


OCTOBER 6, 2010

TEST REPORT #210159 & 210428A, REVISION 1.3

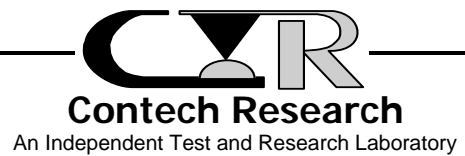
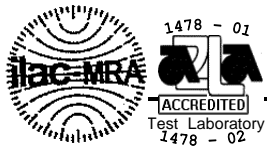
INTERMATEABILITY TESTING

6x6 CROSSBOW CONNECTORS

AMPHENOL TCS & FCI

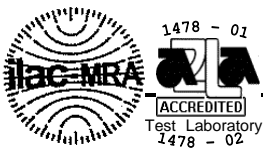


APPROVED BY: LUANNE WITT  
DIRECTOR OF PROGRAM MANAGEMENT  
CONTECH RESEARCH, INC.  
ATTLEBORO, MA



## REVISION HISTORY

DATE	REV. NO.	DESCRIPTION	ENG.
10/6/2010	1.0	Initial Issue	LEW
10/6/2010	1.1	Corrected results on Summary pages 7 & 9.	LEW
10/14/2010	1.2	Corrected the Test Plan Flow Diagram and added a note to pages 120 & 125.	LEW
10/20/2010	1.3	Added the retest data and comments in groups 2 and 3.	LEW

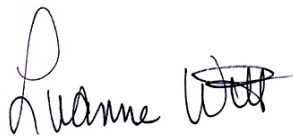


## CERTIFICATION

This is to certify that the evaluation described herein was designed and executed by personnel of Contech Research, Inc. It was performed with the concurrence of Amphenol TCS, of Nashua, New Hampshire and FCI of Etters, Pennsylvania who were the test sponsors.

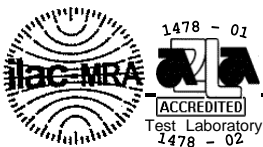
All equipment and measuring instruments used during testing were calibrated and traceable to NIST according to ISO 10012-1 and ANSI/NCSL Z540-1 and MIL-STD-45662 as applicable.

All data, raw and summarized, analysis and conclusions presented herein are the property of the test sponsor. No copy of this report, except in full, shall be forwarded to any agency, customer, etc., without the written approval of the test sponsor and Contech Research.



APPROVED BY: LUANNE WITT  
DIRECTOR OF PROGRAM MANAGEMENT  
CONTECH RESEARCH, INC.  
ATTLEBORO, MA

LW:cf



SCOPE

To perform intermateability testing on 6x6 CROSSBOW Connectors as manufactured by Amphenol TCS and FCI.

APPLICABLE DOCUMENTS

1. Unless otherwise specified, the following documents of issue in effect at the time of testing performed form a part of this report to the extent as specified herein. The requirements of sub-tier specifications and/or standards apply only when specifically referenced in this report.
2. Telcordia GR-1217-CORE
3. Standard: EIA Publication 364

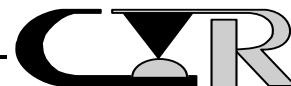
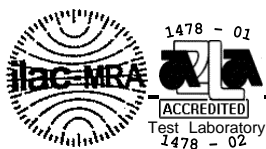
TEST SAMPLES AND PREPARATION

1. The following test samples were submitted by the test sponsor, Amphenol TCS, for the evaluation to be performed by Contech Research, Inc.

<u>Qty</u>	<u>Mfg.</u>	<u>Description</u>
3	FCI	6X6, Backplane, Unmounted
3	ATCS	6x6, Daughter Card, Unmounted
48	ATCS	6X6, Daughter card, Mounted 8 per Board
48	FCI	6X6, Backplane, Mounted 8 per Board
6	ATCS	6X6, Daughter card, Mounted 1 per Board
6	FCI	6X6, Backplane, Mounted 1 per Board

2. Unless otherwise indicated, all materials were certified by the manufacturer to be in accordance with the applicable product specification.
3. Test samples were supplied assembled and terminated to test boards by the test sponsor.
4. Test boards for mounting test samples were supplied by the test sponsor.
5. All test samples were coded and identified by Contech Research to maintain continuity throughout the test sequences. Upon initiating testing, mated test samples remained with each other throughout the test sequences for which they were designated.

-continued on next page.



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TEST SAMPLES AND PREPARATION -continued

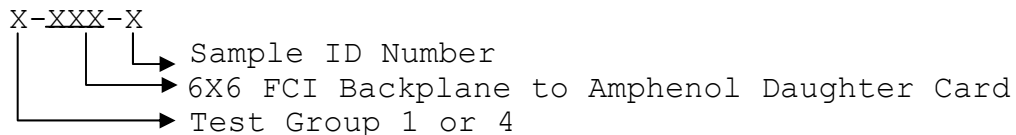
6. The test samples in Groups 2 and 3 were tested in their 'as received' condition.
7. The samples in Groups 1 and 4 were fitted with brackets to provide stability to the contact interface.
8. Unless otherwise specified in the test procedures used, no further preparation was used.

TEST SELECTION

1. See Test Plan Flow Diagram, Figure #1, for test sequences used.
2. Test set ups and/or procedures which are standard or common are not detailed or documented herein provided they are certified as being performed in accordance with the applicable industry test methods, standards and/or drawings as specified in the detail specification.

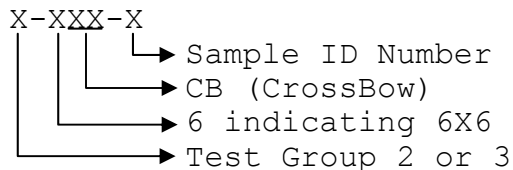
SAMPLE CODING

1. All samples were coded. Mated test samples remained with each other throughout the test group/sequences for which they were designated. Coding was performed in a manner which remained legible for the test duration.
2. The test samples in Groups 1 and 4 were coded in the following manner:

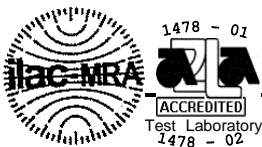


Note: The samples in these 2 Groups were mounted 1 per board.

3. The test samples in Groups 2 and 3 were coded in the following manner:

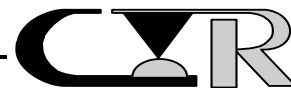
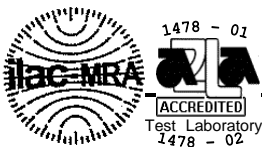
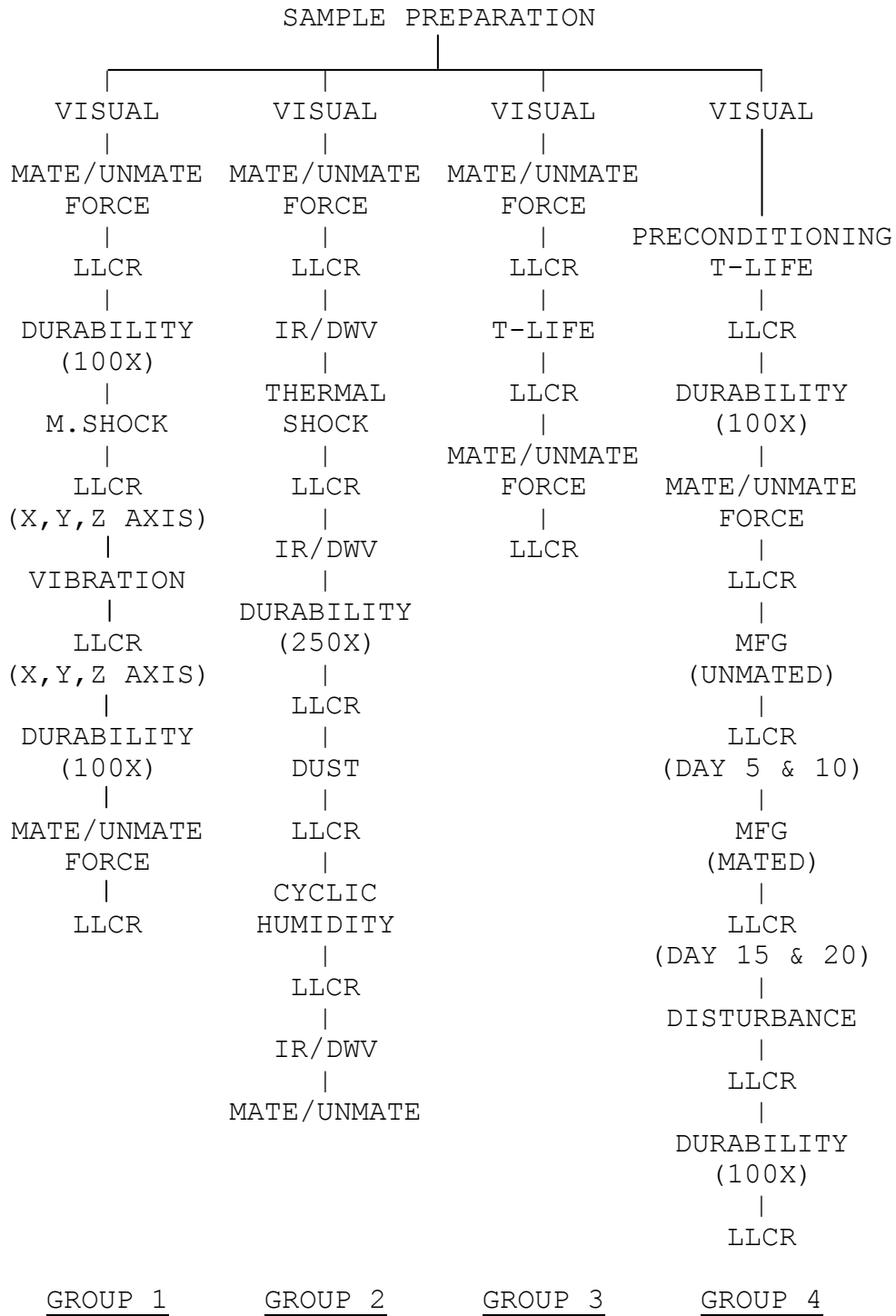


Note: The samples in these 2 Groups were mounted 8 per board.



**FIGURE #1**

TEST PLAN FLOW DIAGRAM



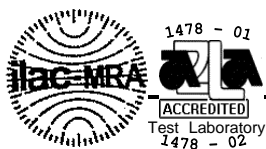
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## DATA SUMMARY

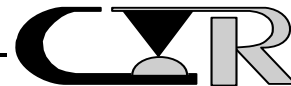
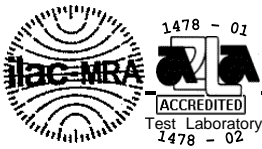
<u>TEST</u>	<u>REQUIREMENT</u>	<u>RESULTS</u>
<b><u>GROUP 1</u></b>		
MATING FORCE	18.85 LBS.MAX.	8.0 LBS.MAX.
UNMATING FORCE	6.40 LBS.MIN.	11.8 LBS.MIN.
LLCR		
-SIGNAL	RECORD	31.4 mΩ MAX.
-GROUND	RECORD	11.6 mΩ MAX.
DURABILITY	NO DAMAGE	PASSED
MECHANICAL SHOCK	NO DAMAGE	PASSED
LLCR		
-SIGNAL		
X-AXIS	+10.0 mΩ MAX.CHG.	+1.1 mΩ MAX.CHG.
Y-AXIS	+10.0 mΩ MAX.CHG.	+0.7 mΩ MAX.CHG.
Z-AXIS	+10.0 mΩ MAX.CHG.	+0.6 mΩ MAX.CHG.
-GROUND		
X-AXIS	+10.0 mΩ MAX.CHG.	+1.3 mΩ MAX.CHG.
Y-AXIS	+10.0 mΩ MAX.CHG.	+2.6 mΩ MAX.CHG.
Z-AXIS	+10.0 mΩ MAX.CHG.	+1.4 mΩ MAX.CHG.
RANDOM VIBRATION	NO DAMAGE	PASSED
LLCR		
-SIGNAL		
X-AXIS	+10.0 mΩ MAX.CHG.	+0.9 mΩ MAX.CHG.
Y-AXIS	+10.0 mΩ MAX.CHG.	+0.5 mΩ MAX.CHG.
Z-AXIS	+10.0 mΩ MAX.CHG.	+1.2 mΩ MAX.CHG.
-GROUND		
X-AXIS	+10.0 mΩ MAX.CHG.	+0.9 mΩ MAX.CHG.
Y-AXIS	+10.0 mΩ MAX.CHG.	+1.0 mΩ MAX.CHG.
Z-AXIS	+10.0 mΩ MAX.CHG.	+2.5 mΩ MAX.CHG.
DURABILITY	NO DAMAGE	PASSED
MATING FORCE	18.85 LBS.MAX.	9.9 LBS.MAX.
UNMATING FORCE	6.40 LBS.MIN.	11.7 LBS.MIN.
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+2.0 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+1.2 mΩ MAX.CHG.
<b><u>GROUP 2</u></b>		
MATING FORCE	RECORD	80.0 LBS.MAX.
UNMATING FORCE	RECORD	85.5 LBS.MAX.
LLCR		
-SIGNAL	RECORD	31.6 mΩ MAX.
-GROUND	RECORD	11.2 mΩ MAX.

-continued on next page.



**DATA SUMMARY -continued**

<b><u>TEST</u></b>	<b><u>REQUIREMENT</u></b>	<b><u>RESULTS</u></b>
<b><u>GROUP 2 -continued</u></b>		
IR	1000 MΩ MIN.	>50,000 MΩ
DWV	NO BREAKDOWN	PASSED
THERMAL SHOCK	NO DAMAGE	PASSED
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+3.4 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+3.5 mΩ MAX.CHG.
IR	1000 MΩ MIN.	>50,000 MΩ
DWV	NO BREAKDOWN	PASSED
DURABILITY	NO DAMAGE	PASSED
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+3.0 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+1.8 mΩ MAX.CHG.
DUST	NO DAMAGE	PASSED
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+1.0 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+2.1 mΩ MAX.CHG.
CYCLIC HUMIDITY	NO DAMAGE	PASSED
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+2.0 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	SEE RESULTS
IR	1000 MΩ MIN.	50,000 MΩ MIN.
DWV	NO BREAKDOWN	PASSED
MATING FORCE	RECORD	83.6 LBS.MAX.
UNMATING FORCE	RECORD	82.5 LBS.MIN.
<b><u>GROUP 3</u></b>		
MATING FORCE	RECORD	67.5 LBS.MAX.
UNMATING FORCE	RECORD	79.5 LBS.MIN.
LLCR		
-SIGNAL	RECORD	31.9mΩ MAX.
-GROUND	RECORD	11.3mΩ MAX.
TEMPERATURE LIFE	NO DAMAGE	PASSED
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+8.8 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	SEE RESULTS
MATING FORCE	RECORD	78.6 LBS.MAX.
UNMATING FORCE	RECORD	80.4 LBS.MIN.
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	SEE RESULTS
-GROUND	+10.0 mΩ MAX.CHG.	+6.7 mΩ MAX.CHG.

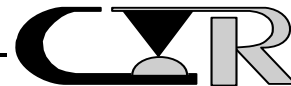
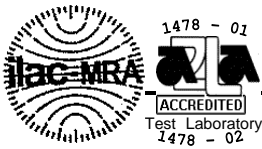


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**DATA SUMMARY -continued**

<b><u>TEST</u></b>	<b><u>REQUIREMENT</u></b>	<b><u>RESULTS</u></b>
<b><u>GROUP 4</u></b>		
THERMAL AGING LLCR	NO DAMAGE	PASSED
-SIGNAL	RECORD	34.0 mΩ MAX.
-GROUND	RECORD	16.2 mΩ MAX.
DURABILITY	NO DAMAGE	PASSED
MATING FORCE	18.85 LBS.MAX.	15.6 LBS.MAX.
UNMATING FORCE LLCR	6.40 LBS.MIN.	8.8 LBS.MIN.
-SIGNAL	+10.0 mΩ MAX.CHG.	+5.7 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+2.9 mΩ MAX.CHG.
MFG (UNMATED, DAY 1-10) LLCR @ 5 DAYS	NO DAMAGE	PASSED
-SIGNAL	+10.0 mΩ MAX.CHG.	+4.4 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+3.0 mΩ MAX.CHG.
LLCR @ 10 DAYS		
-SIGNAL	+10.0 mΩ MAX.CHG.	+6.3 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+5.6 mΩ MAX.CHG.
MFG (MATED, DAY 11-20) LLCR @ 15 DAYS	NO DAMAGE	PASSED
-SIGNAL	+10.0 mΩ MAX.CHG.	+4.8 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+5.9 mΩ MAX.CHG.
LLCR @ 20 DAYS		
-SIGNAL	+10.0 mΩ MAX.CHG.	+5.1 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+26.1 mΩ MAX.CHG.
DISTURBANCE	NO DAMAGE	PASSED
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+6.8 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+7.0 mΩ MAX.CHG.
DURABILITY	NO DAMAGE	PASSED
LLCR		
-SIGNAL	+10.0 mΩ MAX.CHG.	+5.9 mΩ MAX.CHG.
-GROUND	+10.0 mΩ MAX.CHG.	+5.0 mΩ MAX.CHG.

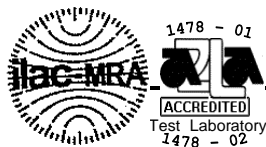


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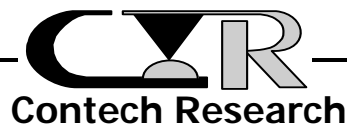
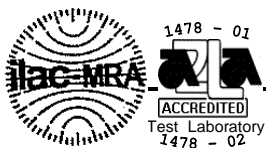
## EQUIPMENT LIST

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq. Cal
18			Bench Oven	Blue M Co.	POM7-256C	P38-1452	N/A	Ea Test
19			Bench Oven	Blue M Co.	POM7-256C	P38-1453	+/-0.27 Deg C	Ea Test
26	11/23/2010	11/23/2009	Dial-a-Gram Scale	Ohaus Co.	2610	26	See Cal Cert	12mon
29			Bell Humid. Chamber	Blue M Co.	VP-100AT	A-2280	N/A	Ea Test
102	3/9/2011	3/9/2010	Data Acquisition Unit	Hewlett Packard	3421A	2338A0202 7	±. 5 % Of Indicated	12mon
113			Thermal Cycling Chamber	Blue M Co.	POM-166E	P6-2724	N/A	Ea Test
186	7/6/2011	7/6/2010	Digital Multimeter	Fluke Mfg.	75	44861047	See Cal Cert	12mon.
199			Cycling Machine	Contech Research	PM925A11	2407	N/A	Ea Test
244	10/1/2011	10/1/2010	Micro-Ohm Meter	Keithley Instr.	580-1	467496	See Cal Cert	12mon
270			MFG Chamber	Contech Research	5 Cu Ft	N/A	N/A	Ea Test
315			X-Y Table	NE Affiliated Tech.	XY-6060	N/A	N/A	N/A
321	3/30/2011	3/30/2010	AC-DC Hipot/Megometer	Hipotronics Co.	H300B	DS16-201	See Cal Cert	12 mon.
340			X-Y Table	NE Affiliated Tech.	XY-6060	N/A	N/A	N/A
398	5/14/2011	5/14/2010	500 Pound Force Gage	Chatillon	DFI-500	11792	±1.25 LBS	12 mon
436			Gas Regulator	Liquid Carbonic Co.	702-S-3	392838	N/A	N/A
443			Gas Regulator Valve	Liquid Carbonic Co.	DRK-2-48	40197	See Manual	N/A
466	12/3/2010	12/3/2009	Precision Resistor	Victoreen Co.	50,000 mego	N/A	± 1 %	12 mon.
486	5/14/2011	5/14/2010	Digital Force Gage 100 lbs.	Chatillon Co.	DFIS-100	23084	±.25lbs	12mon
488			X-Y Table	N.E.Affiliated Tech.	N/A	932021	N/A	N/A
510			Regulator	Liquid Carbonic	SGS 160C	M2 42366	N/A	N/A
525			Gas Regulator	Superior Co.	5113A	350218	See Manual	N/A
543	11/23/2010	4/13/2010	Analytical Balance	Ohaus Co.	AP250D	MO9198	± .4mg	12mon
547	5/31/2011	5/17/2010	Temp Humid Chamber	CSZ	ZH-8-1-H-AC	ZG9442057	See Cal Cert	12mon
553	3/19/2011	3/19/2010	12 channel Power Unit	PCB Co.	483A	1303	See Cal Cert	12mon
562			Programable Test Stand	Chatillon Co.	TCD 1000	25051	N/A	N/A
601			Computer	A.M.I.	P111-450	082714	N/A	N/A
629	10/27/2010	10/27/2009	Digital Thermometer	Omega Eng.	DP 116	6232189	±1.1DegC	12mon
676	12/8/2010	12/8/2009	Digital Thermometer	Omega Co.	DP116-JC2	8010266	±1.1DegC	12mon



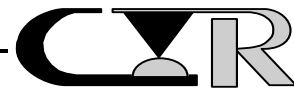
### EQUIPMENT LIST

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq.Cal
677	10/20/2010	10/20/2009	Micro-Ohm Meter	Keithley Instr.	580	0685122	See Cal Cert	12 mon
681			Computer	ARC Co.	P166	N/A	N/A	N/A
1027			Computer	ARC Co.	Pent.133	026871	N/A	N/A
1110			Elect.Liquid Level Control	Cole Parmer	7187	15986	N/A	N/A
1156	3/17/2011	3/17/2010	High Voltage Probe	Fluke	80k-6	885967	See Cal Cert	12mon
1166	9/20/2011	9/20/2010	Sine/Rndm Vib Control Digitizer	Hewlett Packard	E1432A	US39342279	See Cal Cert	12mon
1167			Interface	Hewlett Packard	E8491B	US390100753	N/A	N/A
1168			Mainframe	Hewlett Packard	E8408A	US39000357	N/A	N/A
1178			dust chamber	Conres	7.5cu/ft	04	N/A	N/A
1234			Thermal Cycling Chamber	Blue M.	DC166F	DC-3535	See Manual	Ea Test
1271			Amplifier	Unholtz Dickie	SA15	3483	N/A	N/A
1272			Shaker Table	Unholtz Dickie	S202PB	263	N/A	N/A
1278	10/8/2010	9/24/2009	Micro-Ohm Meter	Keithley Instr.	580	0803947	See Manual	12mon
1296			MFG Control Panel	Contech Research	N/A	N/A	N/A	N/A
1360	2/2/2011	2/2/2010	Data Aquisition Multimeter	Keithley	2700	0914136	See Cal Cert	12mon
1381			Air Dryer	Balston	75-20	A03391	See Manual	N/A
1426			Computer	E-Machines	T2341	QL235-703-00880	N/A	N/A
1457	1/19/2011	11/19/2010	Precision Resistor	Victorine	5KMOHM	465	See Cal Cert	12mon
1466	5/14/2011	5/14/2010	Digital Force Gage	Chatillon	DFE-50	T03567	See Cal Cert	12mon
1549	2/2/2011	2/2/2010	Multiplexer Card	Keithley	7708	171629	See Cert	12mon
1550	2/2/2011	2/2/2010	Multiplexer Card	Keithley	7708	171626	See Cert	12mon
1571	1/26/2011	1/26/2010	Chlorine Analyzer	IMS CO.	Air Sentury	1265AN	See Cert	12mon
1595	2/18/2011	2/18/2010	H2S Analyzer	Teledyne Analyzer	101-E	1231	See cert	12mon
1599	2/18/2011	2/18/2010	NO2 Analyzer	Teledyne Analyzer	200E	289	See cert	12mon
1620	2/11/2011	2/11/2010	Accelerometer	PCB	353B04	132590	See Cal Cert	12mon
1634	9/20/2011	9/20/2010	Vibration Controller	HP Agilent	E1434A	US38090307	See Cal Cert	12 mon
1647			Computer	NexLink	N/A	N/A	N/A	N/A
1650	3/31/2011	3/31/2010	Temp/Humidity Transmitter	Vaisala	HMT333	F1250115	See Cal Cert	12mon



# TEST RESULTS

## GROUP 1



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 8/25/10

COMPLETE DATE: 8/25/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 51%

EQUIPMENT ID#: 340, 562, 1466

MATING AND UNMATING FORCE

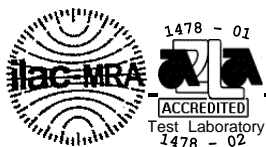
PURPOSE:

To determine the mechanical forces required to mate and unmate the connectors.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 13, Rev. D.
2. The test samples were fixtured to the base plate of the test stand and applicable force gauge.
3. The fixturing was accomplished in a manner to prevent "bowing" of the test samples during the performance of the test.
4. The fixturing was accomplished to assure axial alignment and allowed self centering movement to exist.
5. Care was taken to assure that the mating faces did not contact each other to assure proper forces were measured.
6. The samples were provided with 1 connector mounted on each test board.

REQUIREMENTS: See Next Page



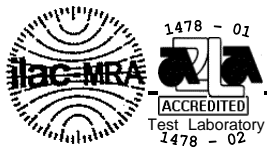
REQUIREMENTS:

1. The force required to mate the connectors shall not exceed 18.85 pounds.
2. The force required to unmate the connectors shall be a minimum of 6.40 pounds.

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RESULTS:

The following is a summary of the observed data:

<u>Sample ID#</u>	<u>MATING FORCE</u> <u>(Pounds)</u>	<u>UNMATING FORCE</u> <u>(Pounds)</u>
1-6FA-1	7.9	11.8
1-6FA-2	7.0	13.3
1-6FA-3	8.0	13.2



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 8/25/10

COMPLETE DATE: 8/25/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 51%

EQUIPMENT ID#: 601, 677

LOW LEVEL CIRCUIT RESISTANCE (LLCR)

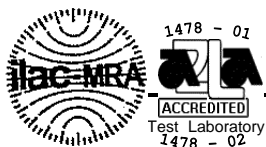
PURPOSE:

1. To evaluate contact resistance characteristics of the contact systems under conditions where applied voltages and currents do not alter the physical contact interface and will detect oxides and films which degrade electrical stability. It is also sensitive to and may detect the presence of fretting corrosion induced by mechanical or thermal environments as well as any significant loss of contact pressure.
2. This attribute was monitored after each preconditioning and/or test exposure in order to determine said stability of the contact systems as they progress through the applicable test sequences.
3. The electrical stability of the system is determined by comparing the initial resistance value to that observed after a given test exposure. The difference is the change in resistance occurring whose magnitude establishes the stability of the interface being evaluated.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 23, Rev. C.
2. The test samples were tested with stabilizing brackets

-continued on next page.



PROCEDURE: -continued

3. Test Conditions:

- a) Test Current : 100 milliamps maximum
- b) Open Circuit Voltage : 20 millivolts
- c) No. of Positions Tested : 71 Signal Positions/Board  
42 Ground Positions/Board

-----  
REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.  
-----

RESULTS:

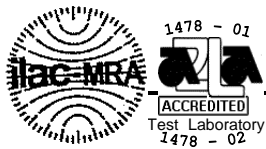
1. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
1-6FA-1	23.3	31.3	14.7
1-6FA-2	23.0	31.3	14.7
1-6FA-3	23.1	31.4	14.7

<u>GROUND</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
1-6FA-1	9.5	11.3	7.2
1-6FA-2	9.4	11.1	7.1
1-6FA-3	9.4	11.6	7.1

2. See data files 210428A01 through 210428A03 and 210428A13 through 210428A16 for individual data points.



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 8/25/10

COMPLETE DATE: 8/26/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 51%

EQUIPMENT ID#: 199, 340

DURABILITY

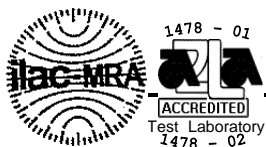
PURPOSE:

1. This is a conditioning sequence which is used to induce the type of wear on the contacting surfaces which may occur under normal service conditions. The connectors are mated and unmated a predetermined number of cycles. Upon completion, the units being evaluated are exposed to the environments as specified to assess any impact on electrical stability resulting from wear or other wear dependent phenomenon.
2. This type of conditioning sequence is also used to mechanically stress the connector system as would normally occur in actual service. This sequence in conjunction with other tests is used to determine if a significant loss of contact pressure occurs from said stresses which in turn, may result in an unstable electrical condition to exist.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 09, Rev. C.
2. Test Conditions:
  - a) No. of Cycles : 100
  - b) Rate : 500 cycles/hour max.

