Project Number: Design Qualification Test Report	Tracking Code: 161622_Report_Rev_2		
Requested by: Travis Newton	Date: 8/22/2012	Product Rev: 0	
Part #: ACP-12-01-H-00.25-T-T-M-1\ACR-12-01-H-00.25-S-S1-M-1	Lot #: N/A	Tech: Aaron McKim	Eng: Eric Mings
Part description: ACP /ACR	Qty to test: 60		
Test Start: 9/15/2011	Test Completed: 10/4/2011		

Design Qualification Test Report

ACP \ ACR
ACP-12-01-H-00.25-T-T-M-1\ACR-12-01-H-00.25-S-S1-M-1

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.

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SCOPE

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

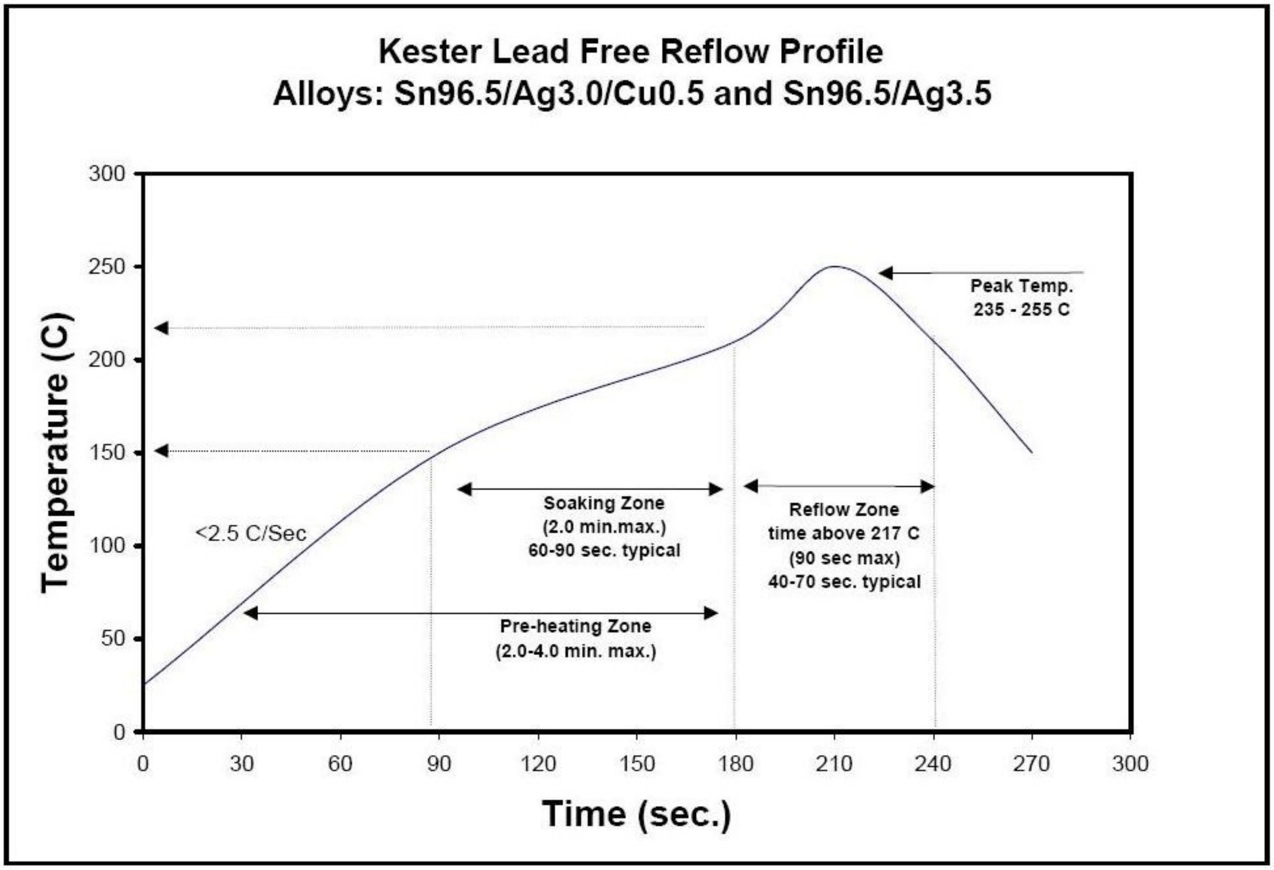
APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

