEFINITIONS Continued

The following is a brief, simplified description of attributes.

LLCR:

- 1) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 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. $\leq +5.0$ 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

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: EIA-364-21, *Insulation Resistance Test Procedure for Electrical Connectors*.
 - b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Electrification Time 2.0 minutes
 - iii. Test Voltage (100 VDC) corresponds to calibration settings for measuring resistances.
- 2) MEASUREMENTS:
- 3) When the specified test voltage is applied (100VDC), 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: EIA-364-20, *Withstanding Voltage Test Procedure for Electrical Connectors*.
 - b. Test Conditions:
 - i. Between Adjacent Contacts or Signal-to-Ground
 - ii. Barometric Test Condition 1
 - iii. Rate of Application 500 V/Sec
 - iv. Test Voltage (300 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).

SOLDERABILITY

The objective of the evaluation was to conduct a solderability Dip and Look test per J-STD-002D, Test A1 (Pb-Free). The test was to be completed on a group of X samples provided by the requestor.

RESULTS

Mating – Unmating Forces

Group1 mate 0.057" EDGE CARD

- Initial
 - Mating
 - Min ----- 9.22 lbs
 - Max ----- 17.25 lbs
 - Unmating
 - Min ----- 3.16 lbs
 - Max ----- 3.90 lbs
- After 25 Cycles
 - Mating
 - Min ----- 9.18 lbs
 - Max ----- 13.41 lbs
 - Unmating
 - Min ----- 3.47 lbs
 - Max ----- 4.40 lbs

Group2 mate 0.067" EDGE CARD

- Initial
 - Mating
 - Min ----- 15.60 lbs
 - Max ----- 23.37 lbs
 - Unmating
 - Min ----- 3.49 lbs
 - Max ----- 6.13 lbs
- After 25 Cycles
 - Mating
 - Min ----- 16.10 lbs
 - Max ----- 24.00 lbs
 - Unmating
 - Min ----- 5.22 lbs
 - Max ----- 7.13 lbs

Insulation Resistance minimums, IR

Pin to Pin

- Initial
 - Mated ----- 9000 Meg Ω ----- Passed
 - Unmated ----- 9000 Meg Ω ----- Passed

Dielectric Withstanding Voltage minimums, DWV

- Minimums
 - Test Voltage ----- 300 VAC

Pin to Pin

- Initial DWV ----- Passed

Solderability

Sample Number	Pass / Fail
1	Pass
2	Pass
3	Pass
4	Pass
5	Pass

RESULTS Continued

LLCR Thermal Aging Group (152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 LLCR test points)

Signal Pin 1

- Initial ----- 26.84 mOhms Max
- Thermal
 - <= +5.0 mOhms ----- 152 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
- 3 Cycles
 - <= +5.0 mOhms ----- 151 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 2

- Initial ----- 35.57 mOhms Max
- Thermal
 - <= +5.0 mOhms ----- 152 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
- 3 Cycles
 - <= +5.0 mOhms ----- 152 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**Ground Pin 1**

- **Initial** ----- 22.06 mOhms Max
- **Thermal**
 - <= +5.0 mOhms ----- 88 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
- **3 Cycles**
 - <= +5.0 mOhms ----- 88 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

Ground Pin 2

- **Initial** ----- 35.26 mOhms Max
- **Thermal**
 - <= +5.0 mOhms ----- 88 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
- **3 Cycles**
 - <= +5.0 mOhms ----- 88 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 Mating-Unmating Durability (152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 LLCR test points)****Signal Pin 1**

- **Initial** ----- 25.12 mOhms Max
- **Thermal Shock**
 - <= +5.0 mOhms ----- 152 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
- **Humidity**
 - <= +5.0 mOhms ----- 136 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 16 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
- **3 Cycles**
 - <= +5.0 mOhms ----- 141 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 11 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 2

- **Initial** ----- 34.34 mOhms Max
- **Thermal Shock**
 - <= +5.0 mOhms ----- 152 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
- **Humidity**
 - <= +5.0 mOhms ----- 150 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 2 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
- **3 Cycles**
 - <= +5.0 mOhms ----- 140 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 12 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**Ground Pin 1**