-continued on next page.



PROCEDURE: -continued

3. The test samples were assembled to special holding devices and attached to the automatic cycling equipment utilizing constant speed control and counter systems.
4. The test samples were axially aligned to accomplish the mating and unmating function allowing for self-centering movement.
5. Figure #2 illustrates a typical durability set up.

---

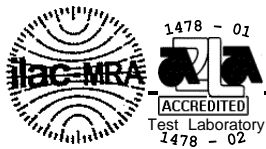
REQUIREMENTS:

There shall be no evidence of physical damage to the test samples as tested.

---

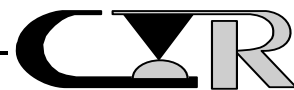
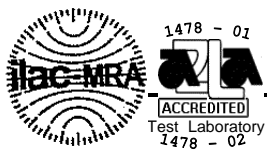
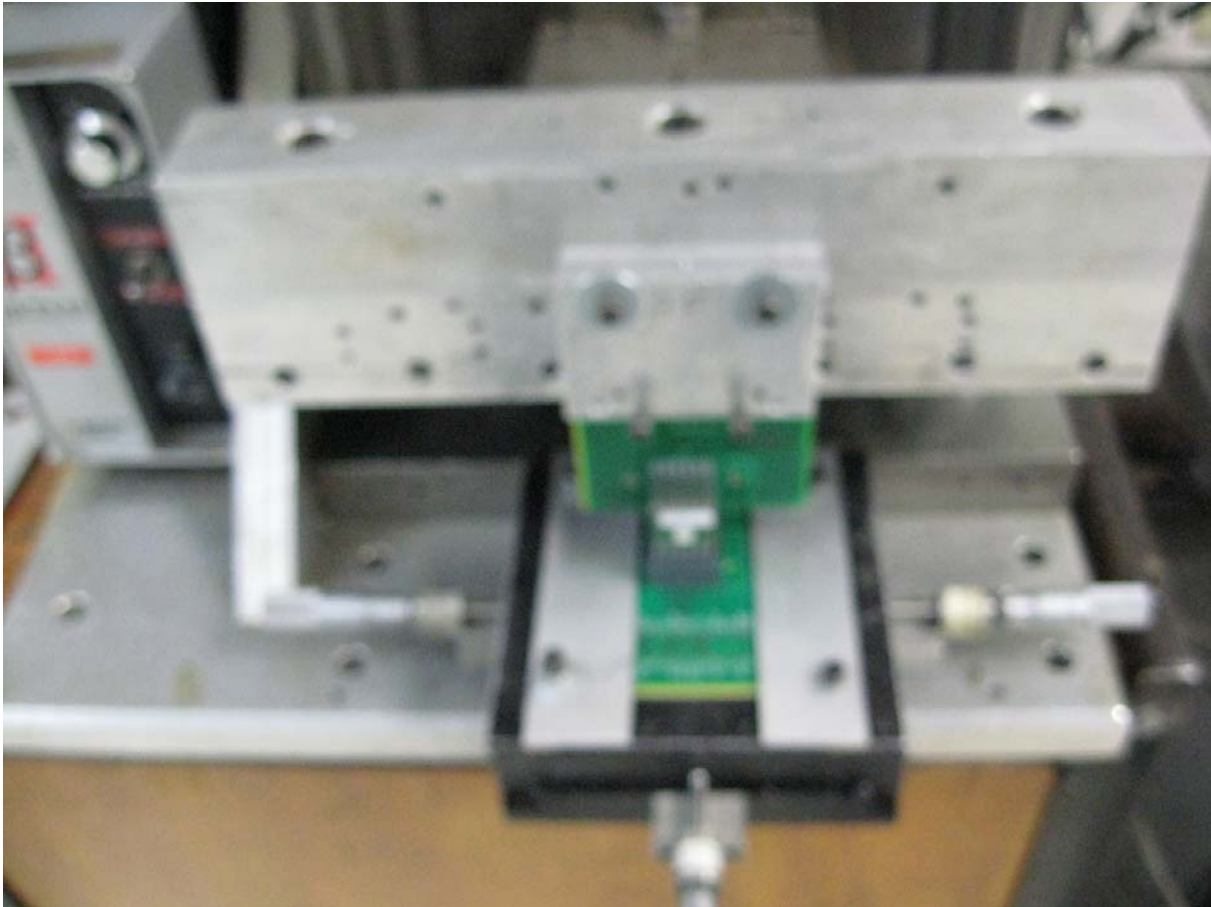
RESULTS:

There was no evidence of physical damage to the test samples as tested.



**FIGURE #2**

TYPICAL DURABILITY SET UP



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE/AJP

START DATE: 8/27/10

COMPLETE DATE: 8/31/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 50%

EQUIPMENT ID#: 553, 601, 677, 1166, 1167, 1168, 1271, 1272,  
1426, 1620, 1634

MECHANICAL SHOCK (SPECIFIED PULSE)

PURPOSE:

To determine the mechanical and electrical integrity of connectors for use with electronic equipment subjected to shocks such as those expected from handling, transportation, etc.

PROCEDURE:

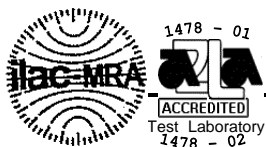
1. The test was performed in accordance with EIA 364, Test Procedure 27, Rev. B with the following conditions.

Test Conditions:

- a) Peak Value : 30 G
- b) Duration : 11 Milliseconds
- c) Wave Form : Half-sine
- d) Velocity : 11.3 feet per second
- e) No. of Shocks : 3 Shocks/Direction, 3 Axis (18 Total)

2. The daughter card test boards were trimmed to within  $\frac{3}{4}$  of an inch of the test samples.
3. Figure #3 illustrates the test sample fixturing utilized during the test.
4. All subsequent variable testing was performed in accordance with the procedures previously indicated.

REQUIREMENTS: See Next Page



REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples as tested.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.
3. Low level circuit resistance shall be recorded after each axis.

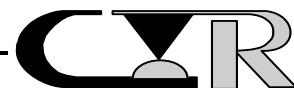
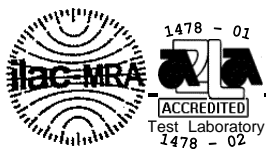
-----  
RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. The following is a summary of the data observed:

CHANGE IN  
LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

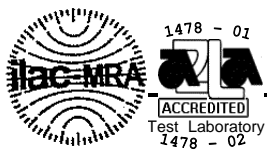
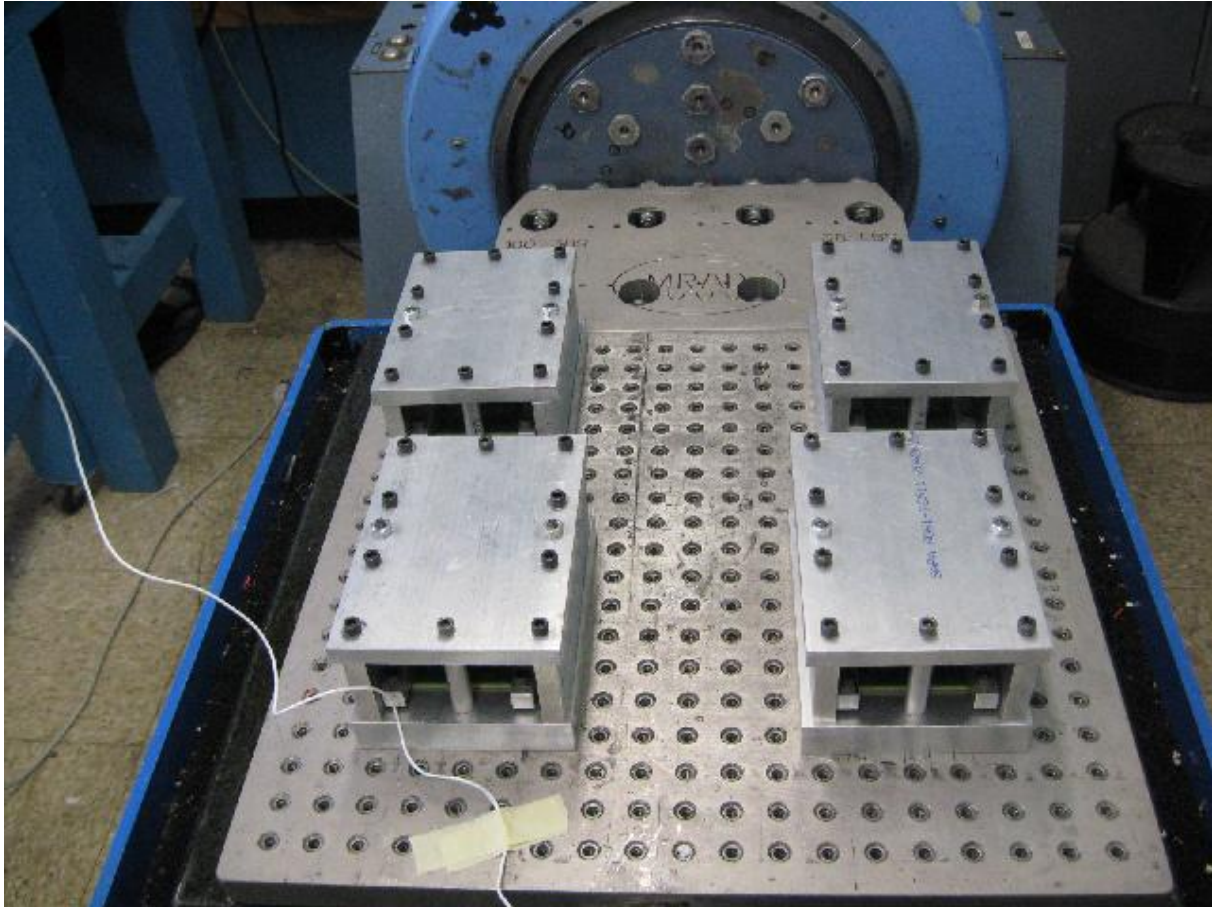
SIGNAL Sample ID#	<u>X Axis</u>		<u>Y Axis</u>		<u>Z Axis</u>	
	<u>Avg.</u> <u>Chg.</u>	<u>Max.</u> <u>Chg.</u>	<u>Avg.</u> <u>Chg.</u>	<u>Max.</u> <u>Chg.</u>	<u>Avg.</u> <u>Chg.</u>	<u>Max.</u> <u>Chg.</u>
1-6FA-1	+0.3	+1.1	+0.2	+0.5	+0.2	+0.6
1-6FA-2	+0.2	+0.1	+0.2	+0.7	+0.1	+0.5
1-6FA-3	+0.2	+0.4	+0.1	+0.5	+0.2	+0.4
GROUND						
Sample ID#						
1-6FA-1	+0.4	+2.2	+0.3	+1.9	+0.2	+1.7
1-6FA-2	+0.3	+0.8	+0.3	+0.8	+0.3	+0.7
1-6FA-3	+0.4	+0.8	+0.4	+0.8	+0.4	+0.8

3. See data files 210428A01 through 210428A03 and 210428A13 through 210428A16 for individual data points.
4. The Mechanical Shock characteristics are shown in Figures #4 (Calibration Pulse) and #5 (Test Pulse). Each figure displays the shock pulse contained within the upper and lower limits as defined by the appropriate test specification.



**FIGURE #3**

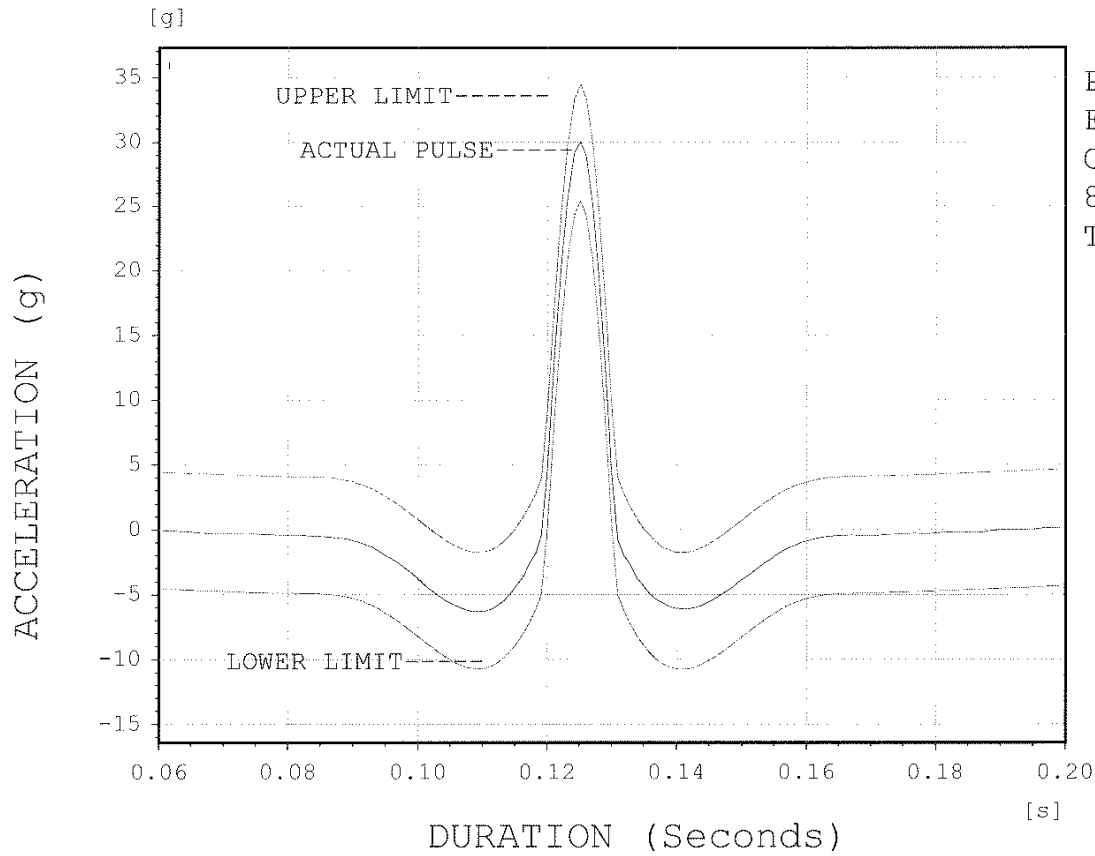
TYPICAL MECHANICAL SHOCK FIXTURE



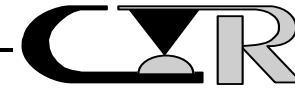
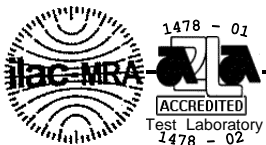
**FIGURE #4**

Classical Shock

Channel 1



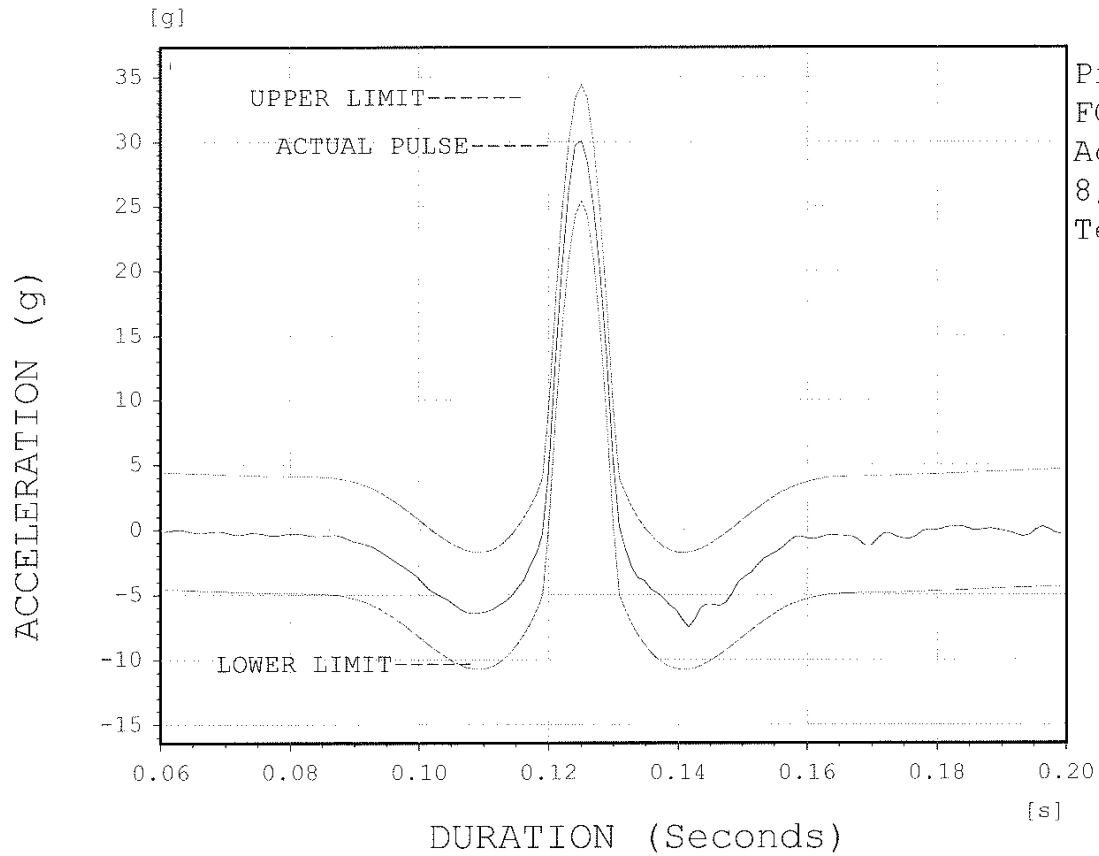
Project 210428A  
FCI  
Cal Wave 1  
8/31/10  
Tech: /BE



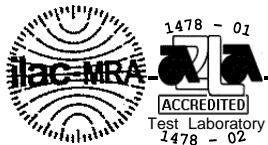
**FIGURE #5**

Classical Shock

Channel 1



Project 210428A  
FCI  
Actual Wave  
8/31/10  
Tech: / BE



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE/AJP

START DATE: 9/1/10

COMPLETE DATE: 9/9/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 38%

EQUIPMENT ID#: 244, 553, 601, 677, 1166, 1167, 1168, 1271,  
1272, 1426, 1620, 1634, 1647

VIBRATION, RANDOM

PURPOSE:

To determine if the electrical stability of the system has degraded when exposed to a vibratory environment.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 28, Rev. E, Test Condition V, Letter C.

Test Conditions:

- a) G 'RMS' : 5.3
  - b) Frequency : 10-500 Hz
  - c) Duration : 2 Hours per axis
2. Figure #6 illustrates the test sample fixturing utilized during the test.
  3. All subsequent variable testing was performed in accordance with procedures previously indicated.

REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples as tested.

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REQUIREMENTS:

2. The change in low level circuit resistance shall not exceed +10.0 milliohms.
3. Low level circuit resistance shall be measured and recorded after each axis.

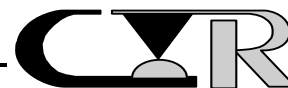
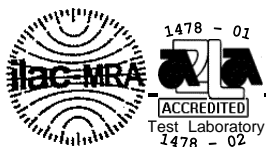
-----  
RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. The following is a summary of the observed data:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

	<u>X Axis</u>		<u>Y Axis</u>		<u>Z Axis</u>	
SIGNAL	Avg.	Max.	Avg.	Max.	Avg.	Max.
<u>Sample ID#</u>	<u>Chg.</u>	<u>Chg.</u>	<u>Chg.</u>	<u>Chg.</u>	<u>Chg.</u>	<u>Chg.</u>
1-6FA-1	+0.2	+0.6	+0.2	+0.5	+0.2	+1.2
1-6FA-2	+0.1	+0.9	+0.2	+0.5	+0.1	+0.4
1-6FA-3	+0.2	+0.4	+0.2	+0.5	+0.2	+0.6
GROUND						
<u>Sample ID#</u>						
1-6FA-1	+0.2	+0.9	+0.2	+1.0	+0.2	+2.5
1-6FA-2	+0.3	+0.8	+0.3	+0.7	+0.3	+0.6
1-6FA-3	+0.4	+0.8	+0.4	+0.8	+0.4	+0.7

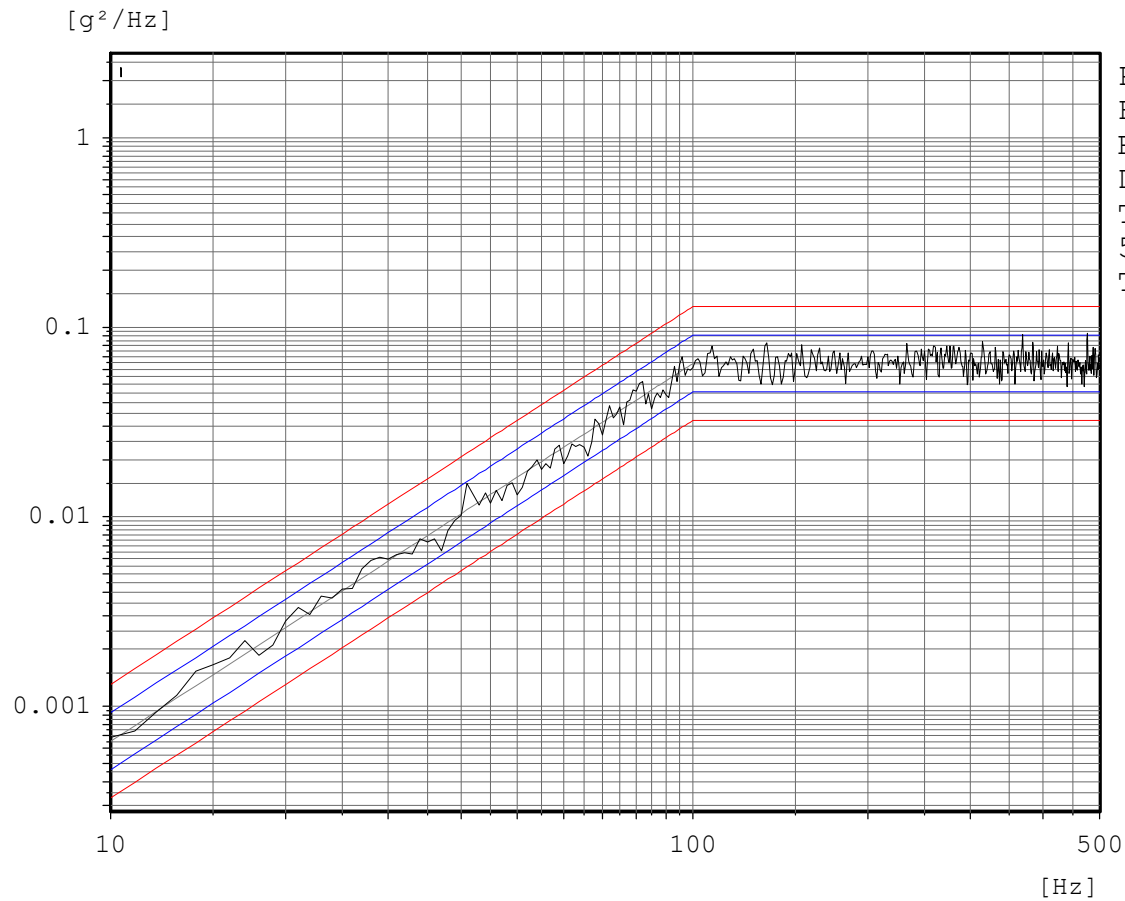
3. See data files 210428A01 through 210428A03 and 210428A13 through 210428A16 for individual data points.
4. The Random Vibration profiles are shown in Figure's #7 (1<sup>st</sup> axis), #8 (2<sup>nd</sup> axis) and #9 (3<sup>rd</sup> axis).



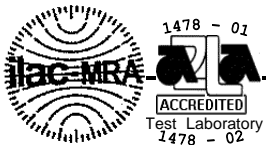
**FIGURE #7**

Random

Control channel



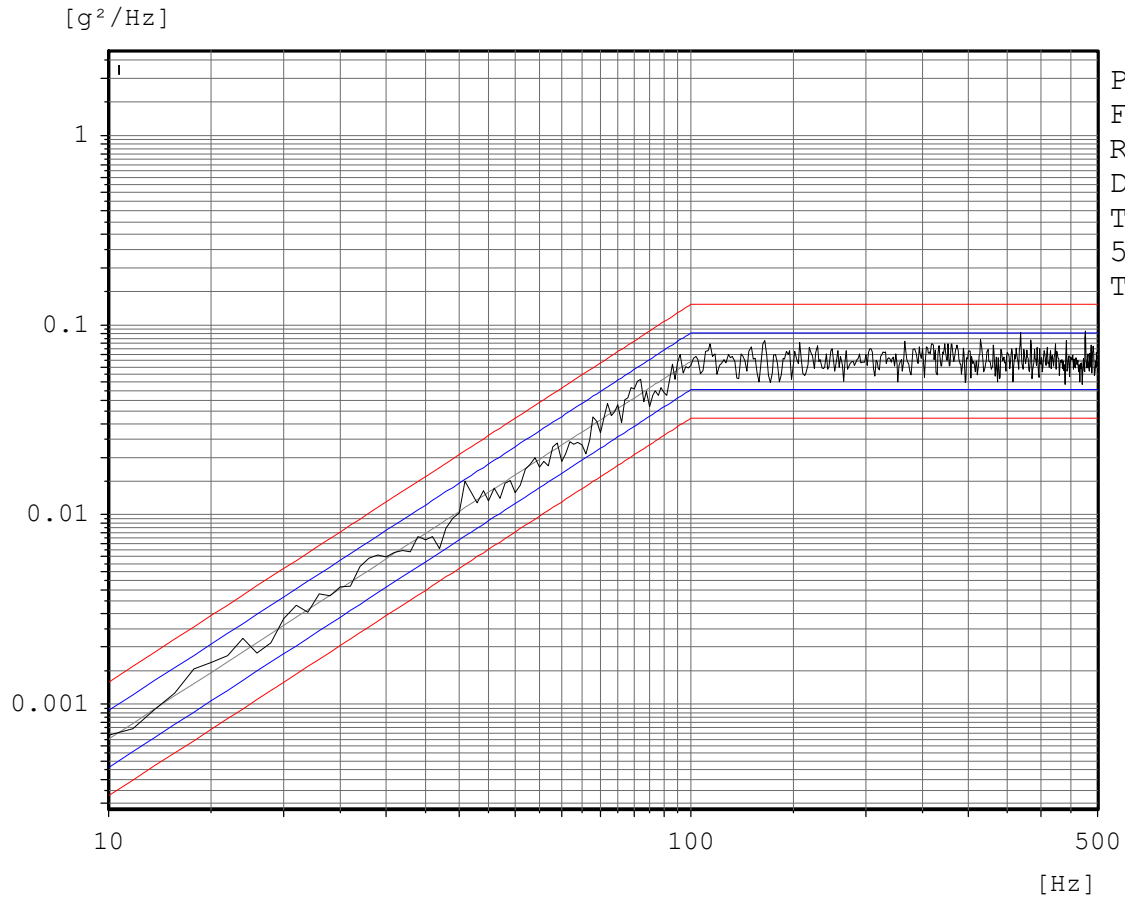
Project #: 210428A  
FCI  
Run #1  
Date: 9/02/10  
Test Conditions:  
5.3g's 2hr Axis  
Tech: BE



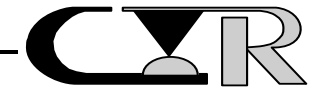
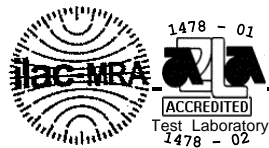
**FIGURE #8**