1) All materials were manufactured in accordance with the applicable product specification.
2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
3) After soldering, the parts to be used for LLCR and DWV/IR testing were cleaned according to TLWI-0001.
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) Re-Flow Time/Temp: See accompanying profile.
10) Samtec Test PCBs used: PCB-103219-TST-XX

TYPICAL OVEN PROFILE (Soldering Parts to Test Boards)



FLOWCHARTS

Durability/Mating/Unmating/Gaps

TEST STEP	GROUP A1 8 Assemblies
02	LLCR-1
03	Forces - Mating / Unmating
04	25 Cycles
05	Forces - Mating / Unmating
06	25 Cycles (50 Total)
07	Forces - Mating / Unmating
08	25 Cycles (75 Total)
09	Forces - Mating / Unmating
10	25 Cycles (100 Total)
11	Forces - Mating / Unmating
12	Clean w/Compressed Air
14	LLCR-2
15	Thermal Shock (Mated and Undisturbed)
16	LLCR-3
17	Cyclic Humidity (Mated and Undisturbed)
18	LLCR-4
19	Forces - Mating / Unmating

Thermal Shock = EIA-364-32, Table II, Test Condition I:

-55ºC to +85ºC 1/2 hour dwell, 100 cycles

Humidity = EIA-364-31, Test Condition B (240 Hours)

and Method III (+25°C to +65°C @ 90% RH to 98% RH)

ambient pre-condition and delete steps 7a and 7b

Mating / Unmating Forces = EIA-364-13

LLCR = EIA-364-23, LLCR

20 mV Max, 100 mA Max

Use Keithley 580 or 3706 in 4 wire dry circuit mode

FLOWCHARTS Continued

IR & DWV

TEST STEP	GROUP A1 2 Mated Sets Break Down Pin-to-Pin	GROUP A2 2 Unmated of Part # Being Tested Break Down Pin-to-Pin	GROUP A3 2 Unmated of Mating Part # Break Down Pin-to-Pin	GROUP B1 2 Mated Sets Pin-to-Pin
01	DWV/Break Down Voltage	DWV/Break Down Voltage	DWV/Break Down Voltage	IR & DWV at test voltage (on both mated sets and on each connector unmated)
02				Thermal Shock (Mated and Undisturbed)
03				IR & DWV at test voltage (on both mated sets and on each connector unmated)
04				Cyclic Humidity (Mated and Undisturbed)
05				IR & DWV at test voltage (on both mated sets and on each connector unmated)

DWV on Group B1 to be performed at Test Voltage

DWV test voltage is equal to 75% of the lowest break down voltage from Groups A1, A2 or A3

Thermal Shock = EIA-364-32, Table II, Test Condition I:

-55°C to +85°C 1/2 hour dwell, 100 cycles

Humidity = EIA-364-31, Test Condition B (240 Hours)

and Method III (+25°C to +65°C @ 90% RH to 98% RH)

ambient pre-condition and delete steps 7a and 7b

IR = EIA-364-21

DWV = EIA-364-20, Test Condition 1

FLOWCHARTS Continued

Current Carrying Capacity - Array

TEST STEP	GROUP A1 3 Mated Assemblies All Contacts Powered
01	CCC

(TIN PLATING) - Tabulate calculated current at RT, 65°C, 75°C and 95°C after derating 20% and based on 105°C

(GOLD PLATING) - Tabulate calculated current at RT, 85°C, 95°C and 115°C after derating 20% and based on 125°C

CCC, Temp rise = EIA-364-70

IP67 Dust & Water

TEST STEP	GROUP A1 6 Mated Connectors	GROUP A2 6 Mated Connectors	GROUP B1 6 Connectors (Cable Dust Cover)	GROUP B2 6 Connectors (Cable Dust Cover)	GROUP C1 6 Connectors (Mating Part Dust Cover)	GROUP C2 6 Connectors (Mating Part Dust Cover)
01	Dust Test	Submersion Water Test	Dust Test	Submersion Water Test	Dust Test	Submersion Water Test
02	Check for Dust	Check for Water	Check for Dust	Check for Water	Check for Dust	Check for Water