- **Initial** ----- 21.52 mOhms Max
- **Thermal Shock**
 - <= +5.0 mOhms ----- 88 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
- **Humidity**
 - <= +5.0 mOhms ----- 82 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 6 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
- **3 Cycles**
 - <= +5.0 mOhms ----- 85 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 3 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

Ground Pin 2

- **Initial** ----- 34.82 mOhms Max
- **Thermal Shock**
 - <= +5.0 mOhms ----- 88 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
- **Humidity**
 - <= +5.0 mOhms ----- 87 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
- **3 Cycles**
 - <= +5.0 mOhms ----- 85 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 3 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 Shock & Vibration (152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 LLCR test points)****Signal Pin 1**

- **Initial** ----- 25.36 mOhms Max
- **5 Cycles**
 - <= +5.0 mOhms ----- 152 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
- **Vibration**
 - <= +5.0 mOhms ----- 152 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
- **Shock**
 - <= +5.0 mOhms ----- 152 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 2

- **Initial** ----- 34.78 mOhms Max
- **5 Cycles**
 - <= +5.0 mOhms ----- 152 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
- **Vibration**
 - <= +5.0 mOhms ----- 152 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
- **Shock**
 - <= +5.0 mOhms ----- 152 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**Ground Pin 1**

- **Initial** ----- 21.89 mOhms Max
- **5 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **Vibration**
 - <= +5.0 mOhms ----- 88 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
- **Shock**
 - <= +5.0 mOhms ----- 88 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

Ground Pin 2

- **Initial** ----- 35.66 mOhms Max
- **5 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **Vibration**
 - <= +5.0 mOhms ----- 88 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
- **Shock**
 - <= +5.0 mOhms ----- 88 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 Durability (152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 LLCR test points)
Group1 Mate 0.067" EDGE CARD****Signal Pin 1**

- **Initial** ----- 29.75 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 149 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 3 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 150 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 2 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 150 Points ----- Stable
 - +5.1 to +10.0 mOhms ----- 2 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 2

- **Initial** ----- 35.29 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 152 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 151 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 151 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

RESULTS Continued**Ground Pin 1**

- **Initial** ----- 22.18 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 88 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

Ground Pin 2

- **Initial** ----- 35.13 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 88 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 Durability (152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 LLCR test points)
Group2 Mate 0.057" EDGE CARD****Signal Pin 1**

- **Initial** ----- 26.52 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 152 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 152 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 152 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 2

- **Initial** ----- 35.50 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 152 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 152 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 152 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**Ground Pin 1**

- **Initial** ----- 23.17 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 88 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

Ground Pin 2

- **Initial** ----- 35.43 mOhms Max
- **50 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **100 Cycles**
 - <= +5.0 mOhms ----- 88 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
- **200 Cycles**
 - <= +5.0 mOhms ----- 88 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

Tracking Code: CR-1211306_Report_Rev_1	Part #: HSEC6-070-01-S-RA-WT/EDGE CARD
Part description: HSEC6/CARD	

DATA SUMMARIES

MATING/UNMATING FORCE:

Group1 mate 0.057" EDGE CARD

	Initial				After Thermals			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	41.01	9.22	14.06	3.16	40.83	9.18	15.43	3.47
Maximum	76.73	17.25	17.35	3.90	59.65	13.41	19.57	4.40
Average	60.00	13.49	15.66	3.52	51.07	11.48	18.02	4.05
St Dev	11.86	2.67	1.08	0.24	6.22	1.40	1.68	0.38
Count	8	8	8	8	8	8	8	8