Random

Control channel



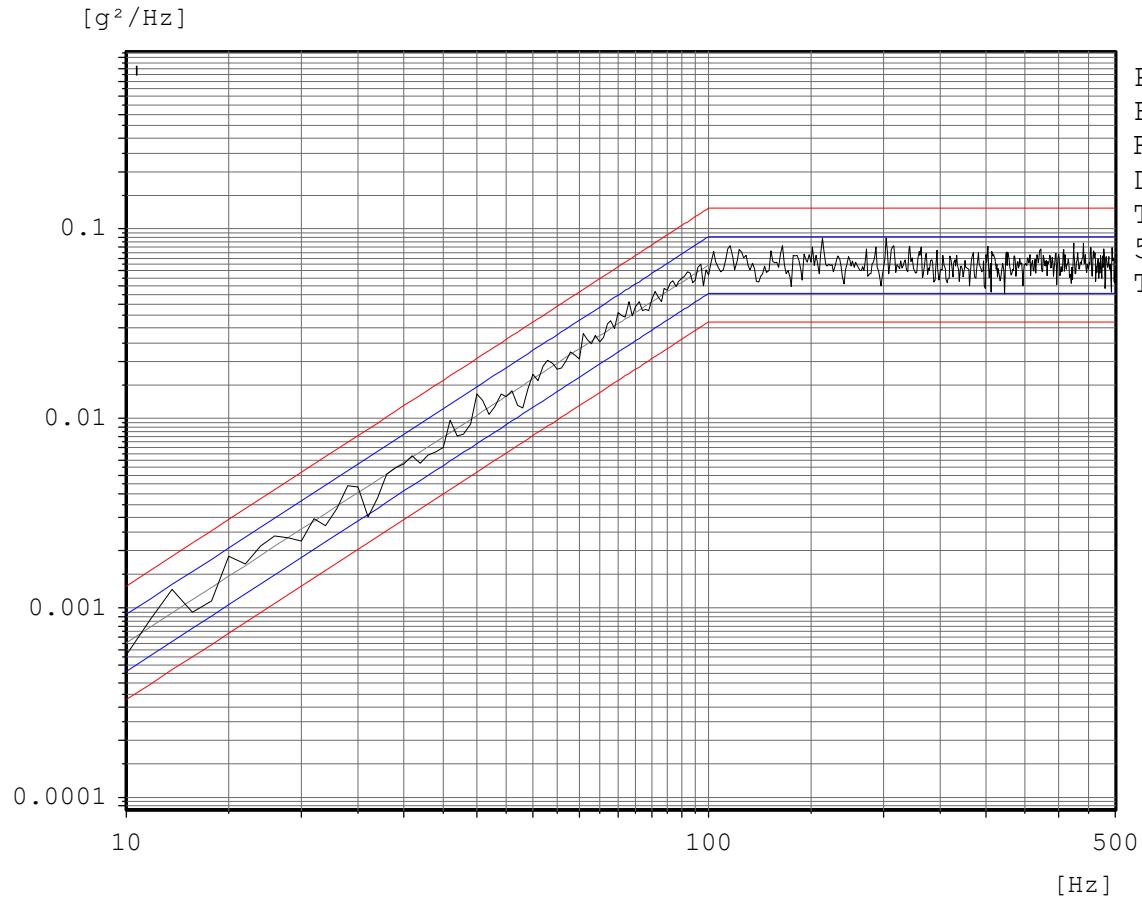
Project #: 210428A  
FCI  
Run #2  
Date: 9/02/10  
Test Conditions:  
5.3g's 2hr Axis  
Tech: BE



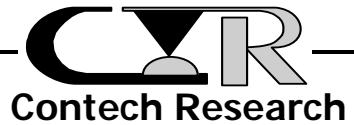
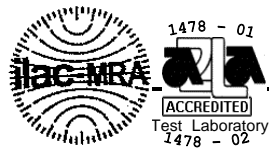
**FIGURE #9**

Random

Control channel



Project #: 210428A  
FCI  
Run #3  
Date: 9/03/10  
Test Conditions:  
5.3g's 2hr Axis  
Tech: BE



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 9/20/10

COMPLETE DATE: 9/20/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 49%

EQUIPMENT ID#: 199, 340, 601, 677

DURABILITY

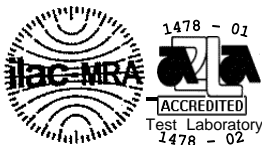
PURPOSE:

1. This is a conditioning sequence which is used to induce the type of wear on the contacting surfaces which may occur under normal service conditions. The connectors are mated and unmated a predetermined number of cycles. Upon completion, the units being evaluated are exposed to the environments as specified to assess any impact on electrical stability resulting from wear or other wear dependent phenomenon.
2. This type of conditioning sequence is also used to mechanically stress the connector system as would normally occur in actual service. This sequence in conjunction with other tests is used to determine if a significant loss of contact pressure occurs from said stresses which in turn, may result in an unstable electrical condition to exist.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 09, Rev. C.
2. Test Conditions:
  - a) No. of Cycles : 100
  - b) Rate : 500 cycles/hour max.

-continued on next page.



PROCEDURE: -continued

3. The test samples were assembled to special holding devices and attached to the automatic cycling equipment utilizing constant speed control and counter systems.
4. The test samples were axially aligned to accomplish the mating and unmating function allowing for self-centering movement.
5. All subsequent variable testing was performed in accordance with procedures previously indicated.

-----  
REQUIREMENTS:

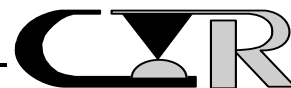
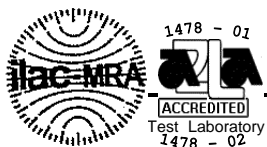
1. There shall be no evidence of physical damage to the test samples so tested.
2. The force required to mate the connectors shall not exceed 18.85 pounds.
3. The force required to unmate the connectors shall be a minimum of 6.40 pounds.
4. The change in low level circuit resistance shall not exceed +10.0 milliohms.

-----  
RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. The following is a summary of the data observed:

<u>Sample ID#</u>	<u>MATING FORCE</u> <u>(Pounds)</u>	<u>UNMATING FORCE</u> <u>(Pounds)</u>
1-6FA-1	7.7	11.7
1-6FA-2	9.9	12.1
1-6FA-3	8.3	12.9

-continued on next page.



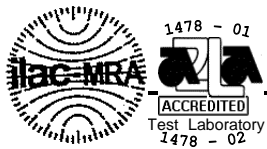
RESULTS: -continued

3. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u> <u>Change</u>	<u>Max.</u> <u>Change</u>
1-6FA-1	+0.5	+2.0
1-6FA-2	+0.2	+0.9
1-6FA-3	+0.2	+0.6
GROUND		
<u>Sample ID#</u>		
1-6FA-1	+0.3	+1.2
1-6FA-2	+0.3	+0.9
1-6FA-3	+0.4	+1.2

4. See data files 210428A01 through 210428A03 and 210428A13 through 210428A16 for individual data points.



# LLCR DATA FILES

## FILE NUMBERS

210428A01

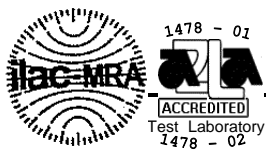
210428A02

210428A03

210428A13

210428A14

210428A15



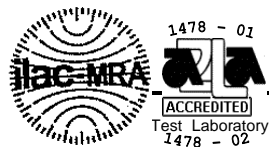
Low Level Contact Resistance - Delta Values

Project:	210428A						Spec: EIA 364 TP 23	
Customer:	FCI						Subgroup: Sample ID# 1-6FA-1	
Product:	6x6 Crossbow						File #:	210428A01
Description:	Signal Contacts							
Open circuit voltage:	20mv						Current:	100ma
units:	milliohms							
Temp °C	22	22	23	23	22	22	22	22
R.H. %	51	50	52	52	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	31Aug10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	Y Axis	X Axis	Z Axis	100X
1A1	15.3	0.3	0.3	0.3	0.3	0.2	0.3	-0.1
1B1	15.8	0.2	0.1	0.2	0.2	0.3	0.0	1.3
1C1	18.2	0.2	0.1	0.2	0.1	0.2	0.0	0.4
1D1	18.5	0.4	0.3	0.4	0.3	0.3	0.3	0.5
1E1	21.4	0.2	0.2	0.2	0.2	0.3	0.2	0.1
1F1	21.9	0.5	0.4	0.4	0.3	0.1	0.4	1.4
1G1	24.8	0.2	0.1	0.2	0.2	0.3	0.2	0.3
1H1	25.5	0.3	0.2	0.3	0.3	0.1	0.3	2.0
1J1	27.6	0.2	0.1	0.2	0.1	0.2	0.0	-0.1
1K1	28.9	0.4	0.3	0.4	0.3	0.3	0.2	0.3
1L1	29.4	0.3	0.1	0.2	0.1	0.2	0.1	0.3
1M1	31.3	0.3	0.2	0.3	0.3	0.2	0.2	0.5
1G2	25.1	0.4	0.3	0.3	0.5	0.3	0.4	0.8
1K2	29.2	0.3	0.4	0.2	0.1	0.2	0.1	0.4
1M2	31.1	0.4	0.3	0.4	0.3	0.3	0.3	0.6
1J3	27.5	0.1	0.1	0.2	0.3	-0.1	0.1	0.2

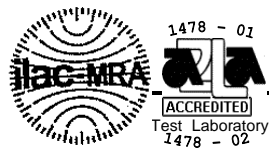


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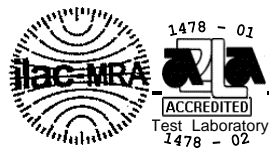
							File #:	210428A01
Temp °C	22	22	23	23	22	22	22	22
R.H. %	51	50	52	52	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	31Aug10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	Y Axis	X Axis	Z Axis	100X
1K3	29.1	0.3	0.2	0.4	0.3	0.3	0.2	0.6
1K4	28.9	0.1	0.0	0.2	0.0	0.1	0.0	0.1
1G4	25.1	0.3	0.3	0.3	0.3	0.3	0.2	0.8
1L5	29.6	0.3	0.2	0.3	0.3	0.3	0.3	0.9
1K5	29.2	0.1	0.0	0.1	0.1	0.1	0.1	0.5
1J5	27.5	0.2	0.1	0.1	0.4	0.2	0.1	0.4
1J2	27.2	0.1	0.0	0.1	0.1	0.1	0.1	0.4
1L2	29.3	0.2	0.0	0.1	0.2	0.1	0.1	0.4
1H2	25.2	0.3	0.3	0.3	0.3	0.1	0.3	1.4
1G3	24.9	0.5	0.5	0.4	0.4	0.3	0.3	0.7
1L3	29.4	0.2	0.2	0.1	0.2	0.2	0.2	0.2
1M3	31.0	0.2	0.2	0.2	0.1	0.2	0.1	0.3
1H3	25.2	0.1	0.1	0.2	0.2	0.3	0.1	0.4
1J4	27.1	0.1	0.2	0.3	0.4	0.5	0.5	1.6
1L4	29.1	0.3	0.1	0.2	0.2	0.3	0.2	0.4
1M4	30.8	0.1	0.1	0.0	0.1	0.1	0.0	0.2
1H4	25.1	0.0	-0.1	-0.1	0.0	0.0	0.0	0.6
1M5	30.9	0.2	0.1	0.1	0.1	0.2	0.1	1.0
1H5	25.0	0.1	0.0	0.1	0.1	0.1	0.0	0.6
1A6	14.8	0.1	0.0	0.1	0.0	0.1	0.4	0.3
1B6	16.0	0.2	0.1	0.2	0.2	0.1	1.2	0.9
1C6	18.3	0.2	0.2	0.1	0.2	0.3	0.2	0.6
1D6	18.2	0.1	0.1	0.1	0.1	0.1	0.4	0.1
1G5	25.1	0.2	0.2	0.6	0.1	0.2	0.2	0.0



							File #:	210428A01
Temp °C	22	22	23	23	22	22	22	22
R.H. %	51	50	52	52	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	31Aug10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	Y Axis	X Axis	Z Axis	100X
1E6	20.4	0.3	0.0	0.2	0.2	-0.1	0.2	0.1
1F6	22.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0
1G6	24.7	0.6	0.5	0.5	0.5	0.6	0.5	0.1
1H6	25.2	0.2	0.1	0.1	0.1	0.1	0.0	0.2
1J6	27.0	0.3	0.3	0.3	0.3	0.5	0.2	0.5
1K6	29.2	0.1	0.1	0.1	0.1	0.1	-0.1	0.8
1L6	29.4	0.4	0.2	0.3	0.3	0.3	0.2	0.8
1M6	30.9	0.3	0.1	0.2	0.3	0.3	0.5	0.5
1F2	21.9	0.3	0.2	0.4	0.4	0.2	0.3	0.3
1C2	18.1	0.4	0.2	0.3	0.3	0.3	0.3	0.8
1B2	15.8	0.4	0.3	0.3	0.3	0.3	0.2	0.8
1E3	21.0	0.2	0.1	0.2	0.3	0.3	0.3	0.0
1D3	18.3	0.3	0.1	0.2	0.3	0.2	0.2	0.7
1F3	21.9	0.3	0.1	0.1	0.3	0.2	0.2	0.3
1B4	15.5	0.3	0.2	0.2	0.2	0.3	0.1	0.1
1E4	20.9	0.2	0.1	0.2	0.2	0.2	0.2	0.4
1F4	21.7	0.2	0.2	0.2	0.3	0.4	0.1	0.7
1B5	15.8	0.2	0.1	0.1	0.1	0.0	0.1	-0.1
1D5	18.5	0.3	0.2	0.3	0.3	0.3	0.2	0.0
1E5	20.9	1.1	0.2	0.2	0.2	0.2	0.2	0.3
1F5	21.8	0.2	0.1	0.2	0.2	0.2	0.2	0.4
1D2	18.7	0.4	0.2	0.3	0.4	0.3	0.2	0.1
1A2	15.1	0.3	0.2	0.2	0.3	0.3	0.2	0.1
1C3	18.5	0.3	0.1	0.2	0.2	0.3	0.2	-0.1



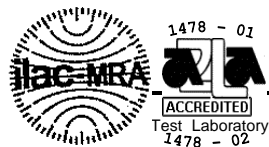
							File #:	210428A01
Temp °C	22	22	23	23	22	22	22	22
R.H. %	51	50	52	52	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	31Aug10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	Y Axis	X Axis	Z Axis	100X
1A3	15.2	0.3	0.2	0.2	0.2	0.3	0.2	0.0
1B3	16.1	0.4	0.3	0.4	0.4	0.5	0.2	0.2
1D4	18.4	0.3	0.2	0.2	0.3	0.2	0.1	0.5
1C4	18.3	0.3	0.1	0.2	0.2	0.2	0.2	0.6
1A4	15.0	0.2	0.1	0.2	0.2	0.2	0.0	1.8
1C5	18.5	0.2	0.1	0.2	0.2	0.1	0.1	0.2
1A5	15.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3
MAX	31.3	1.1	0.5	0.6	0.5	0.6	1.2	2.0
MIN	14.8	0.0	-0.1	-0.1	0.0	-0.1	-0.1	-0.1
AVG	23.2	0.3	0.2	0.2	0.2	0.2	0.2	0.5
STD	5.3	0.1	0.1	0.1	0.1	0.1	0.2	0.4
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	BE	BE	BE	AJP	BE	BE
Equip ID	601	601	601	601	601	244	601	601
	677	677	677	677	677	1647	677	677



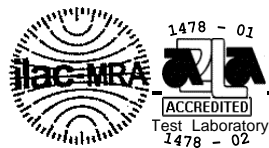
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Low Level Contact Resistance - Delta Values

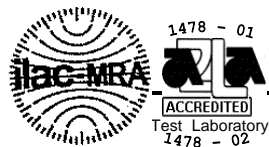
Project:	210428A						Spec: EIA 364 TP 23	
Customer:	FCI						Subgroup: Sample ID# 1-6FA-2	
Product:	6x6 Crossbow						File #:	210428A02
Description:	Signal Contacts							
Open circuit voltage: 20mv units: milliohms							Current:	100ma
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1A1	15.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1
1B1	15.4	0.3	0.5	0.3	0.3	0.5	0.3	0.1
1C1	18.1	0.0	0.0	0.0	0.0	0.1	0.0	-0.1
1D1	18.5	0.1	0.1	0.2	0.1	0.2	0.1	0.0
1E1	21.3	0.1	0.0	0.0	0.1	0.2	0.3	0.1
1F1	21.7	0.2	0.3	0.2	0.2	0.1	-0.1	0.0
1G1	24.6	0.2	0.2	0.2	0.3	0.3	0.2	0.1
1H1	25.4	0.1	0.0	0.1	0.2	0.2	0.1	0.2
1J1	27.5	0.2	0.2	0.1	0.3	0.2	0.1	0.1
1K1	28.9	0.1	0.0	-0.1	-0.1	-0.1	-0.1	0.1
1L1	28.9	0.1	0.2	0.0	0.2	0.2	0.1	0.4
1M1	31.3	0.2	0.1	0.3	0.4	0.4	0.4	0.4
1G2	25.0	0.1	0.1	0.1	0.0	0.1	0.0	-0.1
1K2	28.9	0.4	0.6	0.5	0.3	0.4	0.4	0.8
1M2	31.2	0.1	0.1	0.1	0.1	0.2	0.1	0.4
1J3	27.2	0.2	0.1	0.1	0.1	0.2	0.1	0.1



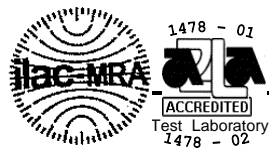
							File #:	210428A02
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1K3	28.8	0.3	0.3	0.3	0.2	0.3	0.2	0.3
1K4	28.8	0.1	0.1	0.1	-0.1	0.4	0.1	0.5
1G4	25.1	0.2	0.3	0.0	0.1	0.2	0.1	0.4
1L5	29.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2
1K5	28.9	0.1	0.1	0.1	0.1	0.1	0.0	0.9
1J5	27.3	0.2	0.2	0.1	0.1	0.2	0.1	0.4
1J2	27.0	0.2	0.2	0.0	0.1	0.1	0.1	0.2
1L2	29.3	0.1	0.1	0.0	0.1	0.1	0.0	0.0
1H2	25.1	0.2	0.5	0.2	0.4	0.5	0.4	-0.8
1G3	24.4	0.2	0.4	-0.1	0.1	0.4	0.1	-0.5
1L3	28.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1M3	30.6	0.0	0.2	0.0	0.0	0.1	0.0	0.3
1H3	25.0	0.2	0.1	-0.1	0.1	0.1	0.1	0.0
1J4	26.9	0.3	0.2	0.2	0.2	0.3	0.2	0.3
1L4	29.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
1M4	30.6	0.2	0.3	-0.1	0.3	0.3	0.1	0.2
1H4	25.0	0.2	0.2	0.1	0.0	0.1	0.1	0.1
1M5	30.6	0.2	0.2	0.2	0.2	0.1	0.1	0.4
1H5	25.0	0.1	0.1	0.0	0.1	0.2	0.1	0.1
1A6	14.7	0.1	0.1	0.1	0.1	0.0	0.0	0.0
1B6	15.8	0.3	0.3	0.3	0.3	0.3	0.2	0.3
1C6	18.5	0.1	0.1	0.1	0.1	0.1	0.0	0.0
1D6	18.0	0.2	0.2	0.1	0.2	0.2	0.1	0.2



							File #:	210428A02
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1G5	25.0	0.2	0.2	0.1	0.9	0.1	0.2	0.3
1E6	20.6	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2	0.0
1F6	21.9	0.3	0.3	0.2	0.2	0.2	0.2	0.3
1G6	24.8	-0.1	0.0	-0.1	0.0	-0.1	-0.4	0.0
1H6	24.9	-0.1	0.0	0.0	-0.4	0.1	-0.2	0.3
1J6	26.9	0.2	0.1	0.1	0.1	-0.2	0.1	0.3
1K6	28.6	0.3	0.2	0.3	0.3	-0.7	0.2	0.4
1L6	29.4	0.1	0.2	0.1	0.1	0.0	0.0	0.1
1M6	30.5	0.2	0.3	0.2	0.2	0.1	0.1	0.4
1F2	21.8	0.2	0.3	0.2	0.4	0.4	0.2	0.1
1C2	18.1	0.1	0.2	0.2	0.2	0.2	0.0	-0.1
1B2	15.7	0.2	0.2	0.2	0.3	0.3	0.2	0.0
1E3	20.7	0.1	0.2	0.2	0.1	0.1	0.0	0.2
1D3	17.9	0.4	0.3	0.3	-0.2	0.3	0.2	0.6
1F3	21.5	0.1	0.1	0.1	0.1	0.2	0.1	-0.2
1B4	15.5	0.3	0.4	0.4	0.4	0.3	0.3	0.0
1E4	20.9	0.2	0.3	0.2	0.2	0.3	0.1	0.2
1F4	21.6	0.1	0.1	0.0	0.2	0.2	-0.2	0.2
1B5	15.5	0.3	0.3	0.2	0.2	0.3	0.2	0.0
1D5	18.3	0.3	0.3	0.2	0.2	0.3	0.2	0.1
1E5	20.8	0.1	0.1	0.1	0.0	0.1	0.0	0.1
1F5	21.6	0.2	0.1	0.1	0.0	0.1	0.1	0.0
1D2	18.4	0.6	0.7	0.4	0.4	0.5	0.3	0.4

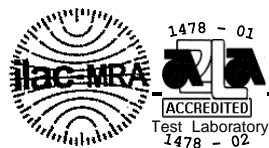


							File #:	210428A02
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1A2	15.1	0.1	0.3	0.1	0.2	0.2	0.1	0.0
1C3	18.3	0.2	0.2	0.2	0.0	0.3	0.1	0.2
1A3	14.9	0.2	0.1	0.2	0.2	0.2	0.2	0.1
1B3	15.9	0.3	0.5	0.2	0.2	0.2	0.1	0.0
1D4	18.4	0.1	0.1	0.0	0.2	0.0	0.0	0.1
1C4	18.3	0.4	0.4	0.2	0.2	0.2	0.2	0.1
1A4	14.9	0.3	0.3	0.2	0.2	0.3	0.2	0.2
1C5	18.4	0.1	0.0	0.1	0.1	0.1	0.1	0.0
1A5	15.0	0.2	0.0	0.1	0.1	0.1	0.1	0.1
MAX	31.3	0.6	0.7	0.5	0.9	0.5	0.4	0.9
MIN	14.7	-0.1	-0.1	-0.2	-0.4	-0.7	-0.4	-0.8
AVG	23.0	0.2	0.2	0.1	0.1	0.2	0.1	0.2
STD	5.3	0.1	0.1	0.1	0.2	0.2	0.1	0.2
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	BE	BE	BE	AJP	BE	BE
Equip ID	601	601	601	601	601	244	601	601
	677	677	677	677	677	1647	677	677

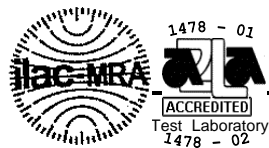


Low Level Contact Resistance - Delta Values

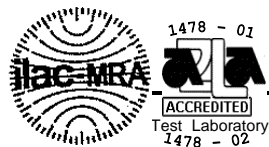
Project:	210428A						Spec: EIA 364 TP 23	
Customer:	FCI						Subgroup: Sample ID# 1-6FA-3	
Product:	6x6 Crossbow						File #:	210428A03
Description:	Signal Contacts							
Open circuit voltage: 20mv units: milliohms							Current:	100ma
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1A1	15.1	0.4	0.3	0.4	0.0	0.4	0.3	0.1
1B1	15.6	0.3	0.1	0.1	0.2	0.3	0.3	0.6
1C1	17.9	0.3	0.2	0.4	0.3	0.4	0.3	0.3
1D1	18.4	0.2	0.2	0.3	0.2	0.2	0.2	0.3
1E1	21.2	0.1	0.0	0.1	0.1	-0.1	0.1	0.0
1F1	21.7	0.4	0.3	0.4	0.2	0.5	0.3	0.3
1G1	24.7	0.2	0.1	0.2	0.2	0.2	-0.5	0.1
1H1	25.4	0.2	0.2	0.2	0.3	0.2	0.2	0.4
1J1	27.3	0.0	0.0	0.0	0.1	0.2	0.0	0.4
1K1	28.8	0.1	0.1	0.0	0.0	0.2	0.0	0.1
1L1	29.3	0.1	0.1	0.1	0.1	0.2	-0.2	0.3
1M1	31.3	0.1	-0.1	0.1	0.0	-0.5	-0.3	0.5
1G2	25.1	0.1	0.1	0.2	0.2	0.3	0.1	0.3
1K2	29.2	0.3	0.2	0.3	0.0	0.3	0.2	0.3
1M2	31.4	0.2	0.1	0.1	0.2	0.3	0.4	0.3
1J3	27.4	0.2	0.1	0.1	0.1	0.2	0.1	0.1



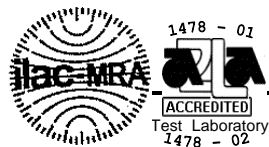
							File #:	210428A03
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1K3	29.1	0.2	0.1	0.2	0.2	0.2	0.2	0.6
1K4	29.3	0.2	0.0	0.1	0.1	0.4	0.3	0.1
1G4	25.2	0.1	0.0	0.2	0.2	0.2	0.2	0.4
1L5	29.6	0.1	0.1	0.2	0.1	0.2	0.1	0.2
1K5	29.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0
1J5	27.4	0.2	0.1	0.2	0.2	0.2	0.1	0.0
1J2	27.1	0.3	0.2	0.2	0.2	0.3	0.2	0.2
1L2	29.3	0.2	0.1	0.2	0.2	0.1	0.1	0.3
1H2	25.2	0.3	0.1	0.2	0.2	0.2	0.2	0.3
1G3	24.7	0.2	0.1	0.1	0.2	0.2	0.2	0.0
1L3	29.1	0.3	0.5	0.4	0.3	0.3	0.3	0.2
1M3	31.0	0.2	0.2	0.3	0.3	0.2	0.3	0.5
1H3	25.1	0.2	0.1	0.1	0.3	0.2	0.2	0.1
1J4	27.3	0.1	0.0	0.1	0.1	0.1	0.0	0.1
1L4	29.3	0.2	0.2	0.3	0.4	0.4	0.2	0.0
1M4	31.0	0.4	0.3	0.3	0.3	0.3	0.3	0.0
1H4	25.2	0.1	0.0	0.1	0.2	0.2	0.0	0.6
1M5	30.9	0.2	0.1	0.2	0.2	0.3	0.2	0.5
1H5	25.3	0.0	-0.1	0.0	0.1	0.1	-0.1	0.0
1A6	14.7	0.2	0.2	0.2	0.2	0.1	0.1	0.2
1B6	16.0	0.3	0.3	0.2	0.3	0.3	0.2	0.0
1C6	18.3	0.2	0.1	0.2	0.2	0.2	0.2	0.6
1D6	18.3	0.3	0.2	0.3	0.2	0.3	0.3	-0.7



							File #:	210428A03
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1G5	25.1	0.1	0.0	0.1	0.1	-0.1	0.0	0.1
1E6	20.9	0.3	0.2	0.2	0.2	0.3	0.2	-0.1
1F6	22.1	0.3	0.2	0.3	0.3	0.4	0.1	0.2
1G6	25.0	0.2	0.2	0.3	0.3	0.1	0.1	0.0
1H6	25.2	0.1	-0.1	0.0	0.0	0.1	0.5	0.1
1J6	27.1	0.2	0.2	0.3	0.3	0.1	0.1	0.0
1K6	29.3	0.0	0.0	0.1	0.1	0.1	0.0	0.1
1L6	29.5	0.3	0.1	0.3	0.2	0.2	0.6	0.1
1M6	31.1	0.0	0.0	0.1	0.1	0.2	0.1	0.1
1F2	21.8	0.4	0.3	0.4	0.4	0.3	0.3	0.1
1C2	18.2	0.2	0.1	0.2	0.2	0.5	0.2	0.5
1B2	15.7	0.3	0.2	0.3	0.3	0.2	0.2	0.1
1E3	20.9	0.3	0.2	0.3	0.3	0.2	0.2	0.0
1D3	18.1	0.2	0.1	0.2	0.3	0.2	0.2	0.0
1F3	21.9	0.0	0.0	0.1	0.1	0.1	-0.1	0.1
1B4	15.7	0.4	0.4	0.4	0.4	0.4	0.4	0.5
1E4	21.0	0.2	0.1	0.2	0.2	0.2	0.1	0.0
1F4	21.9	0.3	0.2	0.3	0.2	0.3	0.2	0.1
1B5	15.8	0.2	0.2	0.2	0.2	0.1	0.1	0.0
1D5	18.4	0.4	0.3	0.4	0.4	0.3	0.3	0.0
1E5	20.9	0.2	0.1	0.3	0.1	0.1	0.1	0.0
1F5	21.8	0.3	0.2	0.3	0.2	0.2	0.2	0.0
1D2	18.5	0.1	0.1	0.2	0.1	0.1	0.2	0.1

