

Project Number: ACX 30u" Gold ELP Report		Tracking Code: 207758_Test Report_Rev 1		
Requested by: James Borgelt		Date: 11/29/2012	Product Rev: D	
Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1		Lot #: N/A	Tech: Aaron McKim	Eng: Eric Mings
Part description: Acclimate Circular Cable Assembly				Qty to test: 20
Test Start: 7/24/2012		Test Completed: 8/17/2012		



ACX 30u" GOLD EXTENDED DURABILITY TEST REPORT

**ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1
ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1**

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
11/28/2012	1	Initial Issue	CE

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 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 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 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-103219-TST-XX

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

FLOWCHARTS

Extended Life

TEST STEP	GROUP A1 4 Assemblies 100 Cycles	GROUP B1 4 Assemblies 250 Cycles	GROUP C1 4 Assemblies 500 Cycles	GROUP D1 4 Assemblies 1,000 Cycles
01	* Plating Thickness Verification	* Plating Thickness Verification	* Plating Thickness Verification	* Plating Thickness Verification
02	LLCR-1	LLCR-1	LLCR-1	LLCR-1
03	100 Cycles	250 Cycles	500 Cycles	1,000 Cycles
04	Clean Mating Interface	Clean Mating Interface	Clean Mating Interface	Clean Mating Interface
05	LLCR-2	LLCR-2	LLCR-2	LLCR-2
06	Thermal Shock (Mated and undisturbed)	Thermal Shock (Mated and undisturbed)	Thermal Shock (Mated and undisturbed)	Thermal Shock (Mated and undisturbed)
07	LLCR-3	LLCR-3	LLCR-3	LLCR-3
08	Cyclic Humidity (Mated and undisturbed)	Cyclic Humidity (Mated and undisturbed)	Cyclic Humidity (Mated and undisturbed)	Cyclic Humidity (Mated and undisturbed)
09	LLCR-4	LLCR-4	LLCR-4	LLCR-4
10	*** Photos of Contact Area	*** Photos of Contact Area	*** Photos of Contact Area	*** Photos of Contact Area

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

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

Humidity =EA-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

LLCR = EA-364-23, LLCR

20 mV Max, 100 mA Max

Use Keithley 580 or 3706 in 4 wire dry circuit mode

- * Measure, verify, and document plating thickness on both male and female (one group only)
- ** Plating thickness to be measured on loose pins used during assembly. Pins to be provided by requestor.
- *** Save 2-3 photos of contact area in project folder for each group

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.

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

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

RESULTS

ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1

LLCR Extended Life 100 cycles: (4 Assemblies)

ACP-16-01

- **Initial** -----137.23 mOhms Max
- **Durability, 100 Cycles**
 - <= +5.0 mOhms -----55 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 +2000 mOhms -----0 Points ----- Unstable
 - >+2000 mOhms -----0 Points ----- Open Failure
- **Thermal Shock**
 - <= +5.0 mOhms -----56 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
- **Humidity**
 - <= +5.0 mOhms -----56 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

LLCR Extended Life 250 cycles: (4 Assemblies)

ACP-16-01

- **Initial** -----137.89 mOhms Max
- **Durability, 250 Cycles**
 - <= +5.0 mOhms -----56 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
- **Thermal Shock**
 - <= +5.0 mOhms -----56 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
- **Humidity**
 - <= +5.0 mOhms -----56 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

RESULTS Continued**LLCR Extended Life 500 cycles: (4 Assemblies)**

ACP-16-01

- **Initial** -----137.18 mOhms Max
- **Durability, 500 Cycles**
 - <= +5.0 mOhms -----56 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
- **Thermal Shock**
 - <= +5.0 mOhms -----56 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
- **Humidity**
 - <= +5.0 mOhms -----56 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

LLCR Extended Life 1000 cycles: (4 Assemblies)

ACP-16-01

- **Initial** -----137.96 mOhms Max
- **Durability, 1000 Cycles**
 - <= +5.0 mOhms -----56 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
- **Thermal Shock**
 - <= +5.0 mOhms -----56 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
- **Humidity**
 - <= +5.0 mOhms -----56 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

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

RESULTS Continued

ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1

LLCR Extended Life 100 cycles: (4 Assemblies)
ACP-16-02

- **Initial** ----- 53.82 mOhms Max
- **Durability, 100 Cycles**
 - <= +5.0 mOhms -----40 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
- **Thermal Shock**
 - <= +5.0 mOhms -----40 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
- **Humidity**
 - <= +5.0 mOhms -----40 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