Group2 mate 0.067" EDGE CARD

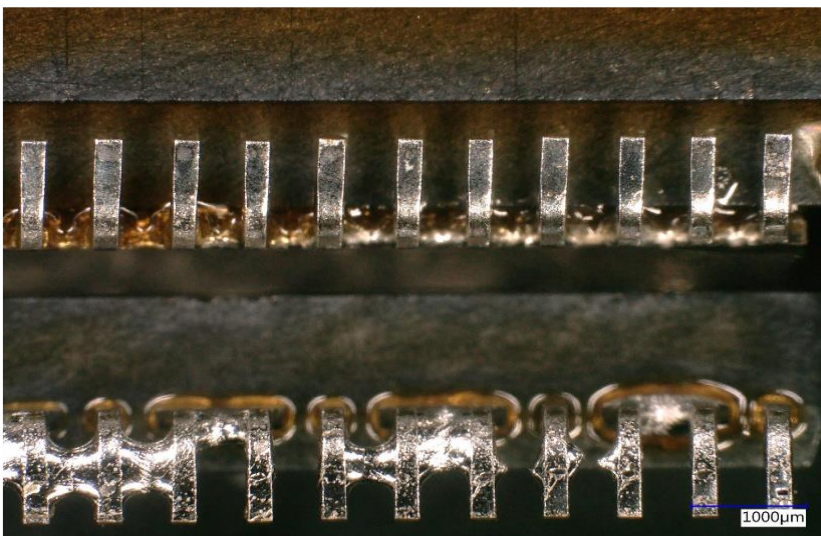
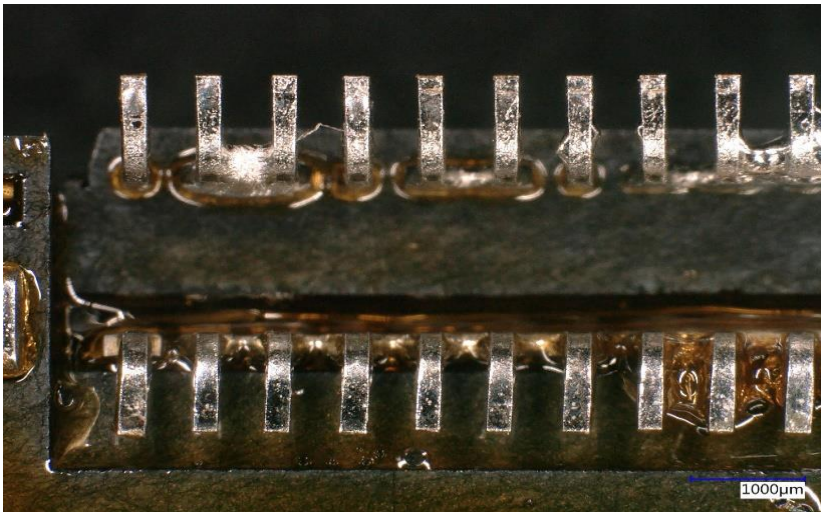
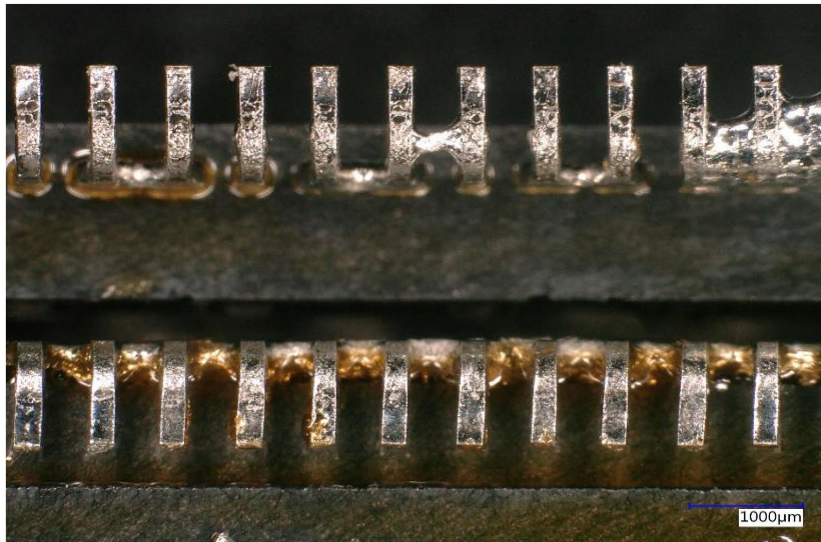
	Initial				After Thermals			
	Mating		Unmating		Mating		Unmating	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	69.39	15.60	15.52	3.49	71.61	16.10	23.22	5.22
Maximum	103.95	23.37	27.27	6.13	106.77	24.00	31.71	7.13
Average	85.81	19.29	20.03	4.50	83.80	18.84	26.57	5.97
St Dev	12.87	2.89	3.82	0.86	11.84	2.66	2.65	0.60
Count	8	8	8	8	8	8	8	8

INSULATION RESISTANCE (IR):