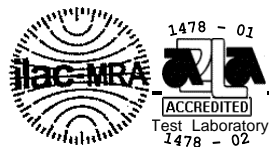


							File #:	210428A03
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1A2	15.1	0.3	0.2	0.3	0.3	0.3	0.2	0.1
1C3	18.4	0.3	0.2	0.2	0.3	0.3	0.2	-0.1
1A3	15.0	0.3	0.3	0.3	0.3	0.5	0.3	0.2
1B3	16.0	0.4	0.3	0.3	0.4	0.2	0.3	0.1
1D4	18.6	0.3	0.3	0.3	0.3	0.3	0.3	0.0
1C4	18.5	0.2	0.1	0.2	0.2	0.2	0.1	0.0
1A4	15.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
1C5	18.4	0.2	0.1	0.1	0.1	0.2	0.1	-0.1
1A5	15.1	0.3	0.2	0.3	0.3	0.3	0.2	0.1
MAX	31.4	0.4	0.5	0.4	0.4	0.5	0.6	0.6
MIN	14.7	0.0	-0.1	0.0	0.0	-0.5	-0.5	-0.7
AVG	23.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2
STD	5.4	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	BE	BE	BE	AJP	BE	BE
Equip ID	601	601	601	601	601	244	601	601
	677	677	677	677	677	1647	677	677

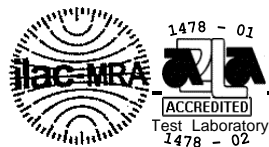


Low Level Contact Resistance - Delta Values

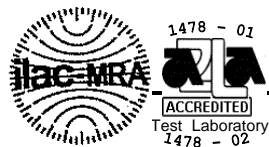
Project:	210428A						Spec:	EIA 364 TP 23	
Customer:	FCI						Subgroup:	Sample ID# 1-6FA-1	
Product:	6x6 Crossbow						File #:	210428A13	
Description:	Ground Contacts								
Open circuit voltage:	20mv							Current:	100ma
units:	milliohms								
Temp °C	22	22	23	22	22	22	22	22	
R.H. %	51	50	52	53	51	52	48	42	
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10	
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability	
		X Axis	Y Axis	Z Axis	Y Axis	X Axis	Z Axis	100X	
1GN1	7.3	0.1	0.0	-0.1	0.0	0.0	0.1	0.0	
1GN7	9.4	0.0	-0.1	-0.2	-0.1	-0.1	-0.1	0.0	
1GN13	8.7	0.6	0.3	0.2	0.3	0.3	0.2	0.3	
1GN19	9.8	2.2	1.9	1.7	1.0	0.9	0.8	0.7	
1GN25	9.9	0.6	0.6	0.6	0.4	0.3	0.4	-0.2	
1GN31	10.7	0.3	0.2	0.2	0.2	0.2	0.2	0.4	
1GN37	10.8	0.5	0.4	0.4	0.5	0.5	0.4	0.2	
1GN26	10.1	0.5	0.4	0.3	0.4	0.4	0.4	0.7	
1GN32	10.5	0.8	0.7	0.6	0.4	0.5	0.4	0.6	
1GN33	10.7	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	1.1	
1GN27	10.0	0.5	0.4	0.4	0.4	0.4	0.4	1.1	
1GN21	9.7	0.3	0.2	0.2	0.3	0.2	0.1	0.3	
1GN34	10.5	0.3	0.2	0.2	0.1	0.1	0.1	0.5	
1GN28	9.9	0.2	0.1	0.2	0.2	0.1	0.2	0.9	
1GN35	10.3	0.2	0.1	0.1	0.1	0.2	0.2	0.4	
1GN29	9.9	0.4	0.4	0.4	0.4	0.4	0.4	0.2	



							File #:	210428A13
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	Y Axis	X Axis	Z Axis	100X
1GN20	9.2	0.6	0.5	0.5	0.7	0.4	0.3	0.6
1GN38	10.6	0.3	0.3	0.3	0.3	0.4	0.4	0.7
1GN39	10.7	0.4	0.3	0.3	0.3	0.4	0.3	0.5
1GN40	10.8	0.2	0.1	0.1	0.1	0.1	0.0	0.0
1GN22	9.0	0.1	0.1	0.1	0.2	0.1	0.1	0.3
1GN41	10.8	0.4	0.3	0.2	0.2	0.1	0.0	0.2
1GN23	9.2	0.2	0.1	0.1	0.0	0.5	0.0	-0.8
1GN6	7.3	0.3	0.2	0.1	0.1	0.1	0.4	0.3
1GN12	8.9	0.2	0.1	0.0	0.0	0.1	2.5	0.5
1GN18	9.2	0.2	0.2	0.1	0.1	0.1	-0.2	0.0
1GN24	8.9	0.3	0.3	0.2	0.2	0.3	0.4	0.5
1GN30	10.0	0.1	0.0	-0.1	-0.1	-0.1	-0.2	0.3
1GN36	10.1	0.3	0.1	0.1	0.4	0.2	-0.1	0.0
1GN42	11.3	0.5	0.4	0.3	0.4	0.4	0.1	0.1
1GN14	8.9	1.0	0.9	0.8	0.8	0.6	0.4	0.9
1GN2	7.2	0.3	0.2	0.2	0.2	0.2	0.1	0.0
1GN9	9.1	0.4	0.3	0.3	0.2	0.2	-0.1	-0.5
1GN3	7.2	0.5	0.4	0.3	0.3	0.4	0.0	0.0
1GN4	7.5	-0.1	-0.1	-0.2	-0.2	-0.2	-0.3	-0.1
1GN5	7.3	0.0	0.0	0.0	-0.1	-0.1	-0.2	0.0
1GN8	9.5	0.2	0.1	0.2	0.2	0.1	0.0	1.2
1GN15	9.6	0.2	0.0	0.0	0.1	0.0	-0.2	1.0
1GN10	9.2	0.4	0.4	0.4	0.3	0.4	0.1	0.2

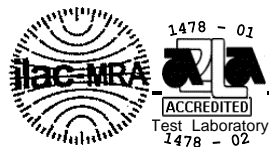


							File #:	210428A13
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	Y Axis	X Axis	Z Axis	100X
1GN16	9.0	0.5	0.4	0.4	0.4	0.5	0.2	0.3
1GN11	9.3	0.3	0.2	0.2	0.1	0.2	-0.1	0.1
1GN17	9.2	0.2	0.2	0.1	0.1	0.1	0.0	0.2
MAX	11.3	2.2	1.9	1.7	1.0	0.9	2.5	1.2
MIN	7.2	-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	-0.8
AVG	9.5	0.4	0.3	0.2	0.2	0.2	0.2	0.3
STD	1.1	0.4	0.3	0.3	0.2	0.2	0.4	0.4
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	BE	BE	BE	AJP	BE	BE
Equip ID	601	601	601	601	601	244	601	601
	677	677	677	677	677	1647	677	677

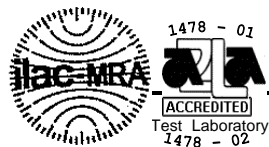


Low Level Contact Resistance - Delta Values

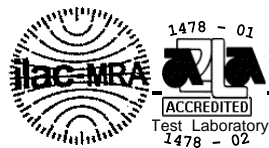
Project:	210428A						Spec:	EIA 364 TP 23	
Customer:	FCI						Subgroup:	Sample ID# 1-6FA-2	
Product:	6x6 Crossbow						File #:	210428A14	
Description:	Ground Contacts								
Open circuit voltage:	20mv						Current:	100ma	
units:	milliohms								
Temp °C	22	22	23	22	22	22	22	22	
R.H. %	51	50	52	53	51	52	48	42	
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10	
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability	
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X	
1GN1	7.2	0.6	0.6	0.5	0.5	0.5	0.4	0.1	
1GN7	9.3	0.5	0.5	0.6	0.7	0.7	0.6	-0.4	
1GN13	9.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	
1GN19	9.6	0.4	0.4	0.2	0.5	0.5	0.4	0.3	
1GN25	9.7	0.3	0.3	0.3	0.4	0.4	0.3	0.2	
1GN31	10.5	0.2	0.2	0.1	0.2	0.2	0.1	0.1	
1GN37	10.7	0.4	0.3	0.3	0.4	0.3	0.2	0.1	
1GN26	10.2	0.3	0.3	0.2	0.3	0.2	0.2	0.3	
1GN32	10.6	0.2	0.2	0.0	0.1	0.1	0.0	0.0	
1GN33	10.7	0.0	0.1	0.0	0.1	0.0	0.0	0.4	
1GN27	10.0	0.3	0.4	0.2	0.2	0.2	0.2	0.7	
1GN21	9.3	0.6	0.5	0.3	0.2	0.3	0.3	0.5	
1GN34	10.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4	
1GN28	10.0	0.3	0.4	0.2	0.3	0.3	0.2	0.7	
1GN35	10.2	0.3	0.3	0.2	0.2	0.2	0.1	0.6	
1GN29	10.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	



							File #:	210428A14
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1GN20	9.2	0.3	0.3	0.2	0.2	0.2	0.2	0.0
1GN38	10.8	0.2	0.1	0.1	0.2	0.2	0.0	0.4
1GN39	10.8	0.2	0.2	0.1	0.3	0.2	0.1	0.1
1GN40	10.6	0.4	0.4	0.3	0.5	0.3	0.3	0.0
1GN22	9.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2
1GN41	10.7	0.3	0.4	0.4	0.4	0.4	0.3	0.1
1GN23	9.1	0.2	0.2	0.2	0.3	0.2	0.1	0.4
1GN6	7.7	0.1	0.1	0.0	0.1	0.0	0.0	0.1
1GN12	8.7	0.5	0.5	0.4	0.4	0.4	0.2	0.2
1GN18	9.3	-2.0	0.3	0.2	0.2	0.2	0.2	0.1
1GN24	8.9	0.5	0.4	0.4	0.3	0.3	0.3	0.6
1GN30	9.9	0.4	0.4	0.4	0.3	0.4	0.5	0.8
1GN36	10.1	0.4	0.4	0.3	0.4	0.4	0.3	0.6
1GN42	11.1	0.2	0.2	0.1	0.2	0.1	0.1	0.0
1GN14	8.9	0.2	0.3	0.3	0.2	0.3	0.2	0.1
1GN2	7.2	0.3	0.3	0.3	0.3	0.3	0.2	0.0
1GN9	8.9	0.6	0.8	0.7	0.7	0.7	0.3	0.0
1GN3	7.1	0.3	0.3	0.2	0.3	0.3	0.3	0.0
1GN4	7.2	0.4	0.3	0.3	0.2	0.2	0.2	-0.2
1GN5	7.2	0.1	0.1	0.0	0.0	0.0	0.0	0.3
1GN8	9.6	0.3	0.3	0.2	0.3	0.3	0.1	0.1
1GN15	9.2	0.4	0.4	0.4	0.5	0.4	0.4	0.4
1GN10	9.4	0.5	0.5	0.6	0.6	0.5	0.4	0.1

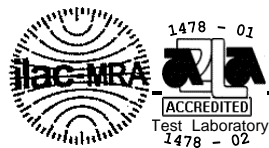


							File #:	210428A14
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1GN16	9.2	0.8	0.8	0.7	0.8	0.7	0.6	0.7
1GN11	9.4	0.1	0.0	0.0	0.0	0.0	-0.1	0.4
1GN17	9.3	0.3	0.3	0.1	0.1	0.2	0.1	0.9
MAX	11.1	0.8	0.8	0.7	0.8	0.7	0.6	0.9
MIN	7.1	-2.0	0.0	0.0	0.0	0.0	-0.1	-0.4
AVG	9.4	0.3	0.3	0.3	0.3	0.3	0.2	0.3
STD	1.1	0.4	0.2	0.2	0.2	0.2	0.2	0.3
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	BE	BE	BE	AJP	BE	BE
Equip ID	601	601	601	601	601	244	601	601
	677	677	677	677	677	1647	677	677

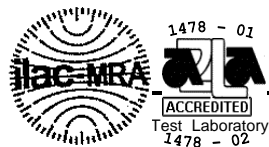


Low Level Contact Resistance - Delta Values

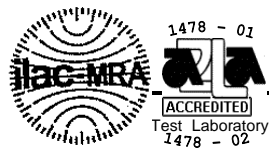
Project:	210428A						Spec:	EIA 364 TP 23
Customer:	FCI						Subgroup:	Sample ID# 1-6FA-3
Product:	6x6 Crossbow						File #:	210428A15
Description:	Ground Contacts							
Open circuit voltage:	20mv						Current:	100ma
units:	milliohms							
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1GN1	7.1	0.5	0.4	0.5	0.5	0.6	0.5	0.4
1GN7	9.2	0.8	0.7	0.8	0.7	0.8	0.6	0.7
1GN13	8.8	0.4	0.4	0.3	0.6	0.5	0.6	0.1
1GN19	9.3	0.7	0.5	0.7	0.5	0.7	0.6	-0.3
1GN25	9.6	0.5	0.4	0.6	0.5	0.4	0.4	0.6
1GN31	10.3	0.5	0.3	0.5	0.4	0.4	0.5	0.7
1GN37	10.7	0.2	0.1	0.2	0.3	-0.2	0.7	0.1
1GN26	10.0	0.4	0.4	0.5	0.3	0.4	0.2	0.8
1GN32	10.5	0.4	0.4	0.7	0.4	0.4	0.3	0.5
1GN33	10.5	0.3	0.3	0.2	0.4	0.5	0.4	1.2
1GN27	9.8	0.6	0.5	0.6	0.6	0.6	0.6	1.2
1GN21	9.3	0.5	0.5	0.5	0.4	0.4	0.6	-0.3
1GN34	10.4	0.2	0.3	0.3	0.3	0.5	0.4	-0.3
1GN28	9.9	0.5	0.5	0.6	0.5	0.5	0.4	1.1
1GN35	10.0	0.2	0.2	0.2	0.2	0.3	0.2	0.0
1GN29	9.9	0.5	0.5	0.5	0.4	0.6	0.4	0.9



							File #:	210428A15
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	
1GN20	9.2	0.2	0.1	0.2	0.2	0.3	0.2	0.6
1GN38	10.8	0.2	0.2	0.2	0.3	0.1	0.3	0.1
1GN39	10.8	0.2	0.1	0.2	0.4	0.5	0.3	0.2
1GN40	10.9	0.0	0.0	-0.2	0.1	0.1	0.1	0.0
1GN22	8.9	0.4	0.3	0.5	0.4	0.8	0.5	0.3
1GN41	10.9	0.3	0.3	0.5	0.3	0.5	0.4	0.1
1GN23	9.0	0.3	0.3	0.3	0.3	0.4	0.4	0.8
1GN6	7.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2
1GN12	8.8	0.4	0.5	0.5	0.4	0.5	0.5	0.2
1GN18	9.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1
1GN24	8.9	0.3	0.3	0.4	0.3	0.3	0.5	0.7
1GN30	9.8	0.4	0.4	0.4	0.4	0.4	0.5	0.6
1GN36	10.2	0.2	0.2	0.3	0.4	0.4	0.6	0.3
1GN42	11.6	0.1	0.2	0.2	0.3	0.5	0.5	0.9
1GN14	8.8	0.5	0.4	0.6	0.4	0.6	0.4	0.3
1GN2	7.3	0.4	0.4	0.4	0.4	0.4	0.5	0.1
1GN9	9.0	0.4	0.3	0.4	0.3	0.3	0.2	0.2
1GN3	7.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4
1GN4	7.2	0.3	0.3	0.3	0.3	0.3	0.4	0.0
1GN5	7.1	0.3	0.4	0.4	0.4	0.3	0.4	0.1
1GN8	9.3	0.5	0.5	0.6	0.5	0.5	0.5	0.2
1GN15	9.1	0.5	0.4	0.5	0.4	0.5	0.5	0.1
1GN10	9.2	0.8	0.8	0.8	0.8	0.6	0.7	0.5
1GN16	9.0	0.6	0.6	0.8	0.6	0.8	0.7	0.7

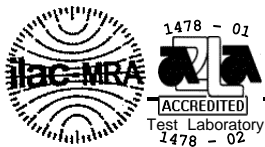


							File #:	210428A15
Temp °C	22	22	23	22	22	22	22	22
R.H. %	51	50	52	53	51	52	48	42
Date:	25Aug10	30Aug10	31Aug10	01Sep10	02Sep10	03Sep10	09Sep10	21Sep10
Pos. ID	Initial	M-Shock	M-Shock	M-Shock	Vibration	Vibration	Vibration	Durability
		X Axis	Y Axis	Z Axis	X Axis	Y Axis	Z Axis	100X
1GN11	9.1	0.5	0.5	0.5	0.5	0.2	0.4	0.3
1GN17	9.1	0.3	0.2	0.2	0.2	0.3	0.2	-0.1
MAX	11.6	0.8	0.8	0.8	0.8	0.8	0.7	1.2
MIN	7.1	0.0	0.0	-0.2	0.1	-0.2	0.1	-0.3
AVG	9.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
STD	1.1	0.2	0.2	0.2	0.1	0.2	0.2	0.4
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	BE	BE	BE	AJP	BE	BE
Equip ID	601	601	601	601	601	244	601	601
	677	677	677	677	677	1647	677	677



# TEST RESULTS

## GROUP 2



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 24 Samples

TECHNICIAN: BE

START DATE: 4/16/10

COMPLETE DATE: 4/16/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 398, 486, 488, 562

MATING AND UNMATING FORCE

PURPOSE:

To determine the mechanical forces required to mate and unmate the connectors.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 13, Rev. D.
2. The test samples were fixtured to the base plate of the test stand and applicable force gauge.
3. The fixturing was accomplished to assure axial alignment and allowed self centering movement to exist.
4. Care was taken to assure that the mating faces did not contact each other to assure proper forces were measured.
5. Figure #10 illustrates the test set-up.

REQUIREMENTS:

The force required to mate and unmate the connectors shall be measured and recorded.

RESULTS: See Next Page



RESULTS:

The following is a summary of the observed data:

<u>Sample ID#</u>	<u>MATING FORCE (Pounds)</u>	<u>UNMATING FORCE (Pounds)</u>
2-6CB-4	80.0	82.5
2-6CB-5	79.0	85.5
2-6CB-6	77.5	83.0



**FIGURE #10**

TYPICAL MATING/UNMATE SET-UP



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 24 Samples

TECHNICIAN: BE

START DATE: 4/16/10

COMPLETE DATE: 4/19/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 601, 677

LOW LEVEL CIRCUIT RESISTANCE (LLCR)

PURPOSE:

1. To evaluate contact resistance characteristics of the contact systems under conditions where applied voltages and currents do not alter the physical contact interface and will detect oxides and films which degrade electrical stability. It is also sensitive to and may detect the presence of fretting corrosion induced by mechanical or thermal environments as well as any significant loss of contact pressure.
2. This attribute was monitored after each preconditioning and/or test exposure in order to determine said stability of the contact systems as they progress through the applicable test sequences.
3. The electrical stability of the system is determined by comparing the initial resistance value to that observed after a given test exposure. The difference is the change in resistance occurring whose magnitude establishes the stability of the interface being evaluated.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 23, Rev. C.

-continued on next page.



PROCEDURE: -continued

2. Test Conditions:

- a) Test Current : 100 milliamps maximum
- b) Open Circuit Voltage : 20 millivolts
- c) No. of Positions Tested : 72 Signal Positions/Board  
24 Signal Positions/Board

-----  
REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.  
-----

RESULTS:

1. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
2-6CB-4	22.6	31.3	14.6
2-6CB-5	23.0	31.6	14.9
2-6CB-6	22.9	31.4	14.8
GROUND			
<u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
2-6CB-4	9.4	11.0	7.2
2-6CB-5	9.9	11.2	7.7
2-6CB-6	9.9	11.2	7.7

2. See data files 21015979 through 21015984 for individual data points.



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 4/19/10

COMPLETE DATE: 4/19/10

ROOM AMBIENT: 21°C

RELATIVE HUMIDITY: 20%

EQUIPMENT ID#: 321, 466, 1457

INSULATION RESISTANCE (IR)

PURPOSE:

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.

PROCEDURE:

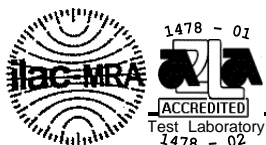
1. The test was performed in accordance with EIA 364, Test Procedure 21, Rev. D.
2. Test Conditions:
  - a) Between Adjacent Contacts : Yes
  - b) Mated Condition : Mated
  - c) Mounting Condition : Mounted
  - d) Electrification Time : 2 minutes
  - e) Test Voltage : 500 VDC
  - f) No. of Positions : 10 Pairs per Sample
3. The test voltage was applied between adjacent electrically isolated signal positions.

REQUIREMENTS:

When the specified test voltage is applied, the insulation resistance shall not be less than 1000 Megohms.

RESULTS:

The insulation resistance exceeded 50,000 Megohms.



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 4/19/10

COMPLETE DATE: 4/19/10

ROOM AMBIENT: 21°C

RELATIVE HUMIDITY: 20%

EQUIPMENT ID#: 186, 321, 1156

DIELECTRIC WITHSTANDING VOLTAGE (SEA LEVEL)

PURPOSE:

To determine if the connectors can operate at its rated voltage and withstand momentary over potentials due to switching, surges and other similar phenomenon.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 20, Rev. D.
2. Test Conditions:
  - a) Between Adjacent Contacts : Yes
  - b) Mated Condition : Mated
  - c) Mounting Condition : Mounted
  - d) Hold Time : 60 Seconds
  - e) Rate of Application : 500 volts/sec. max.
  - f) Test Voltage : 750VDC
3. The test voltage was applied between adjacent electrically isolated signal positions.

REQUIREMENTS:

When the specified test voltage is applied, there shall be no evidence of breakdown, arcing, etc.

RESULTS:

All test samples as tested met the requirements as specified.



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 27 Samples

TECHNICIAN: BE

START DATE: 4/21/10

COMPLETE DATE: 4/21/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 34%

EQUIPMENT ID#: 113, 1234, 1360, 1549, 1550

THERMAL SHOCK

PURPOSE:

To determine the resistance of a given electrical connector to exposure at extremes of high and low temperatures and the shock of alternate exposures to these extremes, simulating the worst probable conditions of storage, transportation and application.

PROCEDURE:

1. The test environment was performed in accordance with EIA 364, Test Procedure 32, Rev. E, with the following conditions.
2. Test Conditions:
  - a) Number of Cycles : 5 Cycles
  - b) Hot Extreme : +125°C +3°C/-0°C
  - c) Cold Extreme : -55°C +0°C/-3°C
  - d) Time at Temperature : 60 Minutes
  - e) Mating Conditions : Mated
  - f) Mounting Conditions : Mounted (Except 3 IR/DWV Samples)
  - g) Transfer Time : <5 Minutes
3. The total number of cycles were performed continuously.

REQUIREMENTS: See Next Page



REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples as tested.
2. The change in low level circuit resistance shall not exceed 10 milliohms.
3. The insulation resistance shall not be less than 1000 Megohms.
4. There shall be no arcing or breakdown when 750VAC are applied.

-----  
RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. The insulation resistance exceeded 50,000 Megohms.
3. There was no evidence of arcing or breakdown when 750VAC were applied.
4. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

SIGNAL <u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
2-6CB-4	+0.5	+2.0
2-6CB-5	+0.3	+0.9
2-6CB-6	+1.0	+3.4

GROUND <u>Sample ID#</u>		
2-6CB-4	+1.0	+2.8
2-6CB-5	+0.8	+2.0
2-6CB-6	+1.1	+3.5

5. See data files 21015979 through 21015984 for individual data points.



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 24 Samples

TECHNICIAN: BE

START DATE: 5/6/10

COMPLETE DATE: 5/6/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 42%

EQUIPMENT ID#: 199, 340, 601, 677

DURABILITY

PURPOSE:

This test is used to mechanically stress the connector system as would normally occur in actual service. This sequence in conjunction with other tests is used to determine if a significant loss of contact pressure occurs from said stresses which in turn, may result in an unstable electrical condition to exist.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 09, Rev. C.
2. Test Conditions:
  - a) No. of Cycles : 250
  - b) Rate : 500 cycles/hour max.
3. The test samples were assembled to special holding devices and attached to the automatic cycling equipment utilizing constant speed control and counter systems.
4. The test samples were axially aligned to accomplish the mating and unmating function allowing for self-centering movement.
5. All subsequent variable testing was performed in accordance with the procedures previously indicated.

REQUIREMENTS: See Next Page



REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples so tested.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.

-----  
RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
2-6CB-4	+0.7	+3.0
2-6CB-5	+0.4	+1.4
2-6CB-6	+0.7	+2.0

<u>GROUND</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max. Change</u>
2-6CB-4	+0.8	+1.4
2-6CB-5	+0.8	+1.7
2-6CB-6	+0.8	+1.8

3. See data files 21015979 through 21015984 for individual data points.



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 24 Samples

TECHNICIAN: BE

START DATE: 5/7/10

COMPLETE DATE: 5/7/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 38%

EQUIPMENT ID#: 26, 29, 601, 677, 1178

DUST EXPOSURE

PURPOSE:

To simulate applications where components may be exposed unmated for extended periods of time and are susceptible to exposure to a dust environment. To determine the impact of residual dust on the electrical stability of the contact system.

PROCEDURE:

1. The test was performed in accordance with EIA-364, Test Procedure 91, Rev. A.
2. The test samples were placed in the dust chamber in the anticipated actual use position.
3. Test Conditions:
  - a) Size of Chamber : 6.33 ft.<sup>3</sup>
  - b) Amount of Dust : 9 grams/ft<sup>3</sup>
  - c) Time of Exposure : 1 hour
  - d) Fan Speed : 360 cfm
4. The chamber fan was located in the bottom of the chamber below the connectors. The fan was located in a manner whereby the flow was directed in an upward direction.

-continued on next page.



PROCEDURE: -continued

5. After exposure for the period specified, the test samples were cleaned by "tapping" lightly to remove excess dust deposits. The connectors were tapped on a flat surface five times in an attitude to allow residual dust to exit by gravity from the contact/connector surfaces.

6. SYNTHETIC DUST (Benign)

<u>Particulate</u>	<u>Weight Percent</u>	<u>Size*</u>	<u>Chemical Nomenclature</u>
Silica	36	2 - 7	SiO <sub>2</sub>
Calcite	29	2 - 7	CaCO <sub>3</sub>
Iron Oxide	12	2 - 4	Fe <sub>2</sub> O <sub>3</sub>
Alumina	8	2 - 5	Al <sub>2</sub> O <sub>3</sub>
Gypsum	5	2 - 7	CaSO <sub>4</sub>
Paper Fibers	3	3 - 150 (diameter 12)	
Cotton Fibers	1	10-1500 (diameter 13)	
	1	2540 nom. (diameter 13)	
	1	6350 nom. (diameter 13)	
Polyester Fibers	1	7-1500 nom. (diameter 22)	
	1	2540 nom. (diameter 22)	
	1	6350 nom. (diameter 22)	
Carbon Black	1.0	0.01-0.02	

\* NOTES:

1. All sizes are in micrometers.
2. Paper, cotton and polyester fibers relate to length. All other elements are diameters.

7. All subsequent variable testing was performed in accordance with the procedures as previously indicated.

-----  
REQUIREMENTS:

1. There shall be no evidence of physical damage to the test samples as exposed.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.