LLCR Extended Life 250 cycles: (4 Assemblies)
ACP-16-02

- **Initial** ----- 53.31 mOhms Max
- **Durability, 250 Cycles**
 - <= +5.0 mOhms -----40 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
- **Thermal Shock**
 - <= +5.0 mOhms -----40 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
- **Humidity**
 - <= +5.0 mOhms -----40 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

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

RESULTS Continued

LLCR Extended Life 500 cycles: (4 Assemblies)
ACP-16-02

- **Initial** ----- 53.46 mOhms Max
- **Durability, 500 Cycles**
 - <= +5.0 mOhms -----40 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
- **Thermal Shock**
 - <= +5.0 mOhms -----40 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
- **Humidity**
 - <= +5.0 mOhms -----40 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

LLCR Extended Life 1000 cycles: (4 Assemblies)
ACP-16-02

- **Initial** ----- 53.50 mOhms Max
- **Durability, 1000 Cycles**
 - <= +5.0 mOhms -----40 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
- **Thermal Shock**
 - <= +5.0 mOhms -----40 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
- **Humidity**
 - <= +5.0 mOhms -----40 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

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

RESULTS Continued

ACP-16-03-H-00.35-T-BC-P-1/ACR-16-03-H-00.35-S-BC-P-1

LLCR Extended Life 100 cycles: (4 Assemblies)
ACP-16-03

- **Initial** ----- 10.64 mOhms Max
- **Durability, 100 Cycles**
 - <= +5.0 mOhms ----- 16 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
- **Thermal Shock**
 - <= +5.0 mOhms ----- 16 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
- **Humidity**
 - <= +5.0 mOhms ----- 16 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

LLCR Extended Life 250 cycles: (4 Assemblies)
ACP-16-03

- **Initial** ----- 10.36mOhms Max
- **Durability, 250 Cycles**
 - <= +5.0 mOhms ----- 16 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
- **Thermal Shock**
 - <= +5.0 mOhms ----- 16 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
- **Humidity**
 - <= +5.0 mOhms ----- 16 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

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

RESULTS Continued

LLCR Extended Life 500 cycles: (4 Assemblies)
ACP-16-03

- **Initial** ----- 10.59 mOhms Max
- **Durability, 500 Cycles**
 - <= +5.0 mOhms ----- 16 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
- **Thermal Shock**
 - <= +5.0 mOhms ----- 16 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
- **Humidity**
 - <= +5.0 mOhms ----- 16 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

LLCR Extended Life 1000 cycles: (4 Assemblies)
ACP-16-03

- **Initial** ----- 10.39 mOhms Max
- **Durability, 1000 Cycles**
 - <= +5.0 mOhms ----- 16 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
- **Thermal Shock**
 - <= +5.0 mOhms ----- 16 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
- **Humidity**
 - <= +5.0 mOhms ----- 16 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

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES

ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1

LLCR Extended Life 100 cycles:

- 1) A total of 192 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 100 Cycles
Series: ACP-16-01-H-P/ACR

LLCR Measurement Summaries by Pin Type				
Date	7/23/2012	7/26/2012	8/3/2012	8/14/2012
Room Temp (Deg C)	22	22	22	22
Rel Humidity (%)	44	48	45	43
Technician	Craig Ryan	Craig Ryan	Craig Ryan	Craig Ryan
mOhm values	Actual	Delta	Delta	Delta
	Initial	100 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	134.12	0.39	0.89	0.81
St. Dev.	1.17	1.11	0.39	0.99
Min	131.64	0.02	0.44	0.01
Max	137.23	8.55	2.25	4.77
Summary Count	56	56	56	56
Total Count	56	56	56	56

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
100 Cycles	55	1	0	0	0	0
Therm Shck	56	0	0	0	0	0
Humidity	56	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1

LLCR Extended Life 250 cycles:

- 1) A total of 56 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 250 Cycles	
Series:	ACP-16-01-H/P/ACR

LLCR Measurement Summaries by Pin Type				
Date	7/23/2012	7/26/2012	8/3/2012	8/14/2012
Room Temp (Deg C)	22	22	22	22
Rel Humidity (%)	49	49	45	43
Technician	Craig Ryan	Craig Ryan	Craig Ryan	Craig Ryan
mOhm values	Actual	Delta	Delta	Delta
	Initial	250 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	134.59	0.32	0.79	0.72
St. Dev.	1.37	0.39	0.56	0.98
Min	131.79	0.00	0.03	0.06
Max	137.89	2.88	2.77	4.46
Summary Count	56	56	56	56
Total Count	56	56	56	56