	Pin to Pin		
	Mated	Unmated	Unmated
	HSEC6/.062 Card	HSEC6	.062 Card
Minimum			
Initial	9000	9000	Not Tested

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Voltage Rating Summary	
Minimum	HSEC6/.062 Card
Test Voltage	300
Pin to Pin	
Initial Test Voltage	Passed

DATA SUMMARIES**Solderability:**

Tracking Code: CR-1211306_Report_Rev_1	Part #: HSEC6-070-01-S-RA-WT/EDGE CARD
Part description: HSEC6/CARD	

DATA SUMMARIES Continued

LLCR Thermal Aging Group

- 1) A total of 152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 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. $\leq +5.0$ 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

DATA SUMMARIES Continued

LLCR Measurement Summaries by Pin Type			
Date	2025/1/8	2025/2/6	2025/2/6
Room Temp (Deg C)	22	22	22
Rel Humidity (%)	21	43	40.9
Technician	Nicola Ansell	Daniel Haydon	Daniel Haydon
mOhm values	Actual	Delta	Delta
	Initial	Thermal	3 Cycles
Pin Type: Signal 1			
Average	22.68	1.1	1.15
St. Dev.	1.35	0.8	0.98
Min	20.26	0.01	0.01
Max	26.84	3.41	5.6
Summary Count	152	152	152
Total Count	152	152	152
Pin Type: Signal 2			
Average	31.83	1.11	1.18
St. Dev.	1.45	0.82	0.91
Min	28.77	0.01	0
Max	35.57	3.7	4.01
Summary Count	152	152	152
Total Count	152	152	152
Pin Type: GND 1			
Average	17.45	0.74	0.71
St. Dev.	1.6	0.66	0.63
Min	15.43	0.01	0.01
Max	22.06	3.08	4.59
Summary Count	88	88	88
Total Count	88	88	88
Pin Type: GND 2			
Average	32.37	0.7	1.09
St. Dev.	1.24	0.61	0.99
Min	29.41	0.03	0.03
Max	35.26	2.69	3.82
Summary Count	88	88	88
Total Count	88	88	88

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	<=5	>5 & <=10	>10 & <=15	>15 & <=50	>50 & <=1000	>1000
Thermal	480	0	0	0	0	0
3 Cycles	479	1	0	0	0	0

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Part description: HSEC6/CARD	

DATA SUMMARIES Continued

LLCR Mating-Unmating Durability:

- 1) A total of 152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 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. $\leq +5.0$ 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

DATA SUMMARIES Continued

LLCR Measurement Summaries by Pin Type				
Date	2025/1/8	2025/2/5	2025/2/17	2025/2/18
Room Temp (Deg C)	22	22	22	34
Rel Humidity (%)	24	35	35	21
Technician	Nicola Ansell	Samuel Cecil	Samuel Cecil	Samuel Cecil
mOhm values	Actual Initial	Delta Thermal Shock	Delta Humidity	Delta 3 Cycles
Pin Type: Signal 1				
Average	22.52	0.87	1.96	1.81
St. Dev.	1.08	0.75	2.16	1.86
Min	20.24	0	0	0.04
Max	25.12	3.43	9.65	9.67
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: Signal 2				
Average	31.18	0.94	1.34	1.86
St. Dev.	1.21	0.82	1.19	1.75
Min	28.19	0	0.01	0.01
Max	34.34	4.21	6.25	9.31
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: GND 1				
Average	17.3	0.55	1.22	1.2
St. Dev.	1.43	0.4	1.48	1.34
Min	15.35	0.01	0.02	0.02
Max	21.52	1.85	6.77	6.58
Summary Count	88	88	88	88
Total Count	88	88	88	88
Pin Type: GND 2				
Average	32.02	0.73	1.09	1.43
St. Dev.	1.29	0.67	1.16	1.26
Min	29.38	0.01	0.02	0.02
Max	34.82	3.27	5.79	5.68
Summary Count	88	88	88	88
Total Count	88	88	88	88

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	<=5	>5 & <=10	>10 & <=15	>15 & <=50	>50 & <=1000	>1000
Thermal Shock	480	0	0	0	0	0
Humidity	455	25	0	0	0	0
3 Cycles	451	29	0	0	0	0

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Part description: HSEC6/CARD	

DATA SUMMARIES Continued

LLCR Shock & Vibration:

- 1). A total of 152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 points were measured.
- 2). EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 3). The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a. $\leq +5.0$ 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

DATA SUMMARIES Continued

LLCR Measurement Summaries by Pin Type				
Date	2025/1/27	2025/1/27	2025/2/17	2025/2/17
Room Temp (Deg C)	22	22	21	22
Rel Humidity (%)	35	35	33	36
Technician	Daniel Haydon	Daniel Haydon	Daniel Haydon	Daniel Haydon
mOhm values	Actual	Delta	Delta	Delta
	Initial	After 5 Cycles	After Vibe	After Shock
Pin Type: Signal 1				
Average	22.48	0.59	0.73	0.7
St. Dev.	1.12	0.54	0.63	0.6
Min	20.21	0	0	0
Max	25.36	2.51	2.99	2.88
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: Signal 2				
Average	31.35	0.61	0.74	0.7
St. Dev.	1.45	0.5	0.59	0.58
Min	28.09	0	0.02	0
Max	34.78	2.55	2.88	3.33
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: GND 1				
Average	17.42	0.43	0.57	0.56
St. Dev.	1.54	0.38	0.49	0.49
Min	15.35	0	0	0
Max	21.89	1.44	2.32	2
Summary Count	88	88	88	88
Total Count	88	88	88	88
Pin Type: GND 2				
Average	32.08	0.45	0.58	0.56
St. Dev.	1.30	0.33	0.44	0.5
Min	29	0.02	0.02	0.01
Max	35.66	1.4	1.92	2.85
Summary Count	88	88	88	88
Total Count	88	88	88	88

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	<=5	>5 & <=10	>10 & <=15	>15 & <=50	>50 & <=1000	>1000
After 5 Cycles	480	0	0	0	0	0
After Vibe	480	0	0	0	0	0
After Shock	480	0	0	0	0	0

Tracking Code: CR-1211306_Report_Rev_1	Part #: HSEC6-070-01-S-RA-WT/EDGE CARD
Part description: HSEC6/CARD	

DATA SUMMARIES Continued

LLCR Durability:

- 1) A total of 152 signal 1, 152 signal 2 and 88 ground 1, 88 ground 2 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. $\leq +5.0$ 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

DATA SUMMARIES Continued**Group1 Mate 0.067" EDGE CARD****LLCR Measurement Summaries by Pin Type**

Date	2025/1/9	2025/1/31	2025/2/4	2025/2/6
Room Temp (Deg C)	21	22	22	22
Rel Humidity (%)	19	36	40	43
Technician	Daniel Haydon	Daniel Hayden	Daniel Haydon	Daniel Haydon
mOhm values	Actual Initial	Delta After 50 Cycles	Delta After 100 Cycles	Delta After 200 Cycles
Pin Type: Signal 1				
Average	22.79	0.97	0.87	0.89
St. Dev.	1.61	1.17	1.03	0.96
Min	20.09	0	0	0
Max	29.75	7.14	6.23	5.91
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: Signal 2				
Average	31.43	0.76	0.88	0.96
St. Dev.	1.4	0.63	0.8	0.82
Min	28.45	0.01	0	0
Max	35.29	3.43	5.31	5.79
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: GND 1				
Average	17.34	0.6	0.62	0.68
St. Dev.	1.7	0.53	0.59	0.69
Min	14.02	0.02	0	0.01
Max	22.18	2.35	3.02	4.35
Summary Count	88	88	88	88
Total Count	88	88	88	88
Pin Type: GND 2				
Average	32.09	0.53	0.63	0.87
St. Dev.	1.41	0.4	0.52	0.61
Min	29.37	0.02	0.03	0.04
Max	35.13	1.66	2.5	2.41
Summary Count	88	88	88	88
Total Count	88	88	88	88

LLCR Delta Count by Category

	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	<=5	>5 & <=10	>10 & <=15	>15 & <=50	>50 & <=1000	>1000
After 50 Cycles	477	3	0	0	0	0
After 100 Cycles	477	3	0	0	0	0
After 200 Cycles	477	3	0	0	0	0

DATA SUMMARIES Continued**Group2 Mate 0.057" EDGE CARD****LLCR Measurement Summaries by Pin Type**