-----  
RESULTS: See Next Page



RESULTS:

1. There was no evidence of physical damage to the test samples as exposed.
2. The following is a summary of the observed data:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

SIGNAL <u>Sample ID#</u>	<u>Avg. Change</u>	<u>Max. Change</u>
2-6CB-4	+0.2	+0.8
2-6CB-5	+0.1	+0.8
2-6CB-6	+0.3	+1.0

GROUND <u>Sample ID#</u>	<u>Avg.</u>	<u>Max. Change</u>
2-6CB-4	+0.7	+1.3
2-6CB-5	+0.5	+2.1
2-6CB-6	+0.6	+1.6

3. See data files 21015979 through 21015984 for individual data points.



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 27 Samples

TECHNICIAN: BE

START DATE: 5/7/10

COMPLETE DATE: 5/28/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 38%

EQUIPMENT ID#: 321, 398, 466, 486, 488, 547, 562, 601, 677,  
1360, 1457, 1549, 1550

HUMIDITY (THERMAL CYCLING)

PURPOSE:

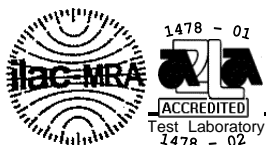
To evaluate the impact on electrical stability of the contact system when exposed to any environment which may generate thermal/moisture type failure mechanisms such as:

- a) Fretting corrosion due to wear resulting from micromotion, induced by thermal cycling. Humidity accelerates the oxidation process.
- b) Oxidation of wear debris or from particulates from the surrounding atmosphere which may have become entrapped between the contacting surfaces.
- c) Failure mechanisms resulting from a wet oxidation process.

PROCEDURE:

1. The test environment was performed in accordance with EIA 364, Test Procedure 31, Rev. C.
2. Test Conditions:
  - a) Relative Humidity : 90% to 95%
  - b) Temperature Conditions : 25°C to 65°C
  - c) Number of Cycles : 62.5
  - d) Mating Conditions : Mated
  - e) Mounting Conditions : Mounted (except IR/DWV Samples)
  - f) Duration : 500 hours
  - g) Cycle Duration : 8 hours

-continued on next page.



PROCEDURE: -continued

3. The samples were tested without stabilizing brackets.
4. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.
5. All subsequent variable testing was performed in accordance with the procedures previously indicated.

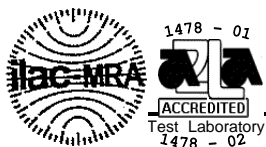
-----  
REQUIREMENTS:

1. There shall be no evidence of physical deterioration of the test samples as tested.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.
3. The force required to mate and unmate the connectors shall be measured and recorded.
4. The insulation resistance shall not be less than 1000 Megohms.
5. There shall be no arcing or breakdown when 750VAC are applied.

-----  
RESULTS:

1. The test samples as tested showed no evidence of physical deterioration.
2. There was no arcing or breakdown when 750VAC were applied.
3. The insulation resistance was greater then 50,000 Megohms.

-continued on next page.



RESULTS: -continued

4. The following is a summary of the observed mating and unmating forces.

<u>Sample ID#</u>	<u>MATING FORCE</u> (Pounds)	<u>UNMATING FORCE</u> (Pounds)
2-6CB-4	83.6	83.9
2-6CB-5	80.6	86.2
2-6CB-6	77.2	82.5

5. At the request of the test sponsor the mating and unmating test was performed a second time.

- a) The samples were unmated 0.005" to ensure the housings were not binding in the fully mated position.
- b) The force required to unmate the sample from this new "0" point was lower than the mating force.

6. The following is a summary of the observed low level circuit resistance data:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u> <u>Change</u>	<u>Max.</u> <u>Change</u>
2-6CB-4	+0.2	+2.0
2-6CB-5	0.0	+1.3
2-6CB-6	+0.1	+1.3

GROUND  
Sample ID#

2-6CB-4	+1.1	+3.6
2-6CB-5	+1.7	+26.5*
2-6CB-6	+0.8	+2.9

\*See Comments Next Page

7. See data files 21015979 through 21015984 for individual data points.

-Continued next page-



Comments:

1. A high change in LLCR was recorded at position P11GN23 of sample ID# 2-6CB-5 following the humidity exposure on May 28, 2010. The sample was examined (in the mated condition) and the low level circuit value was verified.
2. Following review of the data, the test sponsor requested position P11GN23 be retested. The test was performed on June 4, 2010 with the following result:

<u>Sample ID#</u>	<u>Position ID#</u>	<u>Max. Change</u>
2-6CB-5	P11GN23	+7.1



# LLCR DATA FILES

## FILE NUMBERS

21015979

21015980

21015981

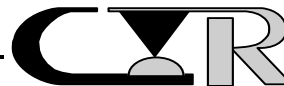
21015982

21015983

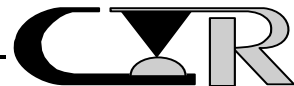
21015984



Low Level Circuit Resistance - Delta Values					
Project:	210159			Spec:	EIA 364, TP 23
Customer:	Amphenol TCS			Subgroup:	Sample ID# 2-6CB-4
Product:	6X6 Crossbow			File No:	21015979
Description:	Signal Contacts			Tech:	BE
Open circuit voltage:	20mV			Current:	100mA
Units:	milliohms				
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P8C1	18.2	0.2	0.5	0.1	0.1
P8B2	15.8	0.4	0.9	0.3	0.4
P8E3	21.0	0.4	0.4	0.2	0.2
P8E5	20.9	0.2	0.6	0.2	0.2
P8A6	14.7	0.2	0.4	0.1	0.1
P9A2	14.6	1.0	0.6	0.3	0.3
P9D3	18.0	0.7	0.8	0.4	0.6
P9A4	14.6	0.8	0.4	0.3	0.2
P9A6	14.6	0.5	0.3	0.3	0.3
P10B1	15.6	0.5	0.5	0.2	0.3
P10E2	20.8	0.2	0.3	0.1	0.2
P10C3	18.0	1.0	0.2	-0.1	0.1
P10E4	20.8	0.3	0.0	0.1	0.4
P10A5	14.7	0.5	0.2	0.2	0.2
P11E1	20.8	0.1	0.2	0.0	0.0
P11F2	21.7	0.7	0.7	0.2	0.4
P11D4	18.2	0.4	0.6	0.3	0.4
P11B5	15.5	0.4	0.7	0.4	0.4
P11B6	15.6	0.3	0.5	0.3	0.4
P12A1	14.7	0.5	0.4	0.3	0.1
P12C3	17.9	0.3	0.9	0.1	0.3
P12C5	18.1	0.4	0.2	0.0	0.2
P12B6	15.6	0.5	1.0	0.3	0.2
P13A1	15.0	0.6	0.4	0.1	-0.1
P13F2	22.1	0.4	3.0	0.0	0.0
P13F4	22.0	0.3	0.6	0.1	-0.1
P13B5	15.9	0.5	1.2	0.3	0.1
P13D6	18.3	0.4	1.7	0.1	0.2
P14C1	18.1	0.6	0.3	-0.1	0.2
P14A2	14.7	0.7	0.5	0.3	0.2



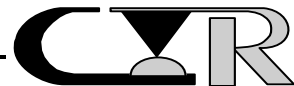
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Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P14A3	14.8	0.6	0.4	0.1	0.1
P14C5	18.1	0.5	0.6	0.0	0.1
P14B6	15.8	0.6	1.0	0.2	0.1
P15C2	18.4	1.5	0.3	0.0	-0.1
P15B4	15.8	2.0	1.2	0.2	0.2
P15C6	18.8	1.0	2.0	-0.3	0.2
P8L1	29.1	0.5	0.7	0.3	0.4
P8J3	27.1	0.3	0.6	0.2	0.2
P8K4	28.3	0.8	0.7	0.5	0.4
P8M5	30.9	0.6	0.6	0.4	0.2
P9H1	24.8	0.6	0.9	0.5	0.7
P9M2	30.6	0.4	0.5	0.1	0.3
P9J4	26.9	0.4	0.6	0.3	0.2
P9M5	30.8	0.1	0.4	0.3	0.3
P9G6	24.6	0.8	0.4	0.4	0.2
P10K1	28.5	0.5	0.7	0.3	0.2
P10J3	27.1	0.2	3.0	0.3	0.2
P10M5	30.8	0.4	0.3	0.4	0.7
P10J6	26.8	0.1	0.2	0.3	0.3
P11L2	29.4	0.5	0.3	0.2	0.2
P11H3	25.1	0.5	1.1	0.3	0.3
P11J4	26.9	0.9	0.4	0.2	0.1
P11J6	26.8	1.1	0.5	0.4	0.4
P12H1	25.1	0.8	1.5	0.7	0.2
P12J2	26.9	0.3	0.6	0.1	0.1
P12G3	24.6	0.4	0.6	0.1	-0.1
P12K4	28.8	1.2	0.6	0.2	0.1
P12H5	25.0	0.7	1.3	0.1	0.1
P13K2	29.0	0.3	0.8	-0.1	-0.1
P13M3	31.3	0.2	0.7	0.0	0.1
P13H4	25.6	0.0	0.7	0.1	-0.1
P13J6	27.3	0.2	0.6	0.1	0.0
P14M1	30.9	0.3	0.6	0.5	2.0
P14G3	24.8	0.1	0.3	-0.1	-0.2
P14M4	31.1	0.1	0.6	0.1	0.0
P14K5	28.8	0.2	1.6	0.5	0.1
P15H1	25.3	1.1	0.7	0.5	0.1



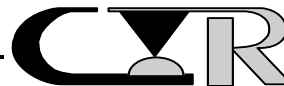
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				File No:	21015979
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P15L2	29.3	0.3	0.2	0.1	0.0
P15F3	21.9	0.8	0.5	0.2	0.2
P15J4	27.3	0.3	0.3	0.1	0.1
P15J5	27.0	-0.1	-0.1	-0.2	0.2
P15M6	31.1	0.5	0.6	0.8	0.9
MAX	31.3	2.0	3.0	0.8	2.0
MIN	14.6	-0.1	-0.1	-0.3	-0.2
AVG	22.6	0.5	0.7	0.2	0.2
STD	5.7	0.3	0.5	0.2	0.3
Open	0	0	0	0	0
Tech	BE	BE	BE	BE	BE
Equip ID	601	601	601	601	601
	677	677	677	677	677



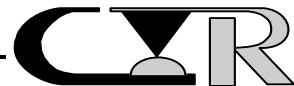
Low Level Circuit Resistance - Delta Values					
Project:	210159			Spec:	EIA 364, TP 23
Customer:	Amphenol TCS			Subgroup:	Sample ID# 2-6CB-5
Product:	6X6 Crossbow			File No:	21015980
Description:	Signal Contacts			Tech:	BE
Open circuit voltage:	20mV			Current:	100mA
Units:	milliohms				
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P8C1	18.7	0.5	0.4	0.0	-0.1
P8B2	16.4	0.8	0.8	0.3	0.1
P8E3	21.0	0.1	0.2	0.1	0.3
P8E5	21.3	-0.1	0.2	-0.2	-0.1
P8A6	15.1	0.3	1.2	0.8	1.3
P9A2	15.0	0.7	0.9	0.7	0.8
P9D3	18.4	0.3	0.8	0.3	0.2
P9A4	14.9	0.9	0.4	0.2	0.2
P9A6	14.9	0.7	0.4	0.3	0.2
P10B1	16.0	0.5	0.2	0.1	0.0
P10E2	21.2	0.1	0.4	0.0	-0.1
P10C3	18.4	0.3	0.1	0.0	0.0
P10E4	21.4	0.2	0.3	0.0	-0.1
P10A5	15.6	0.2	0.0	-0.3	-0.2
P11E1	21.0	0.1	0.2	0.0	0.0
P11F2	22.2	0.0	0.5	0.2	-0.3
P11D4	18.9	-0.2	0.1	-0.1	-0.4
P11B5	16.1	0.2	0.4	0.0	-0.2
P11B6	16.4	-0.2	0.3	-0.1	-0.3
P12A1	15.1	0.2	0.2	-0.1	-0.1
P12C3	18.4	-0.1	0.1	-0.1	-0.1
P12C5	18.5	0.2	0.4	0.0	-0.1
P12B6	16.1	0.1	0.4	0.0	-0.2
P13A1	15.2	0.5	0.4	0.1	-0.1
P13F2	22.6	-0.1	0.4	-0.2	-0.5
P13F4	22.3	0.0	0.9	0.0	-0.2
P13B5	16.2	0.3	0.5	0.0	-0.3
P13D6	18.5	0.5	1.4	0.4	-0.1
P14C1	18.6	0.3	0.2	-0.1	-0.1
P14A2	15.3	0.3	0.1	0.1	-0.2



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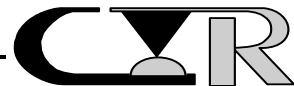
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R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P14A3	15.0	0.5	0.5	0.2	0.1
P14C5	19.4	0.3	0.3	0.0	-0.2
P14B6	16.1	0.3	0.8	0.5	0.1
P15C2	18.4	0.1	0.4	-0.2	-0.1
P15B4	16.5	0.8	0.4	0.1	0.1
P15C6	18.7	0.4	0.3	0.2	0.2
P8L1	29.7	0.7	0.4	0.2	0.2
P8J3	27.6	0.9	0.1	-0.1	-0.1
P8K4	29.1	0.9	0.7	0.7	0.1
P8M5	31.0	0.6	0.4	0.8	0.3
P9H1	25.1	0.5	0.4	0.2	0.0
P9M2	31.1	0.4	0.3	0.2	0.0
P9J4	27.2	0.7	0.5	0.3	0.4
P9M5	30.7	0.4	0.4	0.3	0.1
P9G6	24.6	0.1	0.4	0.2	0.1
P10K1	29.2	0.2	0.3	0.0	-0.2
P10J3	27.4	0.3	0.5	0.1	-0.1
P10M5	31.4	0.5	0.2	0.4	-0.1
P10J6	27.8	0.8	0.3	0.1	-0.1
P11L2	29.4	0.2	0.3	0.0	0.0
P11H3	25.3	0.8	0.7	0.2	0.0
P11J4	27.4	0.1	0.5	0.1	0.0
P11J6	27.5	0.3	0.2	0.1	-0.1
P12H1	25.3	0.4	0.6	0.5	0.2
P12J2	27.6	-0.1	0.1	-0.2	-0.3
P12G3	25.4	-0.2	0.1	-0.3	-0.4
P12K4	29.6	-0.1	0.1	-0.4	-0.6
P12H5	25.8	0.2	0.4	0.0	-0.2
P13K2	29.6	0.2	0.5	-0.3	-0.4
P13M3	31.6	0.3	0.3	0.0	-0.1
P13H4	25.5	0.4	0.6	0.4	0.1
P13J6	27.2	0.3	0.2	0.1	-0.1
P14M1	31.5	0.0	0.2	0.1	0.1
P14G3	25.4	-0.3	-0.1	-0.3	-0.5
P14M4	30.9	0.2	0.4	0.1	0.1
P14K5	29.4	-0.1	0.5	0.4	0.0
P15H1	25.6	0.2	0.5	0.1	-0.2



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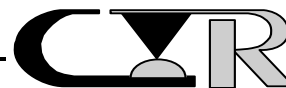
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Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P15L2	29.2	0.1	0.1	0.1	0.1
P15F3	22.1	0.7	1.3	0.6	0.1
P15J4	27.5	0.1	0.4	0.0	0.1
P15J5	27.4	0.2	0.4	0.2	0.2
P15M6	31.2	0.2	0.4	0.4	0.3
MAX	31.6	0.9	1.4	0.8	1.3
MIN	14.9	-0.3	-0.1	-0.4	-0.6
AVG	23.0	0.3	0.4	0.1	0.0
STD	5.7	0.3	0.3	0.3	0.3
Open	0	0	0	0	0
Tech	BE	BE	BE	BE	BE
Equip ID	601	601	601	601	601
	677	677	677	677	677



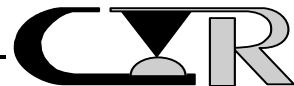
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Low Level Circuit Resistance - Delta Values					
Project:	210159			Spec:	EIA 364, TP 23
Customer:	Amphenol TCS			Subgroup:	Sample ID# 2-6CB-6
Product:	6X6 Crossbow			File No:	21015981
Description:	Signal Contacts			Tech:	BE
Open circuit voltage:	20mV			Current:	100mA
Units:	milliohms				
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P8C1	18.7	0.3	0.4	0.2	0.1
P8B2	16.0	0.8	0.7	0.4	0.3
P8E3	20.7	0.6	0.4	0.1	0.3
P8E5	20.8	0.5	0.2	0.1	0.0
P8A6	15.3	0.5	0.6	0.1	0.1
P9A2	15.0	1.1	0.4	0.3	0.2
P9D3	18.6	0.8	0.6	0.7	0.0
P9A4	15.1	0.6	0.3	0.2	0.1
P9A6	14.8	0.5	0.4	0.2	0.3
P10B1	16.0	1.3	0.5	0.7	0.4
P10E2	21.5	0.4	0.2	0.0	-0.2
P10C3	18.5	0.5	0.5	0.1	0.1
P10E4	21.3	0.3	0.3	0.0	-0.1
P10A5	15.3	0.5	0.3	0.1	0.0
P11E1	21.1	0.4	0.4	0.2	0.0
P11F2	22.0	1.3	1.2	0.6	0.0
P11D4	18.6	2.0	1.1	0.6	0.0
P11B5	16.1	0.7	1.2	0.5	0.2
P11B6	15.9	1.1	0.8	0.5	0.0
P12A1	15.2	0.9	0.6	0.2	0.2
P12C3	19.0	3.4	0.3	0.0	-0.2
P12C5	18.6	0.2	-0.1	-0.5	-0.2
P12B6	16.1	1.8	0.8	0.3	-0.1
P13A1	15.4	1.0	1.2	0.2	0.2
P13F2	22.3	1.1	1.1	0.2	-0.2
P13F4	22.1	2.9	1.5	0.7	-0.1
P13B5	16.1	0.8	0.6	0.3	0.0
P13D6	18.7	1.3	1.3	0.9	-0.2
P14C1	18.3	0.4	0.2	0.2	-0.1
P14A2	14.8	1.0	0.9	0.6	0.4



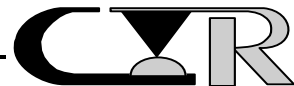
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Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P14A3	15.0	1.0	0.7	0.5	0.2
P14C5	18.4	0.2	0.4	0.1	0.2
P14B6	15.9	0.8	1.7	1.0	1.3
P15C2	18.4	0.5	0.4	0.2	0.1
P15B4	16.0	1.4	1.4	0.6	0.8
P15C6	18.5	0.3	1.0	0.4	0.4
P8L1	29.8	0.3	0.7	0.3	0.2
P8J3	27.3	0.7	1.0	0.1	0.2
P8K4	29.1	0.8	1.2	0.6	0.2
P8M5	31.3	0.9	0.5	0.5	0.1
P9H1	25.6	1.0	0.8	0.5	0.1
P9M2	31.1	2.2	0.8	0.7	0.1
P9J4	27.5	0.8	0.5	0.3	0.1
P9M5	31.1	0.7	0.4	0.5	0.1
P9G6	24.6	1.3	0.8	0.6	0.4
P10K1	29.1	1.2	0.6	0.4	0.1
P10J3	27.6	1.0	0.3	-0.1	-0.1
P10M5	31.4	0.6	0.7	0.3	0.2
P10J6	27.4	0.6	0.4	0.2	0.3
P11L2	29.5	0.5	0.8	0.4	0.1
P11H3	25.3	0.8	0.9	0.5	0.1
P11J4	27.4	1.1	1.2	0.3	0.2
P11J6	27.2	0.5	1.2	0.4	0.1
P12H1	25.4	1.4	1.7	0.5	0.4
P12J2	27.6	2.8	0.5	0.2	0.0
P12G3	25.1	2.7	0.6	0.1	-0.1
P12K4	29.3	1.2	0.9	0.4	0.0
P12H5	25.6	1.0	2.0	0.3	0.2
P13K2	29.0	0.9	0.8	0.3	0.0
P13M3	31.1	0.6	0.6	0.3	0.1
P13H4	25.8	0.9	0.7	0.3	0.0
P13J6	27.4	0.8	0.4	0.3	-0.1
P14M1	31.3	0.6	0.6	0.4	0.1
P14G3	25.2	1.6	0.2	0.2	0.0
P14M4	31.2	0.9	0.7	0.4	0.2
P14K5	28.9	0.9	0.6	0.2	0.0
P15H1	25.2	0.7	0.9	0.7	0.2



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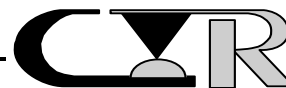
				File No:	21015981
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P15L2	29.3	0.7	0.5	0.4	0.2
P15F3	22.1	1.7	1.3	0.6	0.3
P15J4	27.1	1.3	0.5	0.3	0.2
P15J5	27.4	0.5	0.6	0.3	1.1
P15M6	31.0	0.6	0.5	0.4	0.4
MAX	31.4	3.4	2.0	1.0	1.3
MIN	14.8	0.2	-0.1	-0.5	-0.2
AVG	22.9	1.0	0.7	0.3	0.1
STD	5.7	0.6	0.4	0.2	0.3
Open	0	0	0	0	0
Tech	BE	BE	BE	BE	BE
Equip ID	601	601	601	601	601
	677	677	677	677	677



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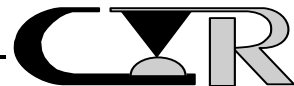
Low Level Circuit Resistance - Delta Values					
Project:	210159			Spec:	EIA 364, TP 23
Customer:	Amphenol TCS			Subgroup:	Sample ID# 2-6CB-4
Product:	6X6 Crossbow			File No:	21015982
Description: Ground Contacts				Tech:	BE
Open circuit voltage:		20mV		Current:	100mA
Units: milliohms					
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P8GN4	7.2	0.6	0.6	0.5	0.4
P9GN13	8.7	1.8	1.3	1.2	3.6
P9GN23	9.2	0.8	0.8	0.5	0.8
P10GN12	8.6	1.5	0.7	1.3	0.8
P11GN9	9.1	1.6	0.5	0.8	0.4
P12GN2	7.3	0.7	0.2	0.4	0.2
P12GN16	9.1	1.5	0.7	1.3	1.0
P13GN15	9.2	2.8	1.4	0.6	2.0
P14GN22	9.4	1.1	0.7	0.6	1.1
P15GN7	9.1	1.2	1.1	0.9	0.8
P15GN9	9.1	1.3	1.2	0.5	0.8
P15GN11	9.0	0.6	1.1	0.4	0.7
P8GN20	10.0	0.4	0.9	0.8	1.6
P8GN36	10.2	0.6	1.0	0.5	0.6
P9GN33	10.1	1.0	0.8	0.5	0.9
P10GN38	10.7	0.7	0.5	1.0	3.0
P10GN28	9.9	0.6	1.0	0.7	0.7
P11GN25	9.7	0.8	0.5	0.6	2.5
P11GN23	8.8	1.1	0.9	0.7	0.5
P12GN24	9.0	1.0	0.7	0.6	0.6
P13GN37	10.8	0.6	0.5	1.0	3.4
P13GN41	10.9	0.5	0.6	0.1	0.2
P14GN26	10.3	0.2	0.6	0.0	-0.1
P14GN42	11.0	0.5	0.2	0.4	0.3



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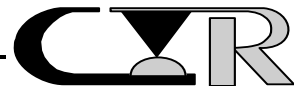
				File No:	21015982
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
MAX	11.0	2.8	1.4	1.3	3.6
MIN	7.2	0.2	0.2	0.0	-0.1
AVG	9.4	1.0	0.8	0.7	1.1
STD	1.0	0.6	0.3	0.3	1.0
Open	0	0	0	0	0
Tech	BE	BE	BE	BE	BE
Equip ID	601	601	601	601	601
	677	677	677	677	677



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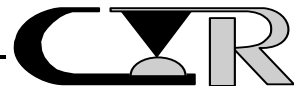
Low Level Circuit Resistance - Delta Values						
Project:	210159			Spec:	EIA 364, TP 23	
Customer:	Amphenol TCS			Subgroup:	Sample ID# 2-6CB-5	
Product:	6X6 Crossbow			File No:	21015983	
Description :	Ground Contacts			Tech:	BE	
Open circuit voltage:	20mV			Current:	100mA	
Units: milliohms						
Temp °C	20	21	22	22	21	22
R.H. %	35	38	38	38	44	45
Date:	19Apr10	23Apr10	07May10	07May10	28May10	04Jun10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity	Retest
			250X			
P8GN4	7.8	0.4	0.6	0.6	0.5	
P9GN13	9.1	0.4	0.9	0.4	0.3	
P9GN23	9.7	0.5	0.7	0.3	0.1	
P10GN12	9.7	0.9	1.0	0.3	0.4	
P11GN9	9.6	0.9	0.7	0.2	2.4	
P12GN2	7.7	0.5	0.1	0.0	1.3	
P12GN16	9.2	1.3	1.2	1.6	1.1	
P13GN15	9.4	0.4	0.9	0.5	-0.1	
P14GN22	9.6	0.6	0.9	0.5	0.3	
P15GN7	9.5	1.1	0.8	0.7	1.1	
P15GN9	9.8	1.5	1.1	0.4	0.8	
P15GN11	9.8	1.1	1.7	0.6	0.5	
P8GN20	10.2	2.0	0.9	0.3	0.5	
P8GN36	10.4	0.8	0.8	0.3	0.4	
P9GN33	10.6	1.5	0.4	0.2	0.2	
P10GN38	10.9	0.9	0.2	0.4	0.3	
P10GN28	10.3	0.2	0.8	0.2	-0.1	
P11GN25	10.1	0.6	0.6	0.5	-0.1	
P11GN23	9.5	0.4	0.6	0.7	26.5	7.1
P12GN24	9.6	0.7	0.7	2.1	1.5	
P13GN37	11.1	0.8	0.7	0.6	0.5	
P13GN41	11.1	0.8	0.4	0.3	1.8	
P14GN26	10.5	0.4	1.1	0.3	0.1	
P14GN42	11.2	1.3	0.5	0.8	0.7	



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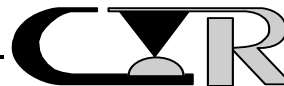
				File No:	21015983	
Temp °C	20	21	22	22	21	22
R.H. %	35	38	38	38	44	45
Date:	19Apr10	23Apr10	07May10	07May10	28May10	04Jun10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity	Retest
			250X			
MAX	11.2	2.0	1.7	2.1	26.5	
MIN	7.7	0.2	0.1	0.0	-0.1	
AVG	9.9	0.8	0.8	0.5	1.7	
STD	0.9	0.4	0.3	0.5	5.3	
Open	0	0	0	0	0	
Tech	BE	BE	BE	BE	BE	
Equip ID	601	601	601	601	601	
	677	677	677	677	677	



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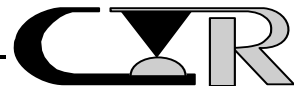
Low Level Circuit Resistance - Delta Values					
Project:	210159			Spec:	EIA 364, TP 23
Customer:	Amphenol TCS			Subgroup:	Sample ID# 2-6CB-6
Product:	6X6 Crossbow			File No:	21015984
Description: Ground Contacts				Tech:	BE
Open circuit voltage:	20mV			Current:	100mA
Units: milliohms					
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
P8GN4	8.2	0.1	0.1	0.2	0.1
P9GN13	9.2	0.7	0.4	0.4	1.5
P9GN23	9.7	0.3	0.1	0.3	-0.2
P10GN12	9.3	1.0	0.6	0.8	0.4
P11GN9	9.3	1.7	0.8	0.9	0.4
P12GN2	7.7	0.6	0.4	1.0	0.5
P12GN16	9.4	3.5	1.6	1.4	1.0
P13GN15	9.6	0.7	1.8	1.0	0.3
P14GN22	9.7	1.1	1.0	0.9	2.5
P15GN7	9.8	0.7	0.9	0.0	0.4
P15GN9	9.9	0.5	0.7	0.2	0.3
P15GN11	10.1	0.6	0.9	0.3	0.7
P8GN20	10.1	0.9	0.5	0.2	0.0
P8GN36	10.8	0.7	0.3	0.1	0.2
P9GN33	10.8	1.8	0.4	0.4	0.1
P10GN38	11.2	1.7	0.5	0.4	0.6
P10GN28	10.2	1.2	0.9	0.8	1.8
P11GN25	10.0	1.4	0.8	1.6	1.2
P11GN23	9.8	1.6	0.8	0.6	2.4
P12GN24	9.7	2.2	1.2	1.0	0.2
P13GN37	11.2	0.7	0.4	1.1	1.0
P13GN41	11.1	1.1	1.0	0.6	2.0
P14GN26	10.5	1.5	1.5	-0.1	-0.4
P14GN42	11.0	0.8	0.6	0.6	2.9



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				File No:	21015984
Temp °C	20	21	22	22	21
R.H. %	35	38	38	38	44
Date:	19Apr10	23Apr10	07May10	07May10	28May10
Pos. ID	Initial	T-Shock	Durability	Dust	Humidity
			250X		
MAX	11.2	3.5	1.8	1.6	2.9
MIN	7.7	0.1	0.1	-0.1	-0.4
AVG	9.9	1.1	0.8	0.6	0.8
STD	0.9	0.7	0.4	0.4	0.9
Open	0	0	0	0	0
Tech	BE	BE	BE	BE	BE
Equip ID	601	601	601	601	601
	677	677	677	677	677



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# TEST RESULTS

## GROUP 3



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 24 Samples

TECHNICIAN: BE

START DATE: 4/14/10

COMPLETE DATE: 4/15/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 33%

EQUIPMENT ID#: 398, 486, 488, 562

MATING AND UNMATING FORCE

PURPOSE:

To determine the mechanical forces required to mate and unmate the connectors.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 13, Rev. D.
2. The test samples were fixtured to the base plate of the test stand and applicable force gauge.
3. The fixturing was accomplished in a manner to prevent "bowing" of the test samples during the performance of the test.
4. The fixturing was accomplished to assure axial alignment and allowed self centering movement to exist.
5. Care was taken to assure that the mating faces did not contact each other to assure proper forces were measured.
6. Figure #10 illustrates the test set-up.