Dust/Water Testing = Per CEI/IEC 60529 Code IP67

FLOWCHARTS Continued

IP68 Dust & Water

TEST STEP	GROUP A1 3 Mated Connectors For Each Depth Tested (27 Total Mated Connectors)
01	2M for 30 Minutes
02	Check for Water
03	3M for 30 Minutes
04	Check for Water
05	4M for 30 Minutes
06	Check for Water
07	5M for 30 Minutes
08	Check for Water
09	6M for 30 Minutes
10	Check for Water
11	7M for 30 Minutes
12	Check for Water
13	8M for 30 Minutes
14	Check for Water
15	9M for 30 Minutes
16	Check for Water
17	10M for 30 Minutes
18	Check for Water

Dust/Water Testing = Per CEI/IEC 60529 Code IP68

For this test you have to use the pressure chamber

New parts should be used for each depth tested

Stop testing once parts fail

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 1: -55°C to +85°C
3) Test Time: ½ hour dwell at each temperature extreme
4) Number of Cycles: 100
5) All test samples are pre-conditioned at ambient.
6) 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.

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.

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 (500 VDC) corresponds to calibration settings for measuring resistances.
2) MEASUREMENTS:
    a. When the specified test voltage is applied (VDC), the insulation resistance shall not be less than 5000 megohms.

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

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. Rate of Application 500 V/Sec
        iii. 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)..

TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) EIA-364-70, *Temperature Rise versus Current Test Procedure for Electrical Connectors and Sockets*.
2) When current passes through a contact, the temperature of the contact increases as a result of I^2R (resistive) heating.
3) The number of contacts being investigated plays a significant part in power dissipation and therefore temperature rise.
4) The size of the temperature probe can affect the measured temperature.
5) Copper traces on PC boards will contribute to temperature rise:
    a. Self heating (resistive)
    b. Reduction in heat sink capacity affecting the heated contacts
6) A de-rating curve, usually 20%, is calculated.
7) Calculated de-rated currents at three temperature points are reported:
    a. Ambient
    b. 80^o C
    c. 95^o C
    d. 115^o C
8) Typically, neighboring contacts (in close proximity to maximize heat build up) are energized.
9) The thermocouple (or temperature measuring probe) will be positioned at a location to sense the maximum temperature in the vicinity of the heat generation area.
10) A computer program, *TR 803.exe*, ensures accurate stability for data acquisition.
11) Hook-up wire cross section is larger than the cross section of any connector leads/PC board traces, jumpers, etc.
12) Hook-up wire length is longer than the minimum specified in the referencing standard.

ATTRIBUTE DEFINITIONS

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) 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 +2000 mOhms:------------------- Unstable
   f. >+2000 mOhms:---------------------------- Open Failure

WATER TESTING:

1) Reference document: CEI/IEC 60529 Code IP68
2) ACR torque specification for ACPN-12-M is 15 IN-LB
3) ACP torque specification for ACCN-12-M is 15 IN-LB

DUST TESTING:

1) Reference document: CEI/IEC 60529 Code IP67
2) ACR torque specification for ACPN-12-M is 15 IN-LB
3) ACP torque specification for ACCN-12-M is 15 IN-LB

RESULTS

Temperature Rise, CCC at a 20% de-rating

- **CCC for a 30°C Temperature Rise ---------------3.8 A per contact with All powered (ACP cable bundle)**

Mating&Unmating durability force:

- **Initial**
  - **Mating**
    - **Min --------------------------------------1.24 Lbs**
    - **Max--------------------------------------2.11 Lbs**
  - **Unmating**
    - **Min --------------------------------------0.45 Lbs**
    - **Max--------------------------------------0.89 Lbs**
- **After 25 Cycles**
  - **Mating**
    - **Min --------------------------------------1.30 Lbs**
    - **Max--------------------------------------2.30 Lbs**
  - **Unmating**
    - **Min --------------------------------------0.61 Lbs**
    - **Max--------------------------------------1.29 Lbs**
- **After 50 Cycles**
  - **Mating**
    - **Min --------------------------------------1.34 Lbs**
    - **Max--------------------------------------2.28 Lbs**
  - **Unmating**
    - **Min --------------------------------------0.74 Lbs**
    - **Max--------------------------------------1.59 Lbs**
- **After 75 Cycles**
  - **Mating**
    - **Min --------------------------------------1.40 Lbs**
    - **Max--------------------------------------2.36 Lbs**
  - **Unmating**
    - **Min --------------------------------------0.90 Lbs**
    - **Max--------------------------------------1.88 Lbs**
- **After 100 Cycles**
  - **Mating**
    - **Min --------------------------------------1.47 Lbs**
    - **Max--------------------------------------2.57 Lbs**
  - **Unmating**
    - **Min --------------------------------------1.10 Lbs**
    - **Max--------------------------------------1.92 Lbs**
- **After Humidity**
  - **Mating**
    - **Min --------------------------------------1.22 Lbs**
    - **Max--------------------------------------1.88 Lbs**
  - **Unmating**
    - **Min --------------------------------------0.62 Lbs**
    - **Max--------------------------------------1.02 Lbs**

RESULTS Continued

LLCR Durability (32 signal LLCR test points)

- **Initial --- 23.96 mOhms Max**
- **After 100 Cycles**
  - **<= +5.0 mOhms-------------------------------------- 32 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 +2000 mOhms ------------------------------ 0 Points ------------------------ Unstable**
  - **>+2000 mOhms -- 0 Points ------------------------ Open Failure**
- **After thermal shock**
  - **<= +5.0 mOhms-------------------------------------- 32 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 +2000 mOhms ------------------------------ 0 Points ------------------------ Unstable**
  - **>+2000 mOhms -- 0 Points ------------------------ Open Failure**
- **After humidity**
  - **<= +5.0 mOhms-------------------------------------- 32 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 +2000 mOhms ------------------------------ 0 Points ------------------------ Unstable**
  - **>+2000 mOhms -- 0 Points ------------------------ Open Failure**
  - **>+2000 mOhms -- 0 Points ------------------------ Open Failure**

Insulation Resistance minimums, IR

Pin-Pin

- **Initial**
  - **Mated -- 100000 Meg Ohms ------------------- Pass**
  - **Unmated-- 100000 Meg Ohms ------------------- Pass**
- **Thermal**
  - **Mated -- 100000 Meg Ohms ------------------- Pass**
  - **Unmated-- 100000 Meg Ohms ------------------- Pass**
- **Humidity**
  - **Mated --- 4000 Meg Ohms ------------------- Pass**
  - **Unmated--- 6000 Meg Ohms ------------------- Pass**

Dielectric Withstanding Voltage minimums, DWV

- **Minimums**
  - **Breakdown Voltage -------------------------------- 1200VAC**
  - **Test Voltage -- 900VAC**
  - **Working Voltage ----------------------------------- 300VAC**

Pin - pin

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

RESULTS Continued

IP67 Testing (Dust&Water)

Group A1

	Initial (Before Exposure)	After Exposure
Dust	**No Dust Present**	**No Dust Present**

Group A2

	Initial (Before Exposure)	After Exposure
Water	**No water Present**	**No water Present**

Group B1

	Initial (Before Exposure)	After Exposure
Dust	**No Dust Present**	**No Dust Present**

Group B2

	Initial (Before Exposure)	After Exposure
Water	**No water Present**	**No water Present**

Group C1

	Initial (Before Exposure)	After Exposure
Dust	**No Dust Present**	**No Dust Present**

Group C2

	Initial (Before Exposure)	After Exposure
Water	**No water Present**	**No water Present**

IPX8 Testing (Water)