Date	2025/1/9	2025/1/31	2025/2/4	2025/2/6
Room Temp (Deg C)	21	22	22	22
Rel Humidity (%)	20	42	40	42
Technician	Daniel Haydon	Daniel Hayden	Daniel Haydon	Daniel Haydon
mOhm values	Actual	Delta	Delta	Delta
	Initial LLCR	After 50 Cycles	After 100 Cycles	After 200 Cycles
Pin Type: Signal 1				
Average	23.25	0.98	0.66	0.71
St. Dev.	1.24	0.68	0.57	0.59
Min	20.95	0	0.01	0.01
Max	26.52	3.03	3.03	2.71
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: Signal 2				
Average	31.86	0.76	0.71	0.72
St. Dev.	1.29	0.62	0.6	0.6
Min	29.57	0	0	0
Max	35.5	2.68	3.55	2.86
Summary Count	152	152	152	152
Total Count	152	152	152	152
Pin Type: GND 1				
Average	18.07	0.74	0.62	0.57
St. Dev.	1.67	0.54	0.51	0.52
Min	15.69	0.03	0.01	0
Max	23.17	2.08	2.2	2.9
Summary Count	88	88	88	88
Total Count	88	88	88	88
Pin Type: GND 2				
Average	32.8	0.8	0.66	0.72
St. Dev.	1.24	0.6	0.58	0.68
Min	29.56	0.03	0	0
Max	35.43	2.73	2.46	2.95
Summary Count	88	88	88	88
Total Count	88	88	88	88

LLCR Delta Count by Category

	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	<=5	>5 & <=10	>10 & <=15	>15 & <=50	>50 & <=1000	>1000
After 50 Cycles	480	0	0	0	0	0
After 100 Cycles	480	0	0	0	0	0
After 200 Cycles	480	0	0	0	0	0

Tracking Code: CR-1211306_Report_Rev_1	Part #: HSEC6-070-01-S-RA-WT/EDGE CARD
Part description: HSEC6/CARD	

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: TCT-04

Description: Dillon Quantrol TC21 25-1000 mm/min series test stand

Manufacturer: Dillon Quantrol

Model: TC2 I series test stand

Serial #: 04-1041-04

Accuracy: Speed Accuracy: +/- 5% of indicated speed; Speed Accuracy: +/- 5% of indicated speed;
... Last Cal: 05/29/2024, Next Cal: 05/29/2025

Equipment #: MO-11

Description: Switch/Multimeter

Manufacturer: Keithley

Model: 3706

Serial #: 120169

Accuracy: See Manual

... Last Cal: 09/11/2024, Next Cal: 09/11/2025

Equipment #: TSC-01

Description: Vertical Thermal Shock Chamber

Manufacturer: Cincinnati Sub Zero

Model: VTS-3-6-6-SC/AC

Serial #: 10-VT14993

Accuracy: See Manual

... Last Cal: 06/30/2024, Next Cal: 06/30/2025

Equipment #: THC-05

Description: Temperature/Humidity Chamber (Chamber Room)

Manufacturer: Thermotron

Model: SM-8-3800

Serial #: 05 23 00 02

Accuracy: See Manual

... Last Cal: 11/14/2024, Next Cal: 11/14/2025

Equipment #: HPT-01

Description: Hipot Safety Tester

Manufacturer: Vitrek

Model: V73

Serial #: 019808

Accuracy:

... Last Cal: 05/15/2024, Next Cal: 05/15/2025

Tracking Code: CR-1211306_Report_Rev_1	Part #: HSEC6-070-01-S-RA-WT/EDGE CARD
Part description: HSEC6/CARD	

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: MO-04

Description: Multimeter /Data Acquisition System

Manufacturer: Keithley

Model: 2700

Serial #: 0798688

Accuracy: See Manual

... Last Cal: 09/11/2024, Next Cal: 09/11/2025

Equipment #: SVC-01

Description: Shock & Vibration Table

Manufacturer: Data Physics

Model: LE-DSA-10-20K

Serial #: 10037

Accuracy: See Manual

... Last Cal: 04/22/2024, Next Cal: 04/22/2025

Equipment #: ACLM-01

Description: Accelerometer

Manufacturer: PCB Piezotronics

Model: 352C03

Serial #: 115819

Accuracy: See Manual

... Last Cal: 07/18/2024, Next Cal: 07/18/2025