REQUIREMENTS:

The force required to mate and unmate the connectors shall be measured and recorded.

RESULTS: See Next Page



RESULTS:

The following is a summary of the observed data:

<u>Sample ID#</u>	<u>MATING FORCE (Pounds)</u>	<u>UNMATING FORCE (Pounds)</u>
3-6CB-7	64.5	84.0
3-6CB-8	67.5	79.5
3-6CB-9	67.0	82.0



PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 24 Samples

TECHNICIAN: BE

START DATE: 4/15/10

COMPLETE DATE: 4/15/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 601, 677

LOW LEVEL CIRCUIT RESISTANCE (LLCR)

PURPOSE:

1. To evaluate contact resistance characteristics of the contact systems under conditions where applied voltages and currents do not alter the physical contact interface and will detect oxides and films which degrade electrical stability. It is also sensitive to and may detect the presence of fretting corrosion induced by mechanical or thermal environments as well as any significant loss of contact pressure.
2. This attribute was monitored after each preconditioning and/or test exposure in order to determine said stability of the contact systems as they progress through the applicable test sequences.
3. The electrical stability of the system is determined by comparing the initial resistance value to that observed after a given test exposure. The difference is the change in resistance occurring whose magnitude establishes the stability of the interface being evaluated.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 23, Rev. C.

-continued on next page.



PROCEDURE: -continued

2. Test Conditions:

- a) Test Current : 100 milliamps maximum
- b) Open Circuit Voltage : 20 millivolts
- c) No. of Positions Tested : 72 Signal Positions/Board  
24 Signal Positions/Board

-----  
REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.  
-----

RESULTS:

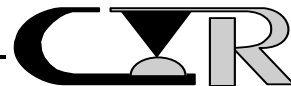
1. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
3-6CB-7	22.9	31.8	14.8
3-6CB-8	23.1	31.9	15.0
3-6CB-9	22.8	31.7	14.6

<u>GROUND</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
3-6CB-7	9.7	11.3	7.5
3-6CB-8	9.7	11.3	7.6
3-6CB-9	9.3	10.9	7.3

2. See data files 21015943 through 21015948 for individual data points.



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PROJECT NO.: 210159

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 24 Samples

TECHNICIAN: BE

START DATE: 4/15/10

COMPLETE DATE: 5/6/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 30%

EQUIPMENT ID#: 19, 398, 486, 562, 601, 629, 677

TEMPERATURE LIFE

PURPOSE:

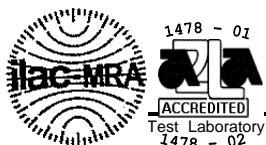
To evaluate the impact on electrical stability of the contact system when exposed to a thermal environment. Said environment may generate temperature dependent failure mechanisms such as:

- a) Reduced normal (contact) force due to stress relaxation as a result of a thermal environment.
- b) Dry oxidation and/or film formation of particulates which may have been deposited on the contacting surfaces from the surrounding atmosphere.
- c) Dry oxidation due to smearing of base metal and/or underplate on the contact surfaces or exposure of same due to wear.

PROCEDURE:

1. The test samples were placed in the test chamber after it had reached equilibrium at the specified temperature level. The test exposure was performed in accordance with EIA 364, Test Procedure 17, Rev. B.
2. Test Condition:
  - a) Temperature : 105°C ± 2°C
  - b) Duration : 500 hours
  - c) Mated Condition : Mated
  - d) Mounting Condition: Mounted

-continued on next page.



PROCEDURE:-continued

3. The samples were tested without stabilizing brackets.
4. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.
5. All subsequent variable testing was performed in accordance with the procedures previously indicated.

-----  
REQUIREMENTS:

1. There shall be no evidence of physical damage or deterioration of the test samples so exposed.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.
3. The force required to mate and unmated the connectors shall be measured and recorded.

-----  
RESULTS:

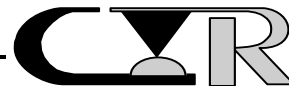
1. There was no evidence of physical damage to the test samples.
2. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

SIGNAL Sample ID#	Post T. Life		Post Mate/Unmate	
	Avg. Change	Max. Change	Avg. Change	Max. Change
3-6CB-7	+1.0	+8.8	+0.6	+3.3
3-6CB-8	+0.8	+3.1	+3.0	+9.3
3-6CB-9	+1.0	+3.5	+1.9	+15.4*
GROUND				
Sample ID#				
3-6CB-7	+3.7	+12.3	+1.8	+5.2*
3-6CB-8	+1.3	+3.5	+2.5	+6.7
3-6CB-9	+1.2	+3.8	+2.3	+6.7

\* See Comments

3. See data files 21015943 through 21015948 for individual



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data points.



RESULTS:-continued

4. The following is a summary of the observed data:

<u>Sample ID#</u>	<u>MATING FORCE (Pounds)</u>	<u>UNMATING FORCE (Pounds)</u>
3-6CB-7	73.5	84.9
3-6CB-8	78.6	82.8
3-6CB-9	71.4	80.4

Comments:

- High changes in low level circuit resistance were recorded on several samples as indicated below. The samples were examined (in the mated condition) and the low level circuit values were verified.

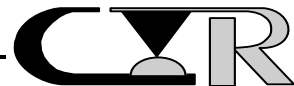
CHANGE IN  
LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>Sample ID#</u>	<u>Position ID#</u>	<u>Post Environment</u>	<u>Max. Change</u>
3-6CB-9	P9H1	Final Mate/Unmate	+15.4
3-6CB-7	P9GN13	Temp. Life	+12.3
3-6CB-8	P9GN16	Temp. Life	+11.7
3-6CB-9	P13GN15	Temp. Life	+10.6

- Following review of the data the test sponsor requested a low level circuit resistance retest on the above samples/positions. The retest was performed on June 4, 2010 with the following results:

CHANGE IN  
LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>Sample ID#</u>	<u>Position ID#</u>	<u>Max. Change</u>
3-6CB-9	P9H1	+6.1
3-6CB-7	P9GN13	+6.5
3-6CB-8	P9GN16	+2.2
3-6CB-9	P13GN15	+2.0



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# LLCR DATA FILES

## FILE NUMBERS

21015943

21015944

21015945

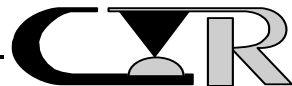
21015946

21015947

21015948



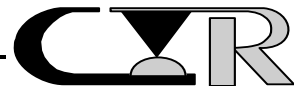
Low Level Circuit Resistance - Delta Values			
Project:	210159	Spec:	EIA 364, TP 23
Customer:	Amphenol TCS	Subgroup:	Sample ID# 3-6CB-7
Product:	6X6 Crossbow	File No:	21015943
Description:	Signal Contacts	Tech:	BE
Open circuit voltage: 20mV		Current:	100mA
Units: milliohms			
Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
P8C1	18.5	0.2	0.1
P8B2	16.0	0.7	0.5
P8E3	21.2	0.2	0.1
P8E5	21.1	0.2	0.1
P8A6	14.9	2.1	1.1
P9A2	14.9	0.4	0.3
P9D3	18.3	1.0	0.8
P9A4	14.8	0.6	0.6
P9A6	14.9	1.6	1.2
P10B1	15.9	1.3	0.6
P10E2	21.2	-0.3	-0.2
P10C3	18.3	0.4	0.1
P10E4	21.4	0.7	0.3
P10A5	14.8	0.3	0.4
P11E1	21.3	0.3	0.2
P11F2	22.2	1.1	0.6
P11D4	18.6	0.6	0.6
P11B5	15.8	1.4	0.6
P11B6	15.9	7.2	3.3
P12A1	14.9	0.6	0.4
P12C3	18.3	0.3	0.0
P12C5	18.5	2.3	0.3
P12B6	16.1	8.8	1.5
P13A1	15.2	2.4	0.5
P13F2	22.2	0.7	0.7
P13F4	22.4	0.7	0.5
P13B5	16.1	2.3	1.1
P13D6	18.7	1.7	2.7
P14C1	18.8	0.3	0.1
P14A2	15.4	0.4	0.3



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		File No:	21015943
Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
14A3	15.4	0.6	0.4
P14C5	18.8	0.3	0.4
P14B6	16.1	5.1	1.9
P15C2	18.7	0.4	0.2
P15B4	15.9	0.8	0.4
P15C6	18.7	-0.3	-0.2
P8L1	29.6	0.3	0.2
P8J3	27.3	0.0	0.4
P8K4	28.9	0.7	1.2
P8M5	31.1	0.2	0.6
P9H1	25.3	0.5	0.5
P9M2	31.2	0.7	0.7
P9J4	27.3	0.3	0.8
P9M5	31.4	0.3	0.4
P9G6	25.1	0.8	0.6
P10K1	29.1	0.8	0.5
P10J3	27.4	0.8	0.8
P10M5	31.3	0.8	0.7
P10J6	27.7	0.7	0.6
P11L2	29.8	0.3	0.3
P11H3	25.6	1.6	0.8
P11J4	27.5	0.2	0.6
P11J6	27.1	0.7	0.9
P12H1	25.3	0.6	0.8
P12J2	27.3	0.0	0.7
P12G3	25.0	0.4	0.2
P12K4	29.1	0.8	0.7
P12H5	25.8	0.7	0.9
P13K2	29.2	1.1	0.6
P13M3	31.5	0.5	0.7
P13H4	25.8	0.6	0.4
P13J6	27.5	0.3	0.5
P14M1	31.8	1.5	2.2
P14G3	25.3	1.9	0.4
P14M4	31.7	0.8	0.6
P14K5	29.4	1.4	0.6
P15H1	25.5	1.1	0.5



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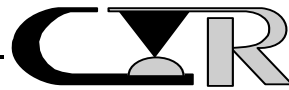
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Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
15L2	29.9	2.8	0.3
P15F3	22.5	1.4	0.5
P15J4	27.8	0.7	0.1
P15J5	27.9	0.2	0.1
P15M6	31.3	0.6	0.4
MAX	31.8	8.8	3.3
MIN	14.8	-0.3	-0.2
AVG	22.9	1.0	0.6
STD	5.8	1.4	0.6
Open	0	0	0
Tech	BE	BE	BE
Equip ID	601	601	601
	677	677	677



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Low Level Circuit Resistance - Delta Values			
Project:	210159	Spec:	EIA 364, TP 23
Customer:	Amphenol TCS	Subgroup:	Sample ID# 3-6CB-8
Product:	6X6 Crossbow	File No:	21015944
Description:	Signal Contacts	Tech:	BE
Open circuit voltage: 20mV		Current:	100mA
Units: milliohms			
Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
P8C1	19.0	0.6	2.6
P8B2	16.5	1.9	1.7
P8E3	21.3	0.8	2.3
P8E5	21.6	0.2	0.3
P8A6	15.2	0.5	2.0
P9A2	15.3	0.9	2.4
P9D3	18.5	1.5	4.2
P9A4	15.1	1.0	6.2
P9A6	15.0	0.7	4.0
P10B1	16.2	1.8	4.8
P10E2	21.6	1.6	2.2
P10C3	19.1	0.4	1.4
P10E4	21.5	1.1	2.1
P10A5	15.4	0.3	1.8
P11E1	21.8	1.3	2.5
P11F2	22.8	1.1	3.6
P11D4	18.7	1.5	6.8
P11B5	15.9	0.6	9.3
P11B6	15.8	0.3	5.3
P12A1	15.2	0.4	6.5
P12C3	18.5	0.3	2.6
P12C5	18.4	0.3	2.3
P12B6	15.9	0.7	2.8
P13A1	15.3	0.7	4.1
P13F2	22.5	3.1	4.7
P13F4	22.5	1.8	4.9
P13B5	16.2	0.5	3.9
P13D6	18.6	1.3	4.4
P14C1	18.7	0.8	1.9
P14A2	15.3	0.7	2.3



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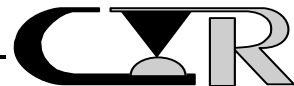
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Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
14A3	15.4	0.3	4.4
P14C5	18.6	0.8	1.2
P14B6	15.8	0.7	3.2
P15C2	18.5	0.3	3.4
P15B4	16.1	0.7	5.8
P15C6	18.8	1.2	1.3
P8L1	30.0	0.6	1.6
P8J3	27.5	0.5	0.8
P8K4	29.4	1.9	2.9
P8M5	31.5	1.2	1.2
P9H1	25.8	1.0	3.8
P9M2	31.5	0.3	1.5
P9J4	27.6	0.4	3.5
P9M5	31.6	0.6	1.4
P9G6	25.1	0.6	1.1
P10K1	29.4	1.5	7.9
P10J3	28.0	0.0	1.1
P10M5	31.9	0.4	2.5
P10J6	27.5	-0.1	0.8
P11L2	30.2	0.0	0.7
P11H3	25.9	0.9	8.0
P11J4	27.5	0.6	3.4
P11J6	27.5	0.1	3.5
P12H1	25.4	1.0	3.9
P12J2	27.4	0.4	1.1
P12G3	25.0	0.6	2.1
P12K4	29.1	0.6	4.5
P12H5	25.5	0.5	3.3
P13K2	29.2	1.1	5.9
P13M3	31.7	0.5	3.0
P13H4	25.8	0.4	0.4
P13J6	27.7	0.2	3.3
P14M1	31.8	0.8	2.6
P14G3	25.4	1.3	0.9
P14M4	31.5	0.8	1.4
P14K5	29.4	0.3	1.7
P15H1	25.4	1.6	6.4



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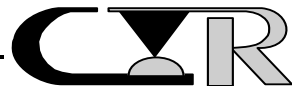
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Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
P15L2	29.5	0.3	0.7
P15F3	22.2	0.9	2.7
P15J4	27.4	0.2	3.7
P15J5	27.7	0.1	0.2
P15M6	31.3	0.4	0.9
MAX	31.9	3.1	9.3
MIN	15.0	-0.1	0.2
AVG	23.1	0.8	3.0
STD	5.7	0.6	2.0
Open	0	0	0
Tech	BE	BE	BE
Equip ID	601	601	601
	677	677	677



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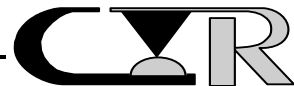
Low Level Circuit Resistance - Delta Values				
Project:	210159		Spec:	EIA 364, TP 23
Customer:	Amphenol TCS		Subgroup:	Sample ID# 3-6CB-9
Product:	6X6 Crossbow		File No:	21015945
Description:	Signal Contacts		Tech:	BE
Open circuit voltage:	20mV		Current:	100mA
Units:	milliohms			
Temp °C	22	22	21	22
R.H. %	30	42	36	45
Date:	15Apr10	06May10	13May10	04Jun10
Pos. ID	Initial	T-Life	Unmate/Mate	Retest
		500hrs		
P8C1	18.5	1.4	3.1	
P8B2	16.0	3.2	1.6	
P8E3	21.5	1.8	1.0	
P8E5	21.2	1.8	0.6	
P8A6	14.9	0.5	1.7	
P9A2	14.6	1.0	1.7	
P9D3	18.4	1.5	2.0	
P9A4	14.7	0.7	1.3	
P9A6	14.8	0.4	1.2	
P10B1	15.7	1.2	1.8	
P10E2	21.0	1.5	0.4	
P10C3	18.1	0.6	0.5	
P10E4	21.0	1.0	0.4	
P10A5	14.7	0.3	0.7	
P11E1	21.1	0.6	0.5	
P11F2	21.8	0.9	1.6	
P11D4	18.1	1.5	2.5	
P11B5	15.5	0.5	1.0	
P11B6	15.6	0.3	1.1	
P12A1	15.1	0.6	1.1	
P12C3	18.3	1.1	1.2	
P12C5	18.4	0.6	4.0	
P12B6	15.7	0.4	7.1	
P13A1	14.8	0.3	2.7	
P13F2	22.2	2.0	3.3	
P13F4	22.1	1.3	3.5	
P13B5	15.9	1.0	4.5	
P13D6	18.4	0.9	3.1	
P14C1	18.2	0.4	0.8	



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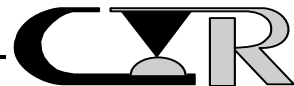
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Temp °C	22	22	21	22
R.H. %	30	42	36	45
Date:	15Apr10	06May10	13May10	04Jun10
Pos. ID	Initial	T-Life	Unmate/Mate	Retest
		500hrs		
P14A2	14.8	0.6	1.0	
P14A3	14.9	0.4	2.3	
P14C5	18.2	0.1	0.9	
P14B6	15.8	0.3	1.3	
P15C2	18.6	2.1	1.1	
P15B4	16.0	0.8	4.7	
P15C6	18.7	2.5	1.0	
P8L1	29.6	0.7	1.2	
P8J3	27.4	3.5	1.1	
P8K4	28.8	1.1	1.9	
P8M5	31.2	0.5	1.1	
P9H1	25.4	0.9	15.4	6.1
P9M2	31.0	0.1	1.5	
P9J4	27.1	0.3	0.8	
P9M5	31.4	0.6	0.8	
P9G6	24.8	0.4	0.5	
P10K1	29.0	0.8	3.5	
P10J3	27.3	0.3	0.3	
P10M5	31.2	0.5	1.0	
P10J6	27.2	0.2	0.9	
P11L2	29.3	0.2	0.5	
P11H3	25.4	1.4	2.0	
P11J4	27.2	0.6	0.8	
P11J6	27.1	0.3	2.5	
P12H1	26.5	0.5	1.7	
P12J2	27.1	0.7	1.2	
P12G3	24.9	1.2	1.7	
P12K4	29.0	0.6	1.5	
P12H5	25.3	1.2	1.7	
P13K2	29.2	0.6	3.1	
P13M3	31.1	0.6	2.2	
P13H4	25.4	0.5	0.4	
P13J6	27.1	0.4	3.3	
P14M1	31.1	0.3	2.8	
P14G3	24.8	0.6	2.9	
P14M4	31.2	0.5	3.6	



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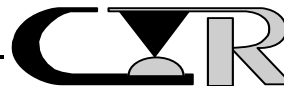
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Temp °C	22	22	21	22
R.H. %	30	42	36	45
Date:	15Apr10	06May10	13May10	04Jun10
Pos. ID	Initial	T-Life	Unmate/Mate	Retest
		500hrs		
P14K5	29.1	1.2	1.4	
P15H1	25.8	3.2	2.3	
P15L2	29.9	2.6	0.1	
P15F3	22.4	2.1	2.8	
P15J4	26.9	2.9	1.2	
P15J5	27.5	2.4	0.6	
P15M6	31.7	0.7	-0.1	
MAX	31.7	3.5	15.4	
MIN	14.6	0.1	-0.1	
AVG	22.8	1.0	1.9	
STD	5.8	0.8	2.0	
Open	0	0	0	
Tech	BE	BE	BE	
Equip ID	601	601	601	
	677	677	677	



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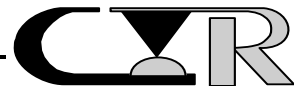
Low Level Circuit Resistance - Delta Values				
Project:	210159		Spec:	EIA 364, TP 23
Customer:	Amphenol TCS		Subgroup: Sample ID#	3-6CB-7
Product:	6X6 Crossbow		File No:	21015946
Description:	Ground Contacts		Tech:	BE
Open circuit voltage:	20mV		Current:	100mA
Units: milliohms				
Temp °C	22	22	21	22
R.H. %	30	42	36	45
Date:	15Apr10	06May10	13May10	04Jun10
Pos. ID	Initial	T-Life 500hrs	Unmate/Mate	Retest
P8GN4	7.5	0.9	0.6	
P9GN13	9.1	12.3	5.2	6.5
P9GN23	9.5	4.2	3.8	
P10GN12	9.2	3.2	2.0	
P11GN9	9.2	4.2	2.4	
P12GN2	7.6	1.2	0.8	
P12GN16	9.2	11.7	2.3	2.3
P13GN15	9.3	10.6	3.4	2.0
P14GN22	9.8	5.5	2.0	
P15GN7	9.6	1.4	1.2	
P15GN9	9.6	1.6	1.2	
P15GN11	9.7	1.3	1.7	
P8GN20	9.4	2.6	2.1	
P8GN36	10.4	1.6	1.4	
P9GN33	10.6	3.2	3.3	
P10GN38	11.0	0.8	0.4	
P10GN28	10.2	3.8	2.4	
P11GN25	10.0	1.8	1.3	
P11GN23	9.5	2.0	1.0	
P12GN24	9.7	5.7	1.2	
P13GN37	11.3	1.0	0.3	
P13GN41	11.1	1.4	1.0	
P14GN26	10.3	5.3	1.6	
P14GN42	11.1	0.9	1.5	
MAX	11.3	12.3	5.2	
MIN	7.5	0.8	0.3	
AVG	9.7	3.7	1.8	
STD	1.0	3.4	1.2	
Open	0	0	0	
Tech	BE	BE	BE	
Equip ID	601	601	601	
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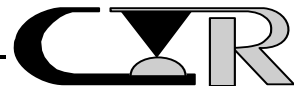
Low Level Circuit Resistance - Delta Values			
Project:	210159	Spec:	EIA 364, TP 23
Customer:	Amphenol TCS	Subgroup:	Sample ID# 3-6CB-8
Product:	6X6 Crossbow	File No:	21015947
Description:	Ground Contacts	Tech:	BE
Open circuit voltage: 20mV		Current:	100mA
Units: milliohms			
Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
P8GN4	7.6	2.9	0.9
P9GN13	9.3	1.4	6.5
P9GN23	9.5	0.8	6.4
P10GN12	8.9	0.7	2.0
P11GN9	9.2	1.0	6.7
P12GN2	7.6	0.6	2.3
P12GN16	9.0	1.3	3.2
P13GN15	9.4	2.5	2.9
P14GN22	9.5	1.6	2.2
P15GN7	9.2	3.5	1.6
P15GN9	9.4	1.4	1.4
P15GN11	9.3	2.2	1.6
P8GN20	9.9	1.7	1.9
P8GN36	10.5	0.7	1.6
P9GN33	10.9	0.1	3.0
P10GN38	11.0	0.8	0.8
P10GN28	10.0	0.8	2.9
P11GN25	10.3	0.8	3.1
P11GN23	9.5	0.9	2.4
P12GN24	9.3	0.6	1.6
P13GN37	11.1	0.8	1.0
P13GN41	11.0	0.9	1.1
P14GN26	10.2	1.7	1.3
P14GN42	11.3	0.6	1.0



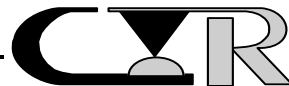
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		File No:	21015947
Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
MAX	11.3	3.5	6.7
MIN	7.6	0.1	0.8
AVG	9.7	1.3	2.5
STD	1.0	0.8	1.7
Open	0	0	0
Tech	BE	BE	BE
Equip ID	601	601	601
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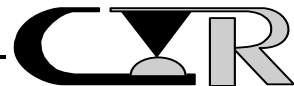
Low Level Circuit Resistance - Delta Values			
Project:	210159	Spec:	EIA 364, TP 23
Customer:	Amphenol TCS	Subgroup:	Sample ID# 3-6CB-9
Product:	6X6 Crossbow	File No:	21015948
Description:	Ground Contacts	Tech:	BE
Open circuit voltage: 20mV		Current:	100mA
Units: milliohms			
Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
P8GN4	7.3	0.9	1.4
P9GN13	8.7	1.1	3.3
P9GN23	8.9	0.9	1.3
P10GN12	8.7	1.1	2.5
P11GN9	8.6	0.7	1.4
P12GN2	7.4	0.6	0.9
P12GN16	8.7	2.0	6.7
P13GN15	9.1	1.0	4.7
P14GN22	9.2	0.7	3.8
P15GN7	8.9	1.6	4.9
P15GN9	9.0	3.8	2.6
P15GN11	9.0	1.3	2.7
P8GN20	9.7	2.8	1.8
P8GN36	9.9	0.8	1.1
P9GN33	10.3	0.4	0.6
P10GN38	10.7	0.6	0.7
P10GN28	9.8	1.3	0.7
P11GN25	9.7	1.7	1.9
P11GN23	9.0	1.4	2.2
P12GN24	9.1	1.6	2.0
P13GN37	10.9	0.4	1.3
P13GN41	10.8	0.7	0.9
P14GN26	10.1	1.1	4.0
P14GN42	10.6	0.3	0.8



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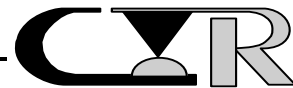
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		File No:	21015948
Temp °C	22	22	21
R.H. %	30	42	36
Date:	15Apr10	06May10	13May10
Pos. ID	Initial	T-Life	Unmate/Mate
		500hrs	
MAX	10.9	3.8	6.7
MIN	7.3	0.3	0.6
AVG	9.3	1.2	2.3
STD	1.0	0.8	1.6
Open	0	0	0
Tech	BE	BE	BE
Equip ID	601	601	601
	677	677	677



# TEST RESULTS

## GROUP 4



PROJECT NO.: 210428A      SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

-----  
PART NO.: Unidentified      PART DESCRIPTION: CrossBow  
-----

SAMPLE SIZE: 3 Samples      TECHNICIAN: BE/AJP  
-----

START DATE: 8/19/10      COMPLETE DATE: 9/3/10  
-----

ROOM AMBIENT: 22°C      RELATIVE HUMIDITY: 50%  
-----

EQUIPMENT ID#: 18, 676  
-----

THERMAL AGING

PURPOSE:

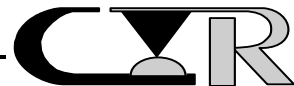
To evaluate the impact on electrical stability of the contact system when exposed to a thermal environment. Said environment may generate temperature dependent failure mechanisms such as:

- a) Reduced normal (contact) force due to stress relaxation as a result of a thermal environment.
- b) Dry oxidation and/or film formation of particulates which may have been deposited on the contacting surfaces from the surrounding atmosphere.
- c) Dry oxidation due to smearing of base metal and/or underplate on the contact surfaces or exposure of same due to wear.

-----  
PROCEDURE:

1. The test samples were placed in the test chamber after it had reached equilibrium at the specified temperature level. The test exposure was performed in accordance with EIA 364, Test Procedure 17, Rev. B.
2. Test Condition:
  - a) Temperature                   : 105°C ± 2°C
  - b) Duration                       : 300 hours
  - c) Mated Condition           : Mated
  - d) Mounting Condition: Mounted

-continued on next page.



PROCEDURE:-continued

3. Prior to performing variable measurements, the test samples were allowed to recover to room ambient conditions.

-----  
REQUIREMENTS:

There shall be no evidence of physical damage or deterioration of the test samples so exposed.

-----  
RESULTS:

There was no evidence of physical damage or deterioration of the test samples.