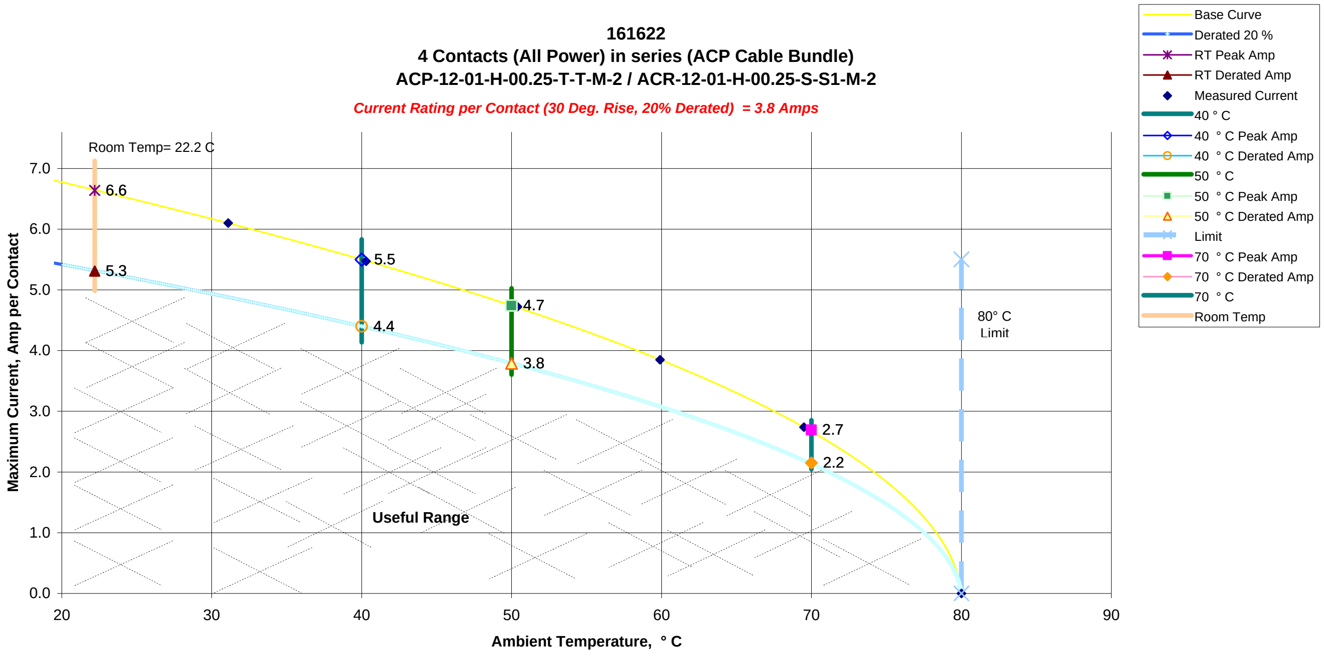
Group A1 (10 m)

	Initial (Before Exposure)	After Exposure
Water	**No Water Present**	**No Water Present**

DATA SUMMARIES

TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
2) The thermocouples were placed at a location to sense the maximum temperature generated during testing.
3) Temperature readings recorded are those for which three successive readings, 15 minutes apart, differ less than 1° C (computer controlled data acquisition).
4) Adjacent contacts were powered:
    a. Linear configuration with All ACP Cable Bundle Power



DATA SUMMARIES Continued

Mating/Unmating durability force:

	Initial				25 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	5.52	1.24	2.00	0.45	5.78	1.30	2.71	0.61
Maximum	9.39	2.11	3.96	0.89	10.23	2.30	5.74	1.29
Average	7.22	**1.62**	3.14	**0.71**	8.11	**1.82**	4.50	**1.01**
St Dev	1.35	0.30	0.76	0.17	1.61	0.36	0.96	0.22
Count	8	8	8	8	8	8	8	8

	50 Cycles				75 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	5.96	1.34	3.29	0.74	6.23	1.40	4.00	0.90
Maximum	10.14	2.28	7.07	1.59	10.50	2.36	8.36	1.88
Average	8.44	**1.90**	5.35	**1.20**	8.77	**1.97**	6.21	**1.40**
St Dev	1.52	0.34	1.21	0.27	1.51	0.34	1.28	0.29
Count	8	8	8	8	8	8	8	8

	100 Cycles				After Humidity			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)	Newtons	Force (Lbs)
Minimum	6.54	1.47	4.89	1.10	5.43	1.22	2.76	0.62
Maximum	11.43	2.57	8.54	1.92	8.36	1.88	4.54	1.02
Average	9.20	**2.07**	7.01	**1.58**	6.80	**1.53**	3.45	**0.78**
St Dev	1.67	0.37	1.11	0.25	0.98	0.22	0.58	0.13
Count	8	8	8	8	8	8	8	8

DATA SUMMARIES Continued

INSULATION RESISTANCE (IR):

	Pin to Pin		
	Mated	Unmated	Unmated
Minimum	**ACP/ACR**	**ACP**	**ACR**
Initial	100000	100000	100000
Thermal	100000	100000	100000
Humidity	4000	6000	100000