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
250 Cycles	56	0	0	0	0	0
Therm Shck	56	0	0	0	0	0
Humidity	56	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1

LLCR Extended Life 500 cycles:

- 1) A total of 56 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 500 Cycles	
Series:	ACP-16-01-H/P/ACR

LLCR Measurement Summaries by Pin Type				
Date	7/23/2012	7/26/2012	8/3/2012	8/14/2012
Room Temp (Deg C)	22	22	22	22
Rel Humidity (%)	49	49	45	42
Technician	Craig Ryan	Craig Ryan	Craig Ryan	Craig Ryan
mOhm values	Actual Initial	Delta 500 Cycles	Delta Therm Shck	Delta Humidity
Pin Type 1: Signal				
Average	134.98	0.31	0.54	1.01
St. Dev.	1.00	0.31	0.52	0.99
Min	133.05	0.00	0.04	0.01
Max	137.18	2.17	3.33	3.91
Summary Count	56	56	56	56
Total Count	56	56	56	56

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
500 Cycles	56	0	0	0	0	0
Therm Shck	56	0	0	0	0	0
Humidity	56	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1

LLCR Extended Life 1000 cycles:

- 1) A total of 56 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 1000 Cycles	
Series:	ACP-16-01-H/P/ACR

LLCR Measurement Summaries by Pin Type				
Date	7/24/2012	7/26/2012	8/3/2012	8/14/2012
Room Temp (Deg C)	22	22	22	22
Rel Humidity (%)	46	45	45	40
Technician	Craig Ryan	Craig Ryan	Craig Ryan	Craig Ryan
mOhm values	Actual	Delta	Delta	Delta
	Initial	1000 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	134.34	0.35	0.88	1.04
St. Dev.	1.07	0.26	0.91	0.94
Min	132.51	0.00	0.01	0.01
Max	137.96	1.37	4.55	3.72
Summary Count	56	56	56	56
Total Count	56	56	56	56

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	>5 & ≤ 10	>10 & ≤ 15	>15 & ≤ 50	>50 & ≤ 1000	>1000
1000 Cycles	56	0	0	0	0	0
Therm Shck	56	0	0	0	0	0
Humidity	56	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1

LLCR Extended Life 100 cycles:

- 1) A total of 56 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 100 Cycles
Series: ACP-16-02-H-P/ACR-16-02-H-P

LLCR Measurement Summaries by Pin Type				
Date	8/1/2012	8/9/2012	8/14/2012	8/27/2012
Room Temp (Deg C)	23	22	21	22
Rel Humidity (%)	39	43	41	44
Technician	Aaron McKim	Aaron McKim	Troy Cook	Aaron McKim
mOhm values	Actual	Delta	Delta	Delta
	Initial	100 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	52.93	0.25	0.31	0.41
St. Dev.	0.45	0.06	0.11	0.50
Min	52.23	0.07	0.01	0.13
Max	53.82	0.41	0.64	3.18
Summary Count	40	40	40	40
Total Count	40	40	40	40

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	>5 & ≤ 10	>10 & ≤ 15	>15 & ≤ 50	>50 & ≤ 1000	>1000
100 Cycles	40	0	0	0	0	0
Therm Shck	40	0	0	0	0	0
Humidity	40	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-02-G-00.35-T-BC-P-1/ACR-16-02-G-00.35-S-BC-P-1

LLCR Extended Life 250 cycles:

- 1) A total of 40 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 250 Cycles
Series: ACP-16-02-H-P/ACR-16-02-H-P

LLCR Measurement Summaries by Pin Type				
Date	8/2/2012	8/9/2012	8/14/2012	8/27/2012
Room Temp (Deg C)	22	22	21	22
Rel Humidity (%)	41	42	41	46
Technician	Aaron McKim	Aaron McKim	Troy Cook	Aaron McKim
mOhm values	Actual	Delta	Delta	Delta
	Initial	250 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	52.39	0.08	0.13	0.12
St. Dev.	0.49	0.05	0.12	0.16
Min	51.37	0.00	0.00	0.00
Max	53.31	0.23	0.58	1.04
Summary Count	40	40	40	40
Total Count	40	40	40	40

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
250 Cycles	40	0	0	0	0	0
Therm Shck	40	0	0	0	0	0
Humidity	40	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1

LLCR Extended Life 500 cycles:

- 1) A total of 40 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 500 Cycles
Series: ACP-16-02-H/P/ACR-16-02-H-P