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 9/3/10

COMPLETE DATE: 9/3/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 52%

EQUIPMENT ID#: 601, 677

LOW LEVEL CIRCUIT RESISTANCE (LLCR)

PURPOSE:

1. To evaluate contact resistance characteristics of the contact systems under conditions where applied voltages and currents do not alter the physical contact interface and will detect oxides and films which degrade electrical stability. It is also sensitive to and may detect the presence of fretting corrosion induced by mechanical or thermal environments as well as any significant loss of contact pressure.
2. This attribute was monitored after each preconditioning and/or test exposure in order to determine said stability of the contact systems as they progress through the applicable test sequences.
3. The electrical stability of the system is determined by comparing the initial resistance value to that observed after a given test exposure. The difference is the change in resistance occurring whose magnitude establishes the stability of the interface being evaluated.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 23, Rev. C.
2. The samples were tested with stabilizing brackets.

-continued on next page.



PROCEDURE: -continued

3. Test Conditions:

- a) Test Current : 100 milliamps maximum
- b) Open Circuit Voltage : 20 millivolts
- c) No. of Positions Tested : 72 Signal Positions/Board  
24 Signal Positions/Board

-----  
REQUIREMENTS:

Low level circuit resistance shall be measured and recorded.

-----  
RESULTS:

1. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
4-6FA-1	23.6	32.0	15.2
4-6FA-2	25.8	34.0	14.8
4-6FA-3	23.8	31.9	14.8

<u>GROUND</u> <u>Sample ID#</u>	<u>Avg.</u>	<u>Max.</u>	<u>Min.</u>
4-6FA-1	10.4	12.9	7.7
4-6FA-2	11.2	16.2	8.3
4-6FA-3	10.6	12.3	7.8

2. See data files 210428A07 through 210428A09 and 210428A19 through 210428A21 for individual data points.



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE

START DATE: 9/3/10

COMPLETE DATE: 9/7/10

ROOM AMBIENT: 22°C

RELATIVE HUMIDITY: 52%

EQUIPMENT ID#: 199, 315, 340, 562, 601, 677, 1466

DURABILITY

PURPOSE:

1. This is a conditioning sequence which is used to induce the type of wear on the contacting surfaces which may occur under normal service conditions. The connectors are mated and unmated a predetermined number of cycles. Upon completion, the units being evaluated are exposed to the environments as specified to assess any impact on electrical stability resulting from wear or other wear dependent phenomenon.
2. This type of conditioning sequence is also used to mechanically stress the connector system as would normally occur in actual service. This sequence in conjunction with other tests is used to determine if a significant loss of contact pressure occurs from said stresses which in turn, may result in an unstable electrical condition to exist.

PROCEDURE:

1. The test was performed in accordance with EIA 364, Test Procedure 09, Rev. C.
2. Test Conditions:
  - a) No. of Cycles : 100
  - b) Rate : 500 cycles/hour max.
3. The test samples were assembled to special holding devices and attached to the automatic cycling equipment utilizing constant speed control and counter systems.

-continued on next page.



PROCEDURE:-continued

4. The test samples were axially aligned to accomplish the mating and unmating function allowing for self-centering movement.
5. All subsequent variable testing was performed in accordance with the procedures previously indicated.

-----  
REQUIREMENTS:

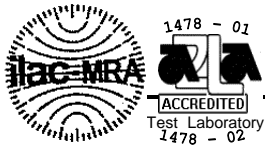
1. There shall be no evidence of physical damage to the test samples so tested.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.
3. The force required to mate the connector shall not exceed 18.8 pounds.
4. The force required to unmate the connector shall not be less than 6.4 pounds.

-----  
RESULTS:

1. There was no evidence of physical damage to the test samples as tested.
2. The following is a summary of the data observed:

<u>Sample ID#</u>	<u>MATING FORCE</u> <u>(Pounds)</u>	<u>UNMATING FORCE</u> <u>(Pounds)</u>
4-6FA-1	15.4	10.0
4-6FA-2	15.2	9.7
4-6FA-3	15.6	8.8

-continued on next page.



RESULTS: -continued

3. The following is a summary of the data observed:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

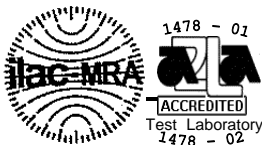
<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u> <u>Change</u>	<u>Max.</u> <u>Change</u>
4-6FA-1	+0.7	+3.9
4-6FA-2	+0.4	+4.0
4-6FA-3	+1.1	+5.7

<u>GROUND</u> <u>Sample ID#</u>	<u>Avg.</u> <u>Change</u>	<u>Max.</u> <u>Change</u>
4-6FA-1	-0.1	+2.0
4-6FA-2	-0.7	+0.5
4-6FA-3	0.0	+2.9

Note: The change in low level circuit resistance was determined by comparing the post durability data to the values collected following 300 hours of thermal aging.

4. See data files 210428A07 through 210428A09 and 210428A19 through 210428A21 for individual data points.



PROJECT NO.: 210428A

SPECIFICATION: GR-1217-CORE  
Amphenol Test Plan

PART NO.: Unidentified

PART DESCRIPTION: CrossBow

SAMPLE SIZE: 3 Samples

TECHNICIAN: BE/S-R/GL/AJP

START DATE: 9/7/10

COMPLETE DATE: 9/28/10

ROOM AMBIENT: 21°C

RELATIVE HUMIDITY: 38%

EQUIPMENT ID#: 102, 270, 436, 443, 510, 525, 543, 562, 601,  
677, 681, 1027, 1110, 1278, 1296, 1381, 1571,  
1595, 1599, 1650

MIXED FLOWING GAS

PURPOSE:

1. To determine the impact on electrical stability of contact interfaces when the test samples are exposed to a mixed flowing gas environment. Said environment is based on field data simulating typical, severe, non-benign environments. Said exposure is indicative of expected behavior in the field.
2. Mixed flowing gas tests (MFG) are environmental test procedures whose primary purpose is to evaluate product performance under simulated storage or operating (field) conditions. For parts involving plated contact surfaces, such tests are also used to measure the effect of plating degradation (due to the environment) on the electrical and durability properties of a contact or connector system. The specific test conditions are usually chosen so as to simulate, in the test laboratory, the effects of certain representative field environments or environmental severity levels on standard metallic surfaces.

PROCEDURE:

1. The test environment was performed in accordance with EIA 364, Test Procedure 65, Rev. B.

-continued on next page.



PROCEDURE:-continued

2. Environmental Conditions:

- a) Temperature : 30°C ± 1°C
- b) Relative Humidity : 70% ± 2%
- c) Cl<sub>2</sub> : 10 ± 3 ppb
- d) NO<sub>2</sub> : 200 ± 50 ppb
- e) H<sub>2</sub>S : 10 ± 5 ppb
- f) SO<sub>2</sub> : 100 ± 20 ppb
- g) Exposure Time : 20 days
- h) Mating Conditions : Day 1-10, samples exposed unmated  
(both connector halves exposed)  
Day 11-20, samples exposed mated

3. The test chamber was allowed to stabilize at the specified conditions indicated.

4. After stabilization, the test samples and control coupons were placed in the chamber such that they were no closer than 2.0" from each other and/or the chamber walls.

5. The test samples were handled in a manner so as not to disturb the contact interface.

6. After placement of the test samples in the chamber, it was allowed to re-stabilize and adjusted as required to maintain the specified concentrations and conditions.

7. The test chamber was monitored periodically during the exposure period to assure the environmental conditions as specified were maintained.

8. During the exposure, resistance measurements were taken at specific intervals and in the following sequence.

- a) Place the test samples in the test chamber.
- b) At each designated measurement period, remove the test units from the test chamber. The test samples were exposed to room ambient for two hours prior to making measurements.
- c) Measure and record low level circuit resistance measurements.
- d) Upon completion of the measurements, place the test units back into the test chamber until the next measurement interval or until completion of the test duration.

-continued on next page.



PROCEDURE:-continued

9. Following completion of the MFG test exposure, the samples were subjected to the tests indicated below:
  - a) Disturbance
  - b) LLCR
  - c) Durability (100 cycles)
  - d) LLCR
10. All subsequent variable testing was performed in accordance with the procedures previously indicated.

-----  
REQUIREMENTS:

1. There shall be no evidence of damage or corrosion to the test samples as exposed which will cause mechanical or electrical malfunction of the said samples.
2. The change in low level circuit resistance shall not exceed +10.0 milliohms.

-----  
RESULTS:

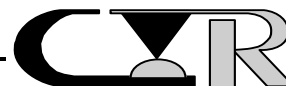
1. There was no evidence of physical damage or corrosion.
2. Representative photographs of the samples following 5 and 10 days of unmated MFG exposure are illustrated in Figure's #11, #12, #13, and #14.
3. The following is a summary of the observed data:

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

Day 1 to 5                      Day 6 to 10  
(Unmated)                      (Unmated)

<u>SIGNAL</u> <u>Sample ID#</u>	<u>Avg.</u> <u>Change</u>	<u>Max.</u> <u>Change</u>	<u>Avg.</u> <u>Change</u>	<u>Max.</u> <u>Change</u>
4-6FA-1	+0.5	+2.3	+0.3	+2.1
4-6FA-2	+0.3	+4.4	+0.5	+4.0
4-6FA-3	+0.1	+1.1	+0.4	+6.3

-continued on next page.



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RESULTS: -continued

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

GROUND Sample ID#	Day 1 to 5 (Unmated)		Day 6 to 10 (Unmated)	
	Avg. Change	Max. Change	Avg. Change	Max. Change
4-6FA-1	+0.8	+3.0	+0.6	+4.2
4-6FA-2	-0.3	+3.0	+0.8	+5.6
4-6FA-3	0.0	+1.5	+1.3	+5.6

LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

SIGNAL Sample ID#	Day 11 to 15 (Mated)		Day 16 to 20 (Mated)	
	Avg. Change	Max. Change	Avg. Change	Max. Change
4-6FA-1	0.0	+1.8	0.0	+1.9
4-6FA-2	-0.2	+4.8	-0.1	+5.1
4-6FA-3	+0.1	+1.4	+0.2	+2.5

GROUND  
Sample ID#

4-6FA-1	+0.3	+3.0	+0.6	+8.5
4-6FA-2	+0.4	+5.9	+2.1	+26.1
4-6FA-3	+1.3	+5.0	+1.9	+9.9

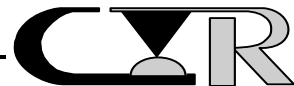
LOW LEVEL CIRCUIT RESISTANCE  
(milliohms)

SIGNAL Sample ID#	Disturbance		Durability	
	Avg. Change	Max. Change	Avg. Change	Max. Change
4-6FA-1	+0.3	+1.4	+0.9	+3.1
4-6FA-2	+1.1	+6.8	+1.1	+5.9
4-6FA-3	+1.1	+5.3	+0.2	+1.2

GROUND  
Sample ID#

4-6FA-1	+0.4	+4.0	-0.2	+1.8
4-6FA-2	+0.1	+4.6	-0.5	+1.7
4-6FA-3	+1.8	+7.0	-0.1	+5.0

See Note next page



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-continued on next page.



RESULTS: -continued

Note: The change in low level circuit resistance was determined by comparing the post mixed flowing gas data to the values collected following 300 hours of thermal aging.

4. See data files 210428A07 through 210428A09 and 210428A19 through 210428A21 for individual data points.
5. Five copper coupons were placed in the chamber. Upon removal said coupons were evaluated via weight gain technique with the following results.

WEIGHT GAIN ( $\mu\text{gm}/\text{cm}^2/\text{Day}$ )

Coupon No.	<u>9/11 to 9/13</u>	<u>9/14 to 9/16</u>	<u>9/19 to 9/21</u>	<u>9/23 to 9/28</u>
1	14+	12+	12	15+
2	15+	14	14	13+
3	16	14	13+	14+
4	15+	12	12	15
5	15+	13+	13	16

Requirement: 12 to 16  $\mu\text{gm}/\text{cm}^2/\text{Day}$



FIGURE #11

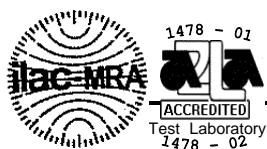
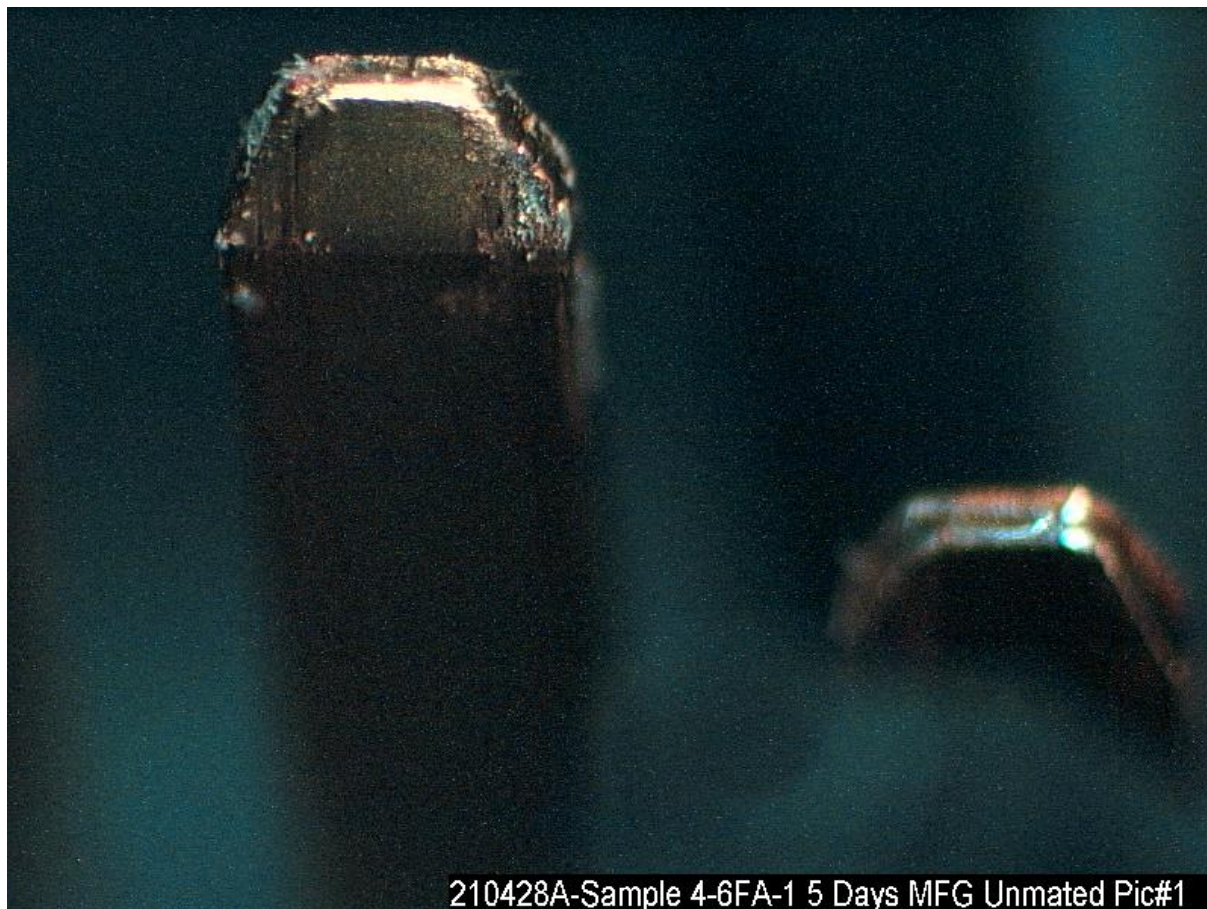
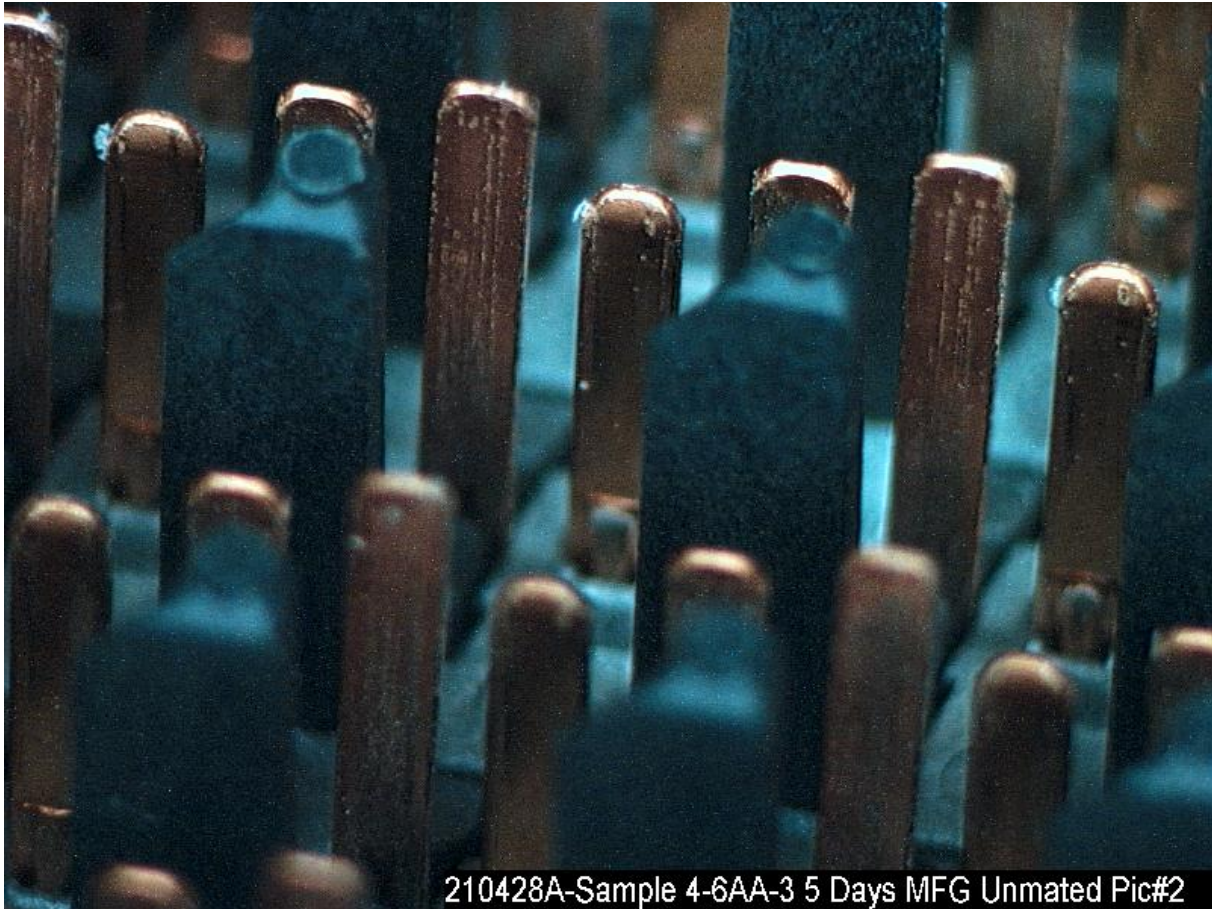


FIGURE #12



210428A-Sample 4-6AA-3 5 Days MFG Unmated Pic#2

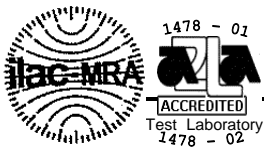
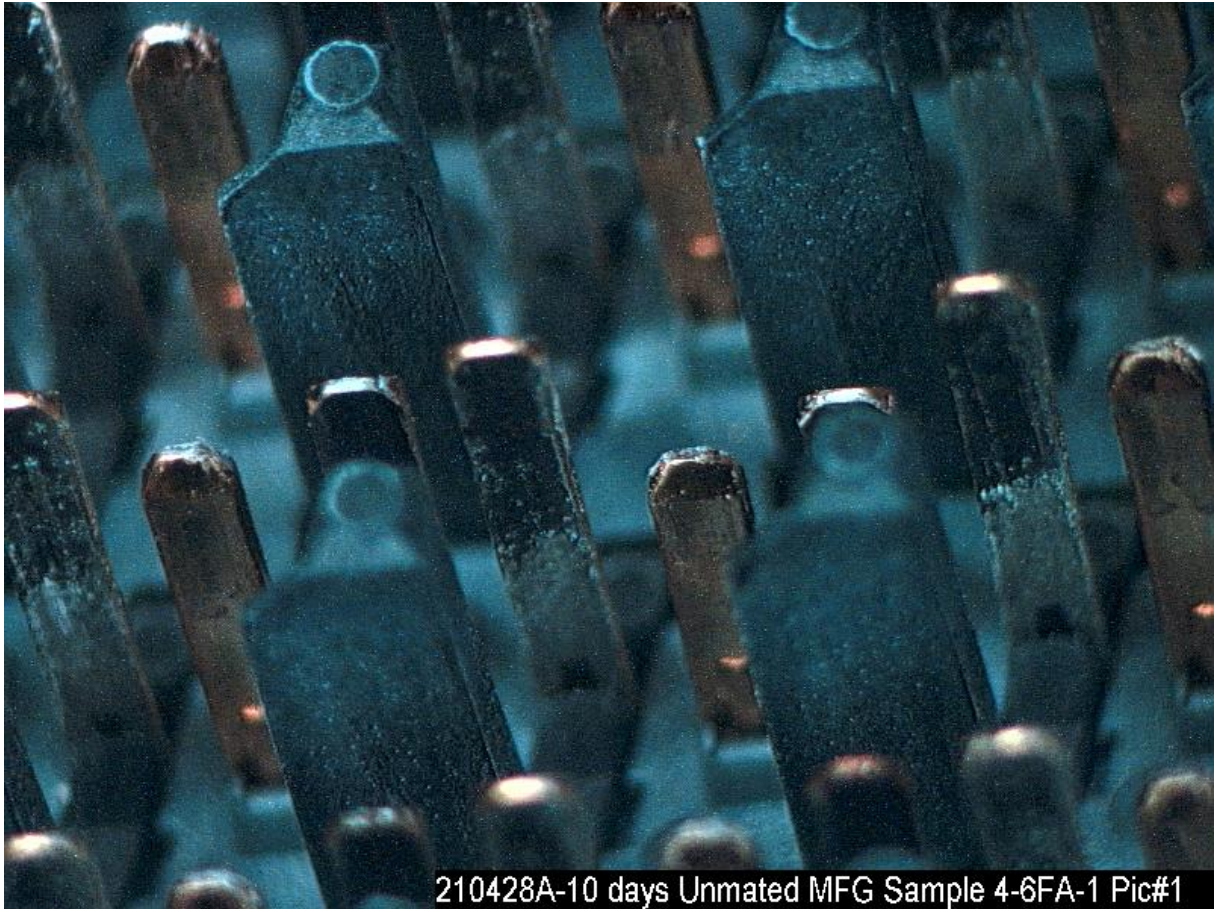


FIGURE #13



210428A-10 days Unmated MFG Sample 4-6FA-1 Pic#1

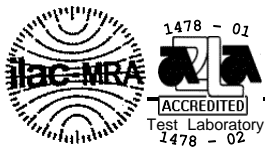
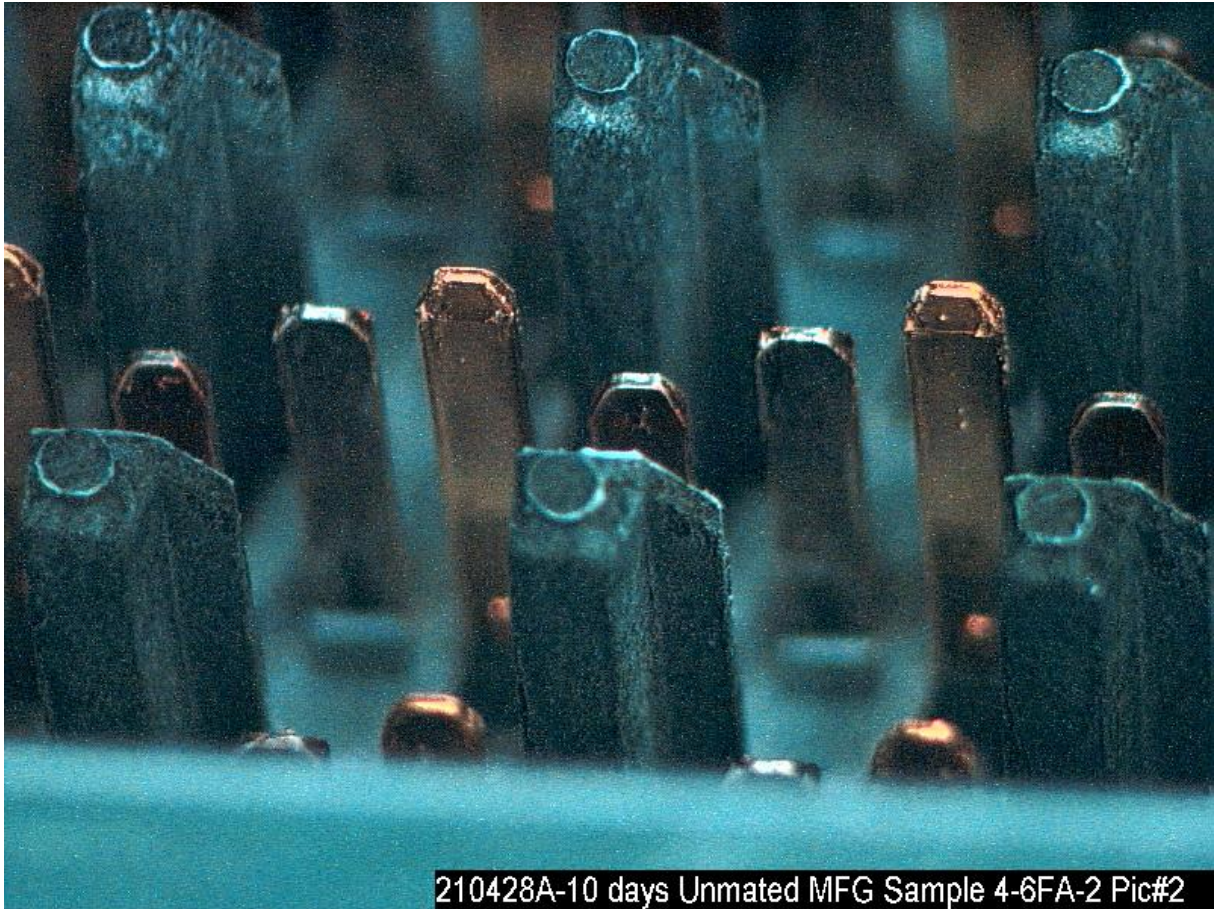


FIGURE #14



# LLCR DATA FILES

## FILE NUMBERS

210428A07

210428A08

210428A09

210428A19

210428A20

210428A21

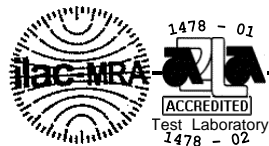


Low Level Contact Resistance - Delta Values

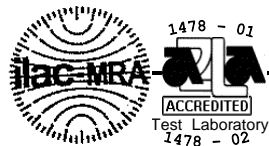
Project:	210428A						Spec:	EIA 364 TP 23
Customer:	FCI						Subgroup:	Sample ID# 4-6FA-1
Product:	6x6 Crossbow						File #:	210428A07
Description:	Signal Contacts							
Open circuit voltage:	20mv						Current:	100ma
units:	milliohms							
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	DIST	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1A1	15.4	0.4	0.6	0.7	0.8	0.6	1.4	0.2
1B1	15.8	0.9	0.8	0.5	0.1	0.1	0.6	0.9
1C1	18.3	0.1	0.5	0.2	0.0	0.2	0.1	0.5
1D1	19.1	0.9	0.5	0.5	0.0	0.1	0.5	2.2
1E1	21.7	0.1	0.2	0.0	-0.2	0.0	0.5	1.4
1F1	22.4	0.5	1.1	0.9	-0.6	0.9	0.2	0.6
1G1	25.3	0.1	0.1	-0.2	-0.7	-0.2	0.0	0.0
1H1	25.8	0.6	1.1	1.2	0.6	1.7	0.8	0.4
1J1	27.8	0.3	0.3	0.0	0.0	-0.1	0.1	0.1
1K1	28.8	1.1	1.5	0.3	0.1	0.1	1.0	0.8
1L1	29.6	0.0	0.2	0.2	0.1	-0.1	-0.2	0.4
1M1	31.6	0.9	0.9	0.3	0.5	0.2	1.2	1.9
1G2	25.7	0.1	0.1	-0.2	-0.3	-0.3	0.0	2.8
1K2	29.8	0.5	0.8	-0.1	-0.1	-0.2	0.4	0.8
1M2	32.0	0.5	0.9	0.1	0.0	-0.1	0.4	0.9
1J3	27.7	0.5	0.5	0.2	0.3	0.1	0.1	0.3