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Voltage Rating Summary	
Minimum	**ACP/ACR**
Break Down Voltage	1200
Test Voltage	900
Working Voltage	300

Pin to Pin	
Initial Test Voltage	Passed
After Thermal Test Voltage	Passed
After Humidity Test Voltage	Passed

DATA SUMMARIES Continued

LLCR Durabiltiy:

1) A total of 32 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. <= +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 +2000 mOhms-------------------Unstable
    f. >+2000 mOhms:---------------------------Open Failure

	LLCR Measurement Summaries by Pin Type			
Date	9/7/2011	9/16/2011	9/21/2011	10/3/2011
Room Temp (Deg C)	22	22	23	23
Rel Humidity (%)	40	32	48	32
Technician	Aaron McKim	Aaron Mckim	Aaron McKim	Aaron McKim
mOhm values	**Actual Initial**	**Delta 100 Cycles**	**Delta Therm Shck**	**Delta Humidity**
	Pin Type 1: Signal			
Average	22.44	0.95	1.03	1.11
St. Dev.	0.55	0.20	0.32	0.27
Min	21.65	0.00	0.00	0.02
Max	23.96	0.81	1.44	1.00
Summary Count	32	32	32	32
Total Count	32	32	32	32

LLCR Delta Count by Category						
	Stable	**Minor**	**Acceptable**	**Marginal**	**Unstable**	**Open**
mOhms	**<=5**	**>5 & <=10**	**>10 & <=15**	**>15 & <=50**	**>50 & <=1000**	**>1000**
100 Cycles	**32**	**0**	**0**	**0**	**0**	**0**
Therm Shck	**32**	**0**	**0**	**0**	**0**	**0**
Humidity	**32**	**0**	**0**	**0**	**0**	**0**

DATA SUMMARIES Continued

IP67 Testing (Dust&Water)

Dust:

Group A1

Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

Group B1

Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

Group C1

Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

DATA SUMMARIES Continued

Water

Group A2

Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

Group B2

Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

Group C2

Sample #	Visual Inspection
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

IP67 Testing (Water)

Sample #	Visual Inspection at 10 Meters
37	PASS
38	PASS
39	PASS

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: MO-11
Description: Micro-ohmmeter
Manufacturer: Keithley
Model: 3706
Serial #: 120169
Accuracy: Last Cal: 2011-8-21, Next Cal: 2012-8-21

Equipment #: TCT-01
Description: Normal force analyzer
Manufacturer: Mecmesin Multitester
Model: Mecmesin Multitester 2.5-i
Serial #: 08-1049-04
Accuracy: Last Cal: 2012-4-28, Next Cal: 2013-4-27

Equipment #: THC-01
Description: Humidity transmitter
Manufacturer: Thermtron
Model: HMM30C
Serial #: D0240037
Accuracy: Last Cal: 2012-3-3, Next Cal: 2013-3-2

Equipment #: MO-01
Description: Micro-ohmmeter
Manufacturer: Keithley
Model: 2700
Serial #: 1199807
Accuracy: Last Cal: 2012-4-28, Next Cal: 2013-4-27

Equipment #: PS-01
Description: Power Supply
Manufacturer: Agilent
Model: 6031A
Serial #: MY41000982
Accuracy: Last Cal: 2012-4-28, Next Cal: 2013-4-27

Equipment #: TSC-01
Description: Thermal Shock transmitter
Manufacturer: Keithley
Model: 10-VT14994
Serial #: VTS-3-6-6-SC/AC
Accuracy: Last Cal: 2011-11-1, Next Cal: 2012-11-1

EQUIPMENT AND CALIBRATION SCHEDULES CONTINUED

Equipment #: WATER-01
Description: IP-67 1.0 Meter Water Column Chamber
Manufacturer: Samtec Machine
Model: N/A
Serial #: N/A
Accuracy: No Calibration Required

Equipment #: DUST-01
Description: IP-X6 Dust Tester
Manufacturer: Samtec Machine
Model: N/A
Serial #: N/A
Accuracy: No Calibration Required

Equipment #: WATER-02
Description: IP-68 Water Depth Chamber
Manufacturer: Samtec Machine
Model: N/A
Serial #: N/A
Accuracy: No Calibration Required