LLCR Measurement Summaries by Pin Type				
Date	8/2/2012	8/14/2012	8/21/2012	8/31/2012
Room Temp (Deg C)	22	22	22	22
Rel Humidity (%)	41	40	38	48
Technician	Aaron McKim	Aaron McKim	Aaron McKim	Catie Eichhorn
mOhm values	Actual Initial	Delta 500 Cycles	Delta Therm Shck	Delta Humidity
Pin Type 1: Signal				
Average	52.35	0.04	0.08	0.10
St. Dev.	0.49	0.04	0.07	0.08
Min	51.48	0.00	0.00	0.01
Max	53.46	0.15	0.42	0.40
Summary Count	40	40	40	40
Total Count	40	40	40	40

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
500 Cycles	40	0	0	0	0	0
Therm Shck	40	0	0	0	0	0
Humidity	40	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1

LLCR Extended Life 1000 cycles:

- 1) A total of 40 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 1000 Cycles
Series: ACP-16-02-H-P/ACR-16-02-H-P

LLCR Measurement Summaries by Pin Type				
Date	8/2/2012	8/15/2012	8/21/2012	8/31/2012
Room Temp (Deg C)	22	22	22	22
Rel Humidity (%)	42	41	37	49
Technician	Aaron McKim	Aaron McKim	Aaron McKim	Catie Eichhorn
mOhm values	Actual	Delta	Delta	Delta
	Initial	1000 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	52.48	0.13	0.11	0.25
St. Dev.	0.44	0.07	0.16	0.39
Min	51.64	0.00	0.00	0.01
Max	53.50	0.36	0.75	2.11
Summary Count	40	40	40	40
Total Count	40	40	40	40

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	>5 & ≤ 10	>10 & ≤ 15	>15 & ≤ 50	>50 & ≤ 1000	>1000
1000 Cycles	40	0	0	0	0	0
Therm Shck	40	0	0	0	0	0
Humidity	40	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-03-H-00.35-T-BC-P-1/ACR-16-03-H-00.35-S-BC-P-1

LLCR Extended Life 100 cycles:

- 1) A total of 16 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 100 Cycles	
Series:	ACP-16-03-H/P/ACR

LLCR Measurement Summaries by Pin Type				
Date	7/31/2012	8/8/2012	8/14/2012	8/27/2012
Room Temp (Deg C)	22	23	21	22
Rel Humidity (%)	44	37	41	44
Technician	Craig Ryan	Craig Ryan	Craig Ryan	Craig Ryan
mOhm values	Actual	Delta	Delta	Delta
	Initial	100 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	9.85	0.06	0.17	0.26
St. Dev.	0.33	0.05	0.19	0.23
Min	9.53	0.01	0.01	0.01
Max	10.64	0.20	0.76	0.73
Summary Count	16	16	16	16
Total Count	16	16	16	16

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
100 Cycles	16	0	0	0	0	0
Therm Shck	16	0	0	0	0	0
Humidity	16	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-03-H-00.35-T-BC-P-1/ACR-16-03-H-00.35-S-BC-P-1

LLCR Extended Life 250 cycles:

- 1) A total of 16 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 250 Cycles	
Series:	ACP-16-03-H/P/ACR

LLCR Measurement Summaries by Pin Type				
Date	7/31/2012	8/8/2012	8/14/2012	8/27/2012
Room Temp (Deg C)	22	23	21	22
Rel Humidity (%)	45	37	41	44
Technician	Craig Ryan	Craig Ryan	Craig Ryan	Craig Ryan
mOhm values	Actual	Delta	Delta	Delta
	Initial	250 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	9.84	0.06	0.18	0.45
St. Dev.	0.30	0.04	0.24	0.42
Min	9.51	0.00	0.01	0.00
Max	10.36	0.18	0.87	1.29
Summary Count	16	16	16	16
Total Count	16	16	16	16

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
250 Cycles	16	0	0	0	0	0
Therm Shck	16	0	0	0	0	0
Humidity	16	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-03-H-00.35-T-BC-P-1/ACR-16-03-H-00.35-S-BC-P-1

LLCR Extended Life 500 cycles:

- 1) A total of 16 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Extended Life 500 Cycles	
Series:	ACP-16-03-H/P/ACR

LLCR Measurement Summaries by Pin Type					
	Date	7/31/2012	8/16/2012	8/21/2012	8/31/2012
Room Temp (Deg C)		22	22	22	22
Rel Humidity (%)		45	40	37	44
Technician		Craig Ryan	Craig Ryan	Craig Ryan	Catie Eichhorn
mOhm values		Actual	Delta	Delta	Delta
		Initial	500 Cycles	Therm Shck	Humidity
Pin Type 1: Signal					
Average		9.84	0.14	0.29	0.70
St. Dev.		0.32	0.19	0.39	1.02
Min		9.46	0.01	0.01	0.03
Max		10.59	0.78	1.47	4.31
Summary Count		16	16	16	16
Total Count		16	16	16	16

LLCR Delta Count by Category						
mOhms	Stable	Minor	Acceptable	Marginal	Unstable	Open
	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
500 Cycles	16	0	0	0	0	0
Therm Shck	16	0	0	0	0	0
Humidity	16	0	0	0	0	0

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

DATA SUMMARIES CONTINUED

ACP-16-03-H-00.35-T-BC-P-1/ACR-16-03-H-00.35-S-BC-P-1

LLCR Extended Life 1000 cycles:

- 1) A total of 16 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 $+2000$ mOhms ----- Unstable
 - f. $>+2000$ mOhms: ----- Open Failure

LLCR Results for Test: Durability Ther Shock
Series: ACP-16-02-H-P/ACR-16-02-H-P

LLCR Measurement Summaries by Pin Type				
	8/2/2012	8/15/2012	8/21/2012	8/31/2012
Date	8/2/2012	8/15/2012	8/21/2012	8/31/2012
Room Temp (Deg C)	22	22	22	22
Rel Humidity (%)	42	41	37	49
Technician	Aaron McKim	Aaron McKim	Aaron McKim	Catie Eichhorn
mOhm values	Actual	Delta	Delta	Delta
	Initial	1000 Cycles	Therm Shck	Humidity
Pin Type 1: Signal				
Average	52.48	0.13	0.11	0.25
St. Dev.	0.44	0.07	0.16	0.39
Min	51.64	0.00	0.00	0.01
Max	53.50	0.36	0.75	2.11
Summary Count	40	40	40	40
Total Count	40	40	40	40

LLCR Delta Count by Category						
	Stable	Minor	Acceptable	Marginal	Unstable	Open
mOhms	≤ 5	$>5 \ \& \ \leq 10$	$>10 \ \& \ \leq 15$	$>15 \ \& \ \leq 50$	$>50 \ \& \ \leq 1000$	>1000
1000 Cycles	16	0	0	0	0	0
Therm Shck	16	0	0	0	0	0
Humidity	16	0	0	0	0	0

EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: MO-04

Description: Multimeter /Data Acquisition System

Manufacturer: Keithley

Model: 2700

Serial #: 0798688

Accuracy: See Manual

... Last Cal: 03/27/2012, Next Cal: 03/27/2013

Equipment #: MO-11

Description: System Switch Multimeter /Data Acquisition System

Manufacturer: Keithley

Model: 3706

Serial #:

Accuracy: See Manual

... Last Cal: 09/24/2012, Next Cal: 09/30/2013

Equipment #: THC-01

Description: Temperature/Humidity Chamber

Manufacturer: Thermotron

Model: SE-1000-6-6

Serial #: 31808

Accuracy: See Manual

... Last Cal: 09/18/2012, Next Cal: 09/18/2013

Equipment #: TSC-01

Description: Vertical Thermal Shock Chamber

Manufacturer: Cincinnatti Sub Zero

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

Serial #: 10-VT14993

Accuracy: See Manual

... Last Cal: 05/13/2012, Next Cal: 05/13/2013

Equipment #: TCT-04

Description: Dillon Quantrol TC2 Test Stand

Manufacturer: Dillon Quantrol

Model: TC2

Serial #: 04-1041-04

Accuracy: Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.

... Last Cal: 05/03/2012, Next Cal: 05/03/2013

Tracking Code: 207758_Test Report_Rev 1	Part #: ACP-16-01-H-00.35-T-BC-P-1/ACR-16-01-H-00.35-S-BC-P-1 ACP-16-02-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1 ACP-16-03-H-00.35-T-BC-P-1/ACR-16-02-H-00.35-S-BC-P-1
Part description: Acclimate Circular Cable Assembly	

EQUIPMENT AND CALIBRATION SCHEDULES CONTINUED

Equipment #: TCT-07

Description: Chatillon

Manufacturer: Chatillon

Model: LF Plus

Serial #: LF1310

Accuracy: See Manual

... Last Cal: 07/13/2012, Next Cal: 07/13/2013

Equipment #: TCT-05

Description: Chatillon TCD Series

Manufacturer: Chatillon

Model: TCD2255

Serial #: TCD0071

Accuracy: See Manual

... Last Cal: 11/01/2012, Next Cal: 11/01/2013