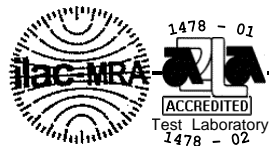
							File #:	210428A07
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	DIST	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1K3	29.3	1.0	1.1	0.4	0.2	0.1	0.6	0.8
1K4	29.5	1.7	0.3	0.1	-0.2	-0.3	0.9	1.5
1G4	25.7	0.3	0.9	1.3	0.4	0.4	1.2	1.1
1L5	30.2	0.0	0.3	0.0	0.0	-0.1	0.1	-0.1
1K5	29.5	1.6	0.3	0.0	-0.1	-0.3	1.0	1.8
1J5	27.9	1.1	0.4	0.1	0.2	0.0	0.6	0.1
1J2	28.0	0.7	0.5	-0.2	-0.2	-0.2	0.0	0.2
1L2	30.1	0.4	0.1	-0.2	-0.3	-0.4	-0.3	0.6
1H2	25.8	0.6	1.1	0.2	0.0	-0.1	0.2	1.7
1G3	25.2	0.1	0.3	-0.2	-0.3	-0.4	-0.2	0.6
1L3	29.4	0.3	0.3	-0.1	0.0	-0.1	-0.1	1.1
1M3	31.1	0.5	1.3	0.2	0.0	-0.1	-0.1	0.4
1H3	25.5	1.1	1.0	0.4	0.1	-0.1	1.3	1.8
1J4	27.7	0.8	0.1	0.2	-0.2	-0.3	-0.5	0.8
1L4	29.4	0.2	0.5	0.3	0.2	0.1	0.1	0.2
1M4	31.1	0.3	0.6	0.3	0.1	0.0	0.2	0.4
1H4	26.1	0.5	0.5	0.4	-0.1	-0.3	1.0	-0.1
1M5	31.3	0.7	0.3	0.3	0.3	0.1	0.3	0.7
1H5	25.6	3.9	0.4	0.1	-0.2	-0.3	0.4	1.5
1A6	15.3	0.0	-0.3	-0.2	-0.4	-0.3	0.7	0.1
1B6	16.5	0.7	0.0	0.4	0.2	0.3	0.9	1.2
1C6	19.2	-0.4	0.1	0.0	0.0	0.0	-0.2	0.0
1D6	18.8	0.5	1.5	0.6	0.4	0.8	-0.6	0.4



							File #:	210428A07
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	DIST	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1G5	25.5	1.8	0.7	0.2	0.1	-0.1	-0.1	0.8
1E6	21.5	0.2	0.2	0.1	-0.1	-0.2	0.2	0.2
1F6	22.5	0.6	0.8	0.6	0.4	0.2	0.8	0.6
1G6	25.8	0.7	0.5	0.1	0.1	-0.2	-0.3	0.2
1H6	25.7	0.1	0.3	0.4	0.1	-0.1	0.2	0.3
1J6	28.0	0.2	0.3	-0.1	0.7	-0.2	0.1	-0.2
1K6	29.5	0.3	0.3	0.0	0.1	-0.1	-0.4	0.0
1L6	30.5	-0.1	0.2	0.0	-0.1	-0.1	-0.1	0.0
1M6	31.5	-0.1	0.4	0.2	0.0	0.0	0.0	0.2
1F2	22.8	0.7	0.5	0.3	0.3	0.2	0.5	1.9
1C2	18.5	1.1	0.8	0.5	0.3	0.2	0.2	0.7
1B2	16.0	0.7	0.9	0.3	-0.3	-0.1	0.3	0.6
1E3	21.2	0.9	2.3	0.4	0.2	0.1	-0.1	2.2
1D3	18.6	1.9	0.5	0.5	0.1	-0.1	0.2	2.5
1F3	22.2	1.0	1.3	0.7	0.2	0.0	0.6	1.7
1B4	16.2	1.0	0.7	0.6	0.1	0.0	0.7	0.9
1E4	21.3	3.6	0.2	0.5	0.1	0.0	0.9	2.8
1F4	22.2	1.3	0.8	0.5	0.0	0.0	0.8	3.1
1B5	16.0	0.8	0.6	0.1	0.0	-0.1	0.3	2.0
1D5	18.9	0.7	0.5	0.4	0.0	0.0	0.1	0.7
1E5	21.2	1.5	0.8	2.1	1.8	1.9	1.1	1.5
1F5	22.3	0.7	0.3	0.5	0.2	0.1	0.4	0.9
1D2	18.9	0.7	0.4	0.5	0.1	0.2	0.5	0.3

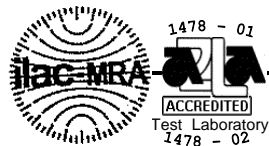


							File #:	210428A07
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	DIST	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1A2	15.5	-0.1	0.2	0.0	-0.1	0.0	0.1	0.0
1C3	18.6	1.3	0.6	0.2	0.1	0.1	0.0	0.1
1A3	15.5	-0.3	-0.2	-0.2	-0.3	-0.4	-0.1	0.1
1B3	16.5	1.0	0.7	0.4	-0.1	0.0	0.5	1.2
1D4	19.2	0.3	0.4	0.3	-0.2	-0.4	1.4	1.3
1C4	18.6	0.5	0.2	0.1	-0.2	-0.2	1.3	1.3
1A4	15.7	0.6	-0.5	-0.4	-0.5	-0.8	-0.3	0.0
1C5	18.7	0.4	1.0	0.5	0.4	0.6	0.3	0.3
1A5	15.6	0.5	0.0	-0.3	-0.4	-0.4	-0.2	1.6
MAX	32.0	3.9	2.3	2.1	1.8	1.9	1.4	3.1
MIN	15.3	-0.4	-0.5	-0.4	-0.7	-0.8	-0.6	-0.2
AVG	23.6	0.7	0.5	0.3	0.0	0.0	0.3	0.9
STD	5.4	0.7	0.5	0.4	0.3	0.4	0.5	0.8
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	S-R	S-R	BE	BE	BE	BE
Equip ID	601	601	681	681	601	601	601	601
	677	677	1278	1278	677	677	677	677

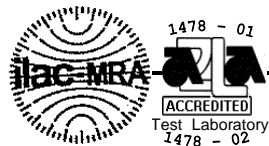


Low Level Contact Resistance - Delta Values

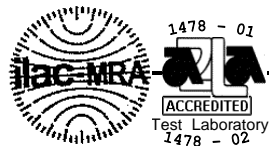
Project:	210428A						Spec:	EIA 364 TP 23	
Customer:	FCI						Subgroup:	Sample ID# 4-6FA-2	
Product:	6x6 Crossbow						File #:	210428A08	
Description:	Signal Contacts								
Open circuit voltage:	20mv						Current:	100ma	
units:	milliohms								
Temp °C	22	22	22	22	22	22	22	22	
R.H. %	52	50	48	48	50	51	51	55	
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10	
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability	
	300hrs	100X	Unmated	Unmated	Mated	Mated		100X	
1A1	17.3	1.0	-0.3	-0.3	-0.3	-0.3	-0.1	0.1	
1B1	18.6	-0.1	-0.6	-0.2	-0.8	-0.7	0.9	1.3	
1C1	19.6	0.7	0.2	0.3	0.3	0.2	0.3	2.8	
1D1	20.9	1.1	0.6	0.0	-0.1	-0.1	1.3	2.5	
1E1	22.9	1.3	1.5	1.1	0.9	1.2	2.5	1.0	
1F1	25.1	0.1	-0.1	0.3	-0.8	-0.7	0.2	4.2	
1G1	26.7	1.4	1.8	0.4	0.3	0.3	0.2	0.7	
1H1	29.1	0.5	-0.7	-0.5	-0.8	-1.0	0.1	3.7	
1J1	29.6	2.1	1.1	0.4	0.1	0.1	0.9	1.3	
1K1	31.7	0.3	-0.6	-0.3	-0.6	-0.5	2.1	5.3	
1L1	32.0	0.6	1.0	0.2	0.1	0.1	0.2	0.7	
1M1	33.6	0.5	1.2	2.3	0.9	1.1	1.8	1.5	
1G2	27.0	4.0	3.0	0.8	0.4	0.4	1.1	4.4	
1K2	31.6	0.2	1.0	0.5	-0.3	-0.4	-0.2	5.2	
1M2	33.8	0.5	0.4	0.3	0.1	0.3	1.8	2.3	
1J3	29.6	1.0	1.1	0.2	0.5	0.7	0.6	0.2	



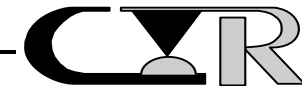
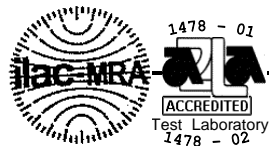
							File #:	210428A08
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmated	Unmated	Mated	Mated		100X
1K3	31.7	0.0	-0.2	-0.5	-0.9	-0.8	2.3	5.9
1K4	32.6	-0.4	-0.7	-0.6	-1.4	-1.5	1.8	-0.1
1G4	27.2	0.1	2.4	3.2	0.9	1.7	2.5	0.4
1L5	32.6	0.3	0.1	0.7	0.1	0.1	2.7	0.4
1K5	31.9	0.0	0.4	0.8	-0.3	-0.3	2.1	-0.1
1J5	29.8	0.4	1.1	2.8	0.7	0.5	3.7	0.3
1J2	29.4	1.7	0.5	0.0	0.0	0.0	0.2	0.3
1L2	32.0	0.3	1.3	0.3	0.2	0.2	0.1	0.6
1H2	28.6	-0.5	-0.3	-0.5	-1.1	-1.1	3.1	1.4
1G3	26.6	1.6	1.2	0.4	0.6	0.6	0.7	1.5
1L3	32.1	0.4	0.8	0.4	0.2	0.2	0.2	0.0
1M3	33.4	0.2	0.8	4.0	0.7	0.9	6.8	1.6
1H3	28.0	0.5	-0.3	0.4	-0.5	-0.7	3.6	0.9
1J4	29.2	0.3	0.8	1.2	0.3	0.4	0.5	0.2
1L4	32.1	0.7	2.3	1.1	0.5	0.9	1.5	1.2
1M4	33.5	0.5	0.3	1.0	0.1	0.2	1.1	-0.5
1H4	28.4	-0.3	-0.1	2.7	2.4	2.8	3.3	-0.1
1M5	33.8	0.3	-0.2	0.1	-0.5	-0.5	0.7	0.4
1H5	28.3	1.5	0.6	1.2	-0.6	-0.5	3.1	1.3
1A6	16.5	-0.4	-0.5	-0.2	-0.4	-0.3	0.1	0.2
1B6	19.0	-0.4	-1.2	-1.1	-1.5	-1.3	0.3	0.0
1C6	20.6	-0.4	-0.4	-0.4	-0.4	-0.3	0.4	0.0
1D6	23.2	-1.7	-3.1	-2.9	-2.9	-3.1	-2.7	-0.7



							File #:	210428A08
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmated	Unmated	Mated	Mated		100X
1G5	27.0	1.0	2.1	1.6	0.9	0.7	1.7	0.2
1E6	23.0	0.0	0.0	0.1	-0.1	-0.1	0.1	-0.2
1F6	25.7	-0.3	-0.9	2.4	-1.1	-1.1	-0.4	-0.5
1G6	27.2	0.1	0.4	1.5	0.0	0.1	1.1	0.1
1H6	30.1	-0.5	-1.4	3.7	-2.3	-2.4	-0.2	-0.4
1J6	29.4	0.8	4.4	2.6	4.8	5.1	1.4	0.2
1K6	31.9	0.5	-0.2	1.1	-0.7	-0.7	-0.6	0.8
1L6	32.6	0.4	0.3	1.8	0.2	0.1	0.3	0.3
1M6	34.0	-0.5	-0.5	0.5	0.2	0.4	0.5	-0.1
1F2	24.6	0.2	-0.1	0.8	-0.1	-0.5	1.7	2.8
1C2	19.8	3.3	3.5	1.2	0.5	0.6	0.5	0.0
1B2	18.8	0.5	-0.8	-0.5	-1.3	-1.3	0.1	2.5
1E3	22.7	0.8	0.7	0.6	0.3	0.2	2.0	0.6
1D3	20.5	0.0	0.2	-0.2	-0.4	-0.4	1.2	5.2
1F3	25.3	-0.5	0.8	0.0	-1.0	-0.9	3.6	1.0
1B4	18.4	1.9	-0.4	0.9	0.2	0.3	1.2	2.8
1E4	22.8	0.4	1.5	1.1	0.6	0.6	1.2	0.4
1F4	26.6	-0.7	-0.9	-1.4	-1.9	-2.0	1.4	2.2
1B5	20.5	-2.5	-3.2	-2.6	-3.2	-3.2	-2.6	0.0
1D5	23.6	3.0	-2.7	-1.8	-3.0	-2.9	3.6	0.8
1E5	22.9	0.5	1.3	1.0	0.8	3.2	1.9	0.1
1F5	25.7	-0.2	-0.5	-0.4	-1.3	-1.4	3.3	0.4
1D2	21.8	0.3	-0.5	-0.1	-0.9	-1.0	0.2	4.1

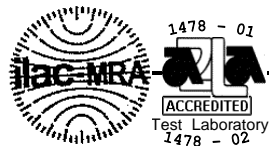


							File #:	210428A08
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmated	Unmated	Mated	Mated		100X
1A2	16.8	2.3	0.7	1.0	0.6	0.8	0.5	1.8
1C3	20.1	0.4	0.4	0.1	0.6	0.3	1.2	0.7
1A3	18.6	-2.4	0.1	-1.4	-1.2	-0.3	-1.7	-2.2
1B3	18.4	-0.1	-0.3	-0.4	-0.4	-0.4	0.6	0.8
1D4	20.9	2.7	0.2	0.3	-0.2	-0.1	3.2	2.4
1C4	20.2	0.4	0.3	0.0	0.1	0.4	0.5	0.6
1A4	17.1	-0.4	-0.7	-0.4	-0.4	-0.3	-0.5	-0.7
1C5	20.5	0.1	-0.1	-0.2	-0.2	-0.1	0.3	0.0
1A5	17.0	-0.1	-0.4	0.8	0.1	0.2	0.1	-0.7
MAX	34.0	4.0	4.4	4.0	4.8	5.1	6.8	5.9
MIN	16.5	-2.5	-3.2	-2.9	-3.2	-3.2	-2.7	-2.2
AVG	25.8	0.4	0.3	0.5	-0.2	-0.1	1.1	1.1
STD	5.4	1.1	1.3	1.3	1.1	1.3	1.5	1.6
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	GL	S-R	BE	BE	BE	BE
Equip ID	601	601	601	681	601	601	601	601
	677	677	677	1278	677	677	677	677

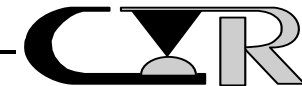
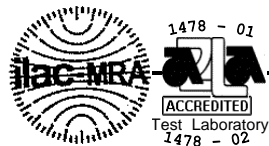


Low Level Contact Resistance - Delta Values

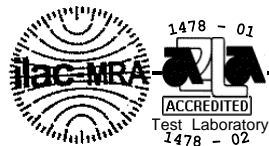
Project:	210428A						Spec:	EIA 364 TP 23
Customer:	FCI						Subgroup:	Sample ID# 4-6FA-3
Product:	6x6 Crossbow						File #:	210428A09
Description:	Signal Contacts							
Open circuit voltage:	20mv						Current:	100ma
units:	milliohms							
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1A1	15.8	0.4	0.3	0.6	0.6	1.1	3.3	0.8
1B1	17.4	-0.4	-0.5	-0.7	-1.1	-0.7	0.5	-0.5
1C1	18.4	0.5	0.2	0.5	0.4	0.7	4.6	0.7
1D1	19.0	1.9	0.6	1.0	0.4	0.6	1.1	0.4
1E1	21.8	1.6	0.1	0.4	0.2	0.5	1.2	0.1
1F1	22.6	3.3	0.0	0.2	0.0	1.3	0.4	0.2
1G1	25.2	0.6	0.1	0.2	0.2	0.3	3.5	0.6
1H1	26.2	0.9	0.1	0.7	0.1	0.7	0.6	0.1
1J1	27.9	0.2	0.0	0.2	0.2	-0.1	1.3	0.6
1K1	29.4	2.9	0.0	0.5	0.2	0.8	1.1	0.5
1L1	29.6	0.0	0.2	0.4	0.3	-1.1	1.9	0.9
1M1	31.7	0.5	0.5	0.6	0.5	0.6	0.4	1.2
1G2	25.7	0.6	0.2	0.2	0.0	0.3	1.3	0.4
1K2	29.4	1.6	0.7	0.4	0.0	0.1	1.0	0.5
1M2	31.9	-0.6	-0.1	0.4	0.1	0.3	0.2	0.9
1J3	27.9	0.9	0.1	0.4	0.2	0.1	3.9	0.1



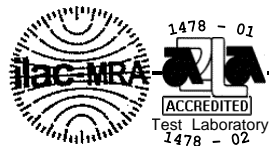
							File #:	210428A09
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1K3	29.8	0.8	-0.5	0.6	0.1	0.1	2.7	0.5
1K4	31.3	0.8	-1.3	-1.4	-1.7	-1.6	3.3	-1.0
1G4	26.0	-0.1	0.0	2.6	0.9	2.1	5.3	-0.1
1L5	30.1	0.2	0.3	6.3	0.1	-0.2	2.5	-0.1
1K5	29.6	1.2	0.1	0.4	0.2	0.1	3.8	0.3
1J5	27.9	1.6	-1.0	0.2	0.4	1.1	0.3	-0.1
1J2	27.5	0.6	0.0	0.3	0.0	0.1	1.1	-0.1
1L2	29.6	0.3	0.3	-0.1	-0.1	-0.1	0.1	0.2
1H2	25.7	1.3	0.1	0.4	0.3	0.3	0.7	0.6
1G3	25.4	3.6	-0.2	0.3	0.2	0.3	0.9	0.3
1L3	29.9	0.6	0.0	0.1	0.5	1.4	0.8	0.0
1M3	31.5	0.5	0.8	0.3	0.1	0.2	1.3	0.4
1H3	25.8	3.5	0.2	0.4	0.1	0.2	-1.0	0.8
1J4	27.7	1.4	0.2	0.1	0.5	1.3	1.4	0.0
1L4	30.0	0.0	0.1	0.1	-0.1	-0.4	0.2	-0.4
1M4	31.3	1.0	0.3	0.5	0.1	0.1	0.8	0.4
1H4	26.0	0.6	0.4	1.3	0.1	-0.1	0.2	0.3
1M5	31.3	0.8	0.3	0.4	0.1	0.1	0.2	0.5
1H5	25.5	4.8	0.6	0.4	0.2	0.2	1.4	0.5
1A6	15.4	0.3	0.3	-0.1	-0.1	-0.6	0.4	0.1
1B6	16.8	-0.1	0.3	0.1	-0.2	-0.1	0.8	-0.2
1C6	18.9	0.2	0.3	0.5	0.3	0.3	1.5	0.1
1D6	18.7	-1.7	0.6	0.7	0.4	0.1	0.1	0.5



							File #:	210428A09
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1G5	25.7	2.7	0.0	0.3	0.3	0.3	1.2	0.0
1E6	21.4	0.0	0.4	0.5	0.3	0.0	0.5	0.0
1F6	22.5	1.7	1.1	1.1	1.0	0.8	1.3	0.5
1G6	25.7	1.5	0.4	2.1	1.4	2.5	1.1	0.1
1H6	25.6	0.3	0.0	0.2	0.0	-1.0	0.6	0.2
1J6	27.5	0.6	0.4	0.3	0.2	0.1	0.2	0.1
1K6	29.6	0.6	0.3	0.3	0.1	-0.3	0.2	0.2
1L6	30.2	0.1	0.2	0.2	0.0	0.0	0.1	0.1
1M6	31.6	0.0	0.3	0.3	0.1	0.0	0.2	0.0
1F2	22.5	1.7	0.1	0.3	0.1	0.3	0.3	0.3
1C2	18.5	1.6	0.1	0.4	0.4	0.4	0.6	0.4
1B2	16.3	1.4	0.5	0.5	0.0	-0.1	0.6	0.3
1E3	21.5	0.7	0.0	0.2	0.2	0.0	0.6	0.0
1D3	19.0	4.2	0.0	0.4	-0.2	1.3	1.0	0.1
1F3	22.5	5.7	0.3	0.2	0.1	-0.2	2.4	0.4
1B4	16.7	2.0	-0.3	0.0	-0.5	-0.6	0.5	-0.3
1E4	21.5	0.7	0.2	0.4	0.2	1.3	0.4	0.4
1F4	22.6	2.2	0.1	0.4	0.1	0.0	1.3	-0.1
1B5	16.7	1.9	-0.2	-0.2	-0.4	-0.5	0.7	0.0
1D5	19.4	1.6	0.1	0.4	0.0	-0.2	2.3	0.2
1E5	21.3	0.9	0.1	0.2	0.0	-0.1	0.1	-0.1
1F5	22.3	1.3	0.3	0.9	0.2	0.0	0.2	0.1
1D2	19.2	1.2	0.2	0.3	-0.1	-0.1	1.0	0.3

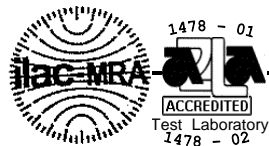


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Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1A2	15.8	0.1	-0.2	-0.3	-0.1	-0.2	0.0	-0.4
1C3	19.0	1.1	0.1	0.2	0.1	0.1	0.6	0.3
1A3	16.2	-0.1	-0.4	-0.2	-0.4	-0.4	0.5	-0.6
1B3	17.1	0.9	0.0	-0.1	-0.4	-0.4	0.2	-0.3
1D4	19.7	4.5	0.2	1.0	0.0	-0.1	3.0	-0.4
1C4	18.9	1.8	0.1	0.3	0.3	0.2	2.5	0.2
1A4	15.9	0.6	-0.2	-0.2	-0.3	-0.4	0.9	-0.3
1C5	18.9	0.4	0.1	0.2	0.1	0.1	0.1	0.0
1A5	16.0	0.1	-0.3	-0.2	-0.4	-0.5	-0.1	-0.4
MAX	31.9	5.7	1.1	6.3	1.4	2.5	5.3	1.2
MIN	15.4	-1.7	-1.3	-1.4	-1.7	-1.6	-1.0	-1.0
AVG	23.8	1.1	0.1	0.4	0.1	0.2	1.1	0.2
STD	5.3	1.3	0.4	0.9	0.4	0.7	1.2	0.4
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	S-R	S-R	BE	BE	BE	BE
Equip ID	601	601	681	681	601	601	601	601
	677	677	1278	1278	677	677	677	677

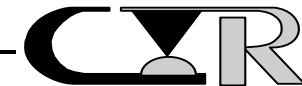
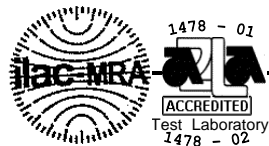


Low Level Contact Resistance - Delta Values

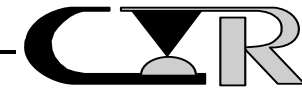
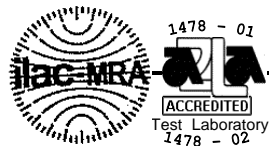
Project:	210428A						Spec:	EIA 364 TP 23	
Customer:	FCI						Subgroup:	Sample ID# 4-6FA-1	
Product:	6x6 Crossbow						File #:	210428A19	
Description:	Ground Contacts								
Open circuit voltage:	20mv						Current:	100ma	
units:	milliohms								
Temp °C	22	22	22	22	22	22	22	22	
R.H. %	52	50	48	48	50	51	51	55	
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10	
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability	
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X	
1GN1	7.8	-0.6	0.2	0.1	-0.1	0.2	1.3	0.2	
1GN7	9.6	0.0	1.2	3.1	2.3	8.5	2.3	0.2	
1GN13	10.1	-0.5	2.5	1.8	0.8	2.4	2.3	-0.4	
1GN19	10.8	-0.7	0.4	0.1	-0.1	1.4	-0.5	-1.3	
1GN25	10.7	-0.8	1.1	0.3	0.1	0.6	0.1	-0.9	
1GN31	11.5	-0.5	1.2	-0.2	-0.4	-0.4	-0.1	-0.4	
1GN37	11.1	0.5	1.2	0.7	0.6	0.7	0.9	1.0	
1GN26	12.9	-1.8	-1.0	-0.6	-0.4	-0.7	-1.5	-1.8	
1GN32	11.3	0.2	0.9	1.2	1.1	1.5	1.0	-0.1	
1GN33	11.4	0.4	0.8	0.0	-0.1	-0.2	-0.2	-0.2	
1GN27	10.9	0.4	0.3	0.6	0.3	0.3	0.3	0.4	
1GN21	10.3	0.2	1.3	1.9	1.2	1.3	0.5	-0.3	
1GN34	11.4	0.4	0.8	-0.1	-0.3	-0.3	0.1	-0.4	
1GN28	10.8	2.0	0.8	0.7	-0.1	-0.1	0.7	-0.4	
1GN35	11.1	-0.2	2.6	1.5	1.8	1.4	0.6	-0.5	
1GN29	11.2	-0.3	0.6	0.0	0.0	0.0	-0.3	-0.5	



							File #:	210428A19
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1GN20	10.2	-0.1	1.0	4.0	1.5	1.9	1.9	1.8
1GN38	11.4	-0.2	0.8	0.0	-0.1	0.0	0.7	0.1
1GN39	11.2	-0.1	0.8	0.0	0.8	-0.2	-0.3	-0.4
1GN40	11.6	-0.6	0.0	-0.4	-0.5	-0.5	-0.5	-0.6
1GN22	9.6	0.7	0.5	0.6	-0.5	-0.1	0.3	1.2
1GN41	11.5	-0.2	2.1	0.0	-0.6	-0.1	0.1	-0.1
1GN23	9.9	0.2	0.5	0.3	0.1	0.0	0.1	0.0
1GN6	8.4	0.0	0.1	0.1	0.1	0.1	0.3	0.0
1GN12	10.1	-0.3	0.9	0.1	-0.1	0.0	0.0	-0.5
1GN18	12.5	-1.9	-0.7	-1.9	-2.2	-2.3	-2.4	-2.9
1GN24	10.3	-0.3	2.2	4.2	3.0	3.4	4.0	0.2
1GN30	10.8	0.3	0.8	0.0	0.0	0.0	0.0	0.2
1GN36	11.0	-0.2	0.3	-0.1	-0.2	-0.2	0.3	-0.2
1GN42	12.1	0.3	0.5	0.0	-0.1	-0.1	0.0	-0.5
1GN14	9.9	0.9	3.0	3.0	1.8	2.0	3.1	0.2
1GN2	8.2	-0.2	0.5	-0.3	-0.5	-0.5	-0.3	0.5
1GN9	9.7	0.9	1.4	1.7	2.1	2.9	1.7	0.7
1GN3	7.7	0.0	0.4	0.2	0.1	0.2	0.3	0.0
1GN4	7.8	-0.3	0.1	-0.4	-0.5	-0.5	-0.3	-0.6
1GN5	8.2	-0.2	0.4	-0.4	-0.5	-0.5	-0.2	-0.8
1GN8	10.0	0.4	0.3	3.1	2.0	2.3	0.7	0.4
1GN15	9.9	0.2	0.8	1.6	1.3	1.3	1.9	0.4
1GN10	10.0	0.2	0.5	-0.1	-0.3	-0.2	0.2	-0.4

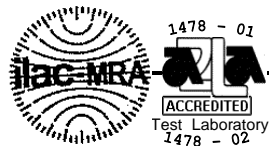


							File #:	210428A19
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1GN16	10.6	0.0	0.0	-0.1	-0.5	-0.3	0.4	-0.7
1GN11	11.1	-0.7	-0.7	-0.8	-0.9	-0.7	-0.7	-1.1
1GN17	10.3	-0.3	1.3	-0.2	-0.5	-0.4	-0.6	-0.6
MAX	12.9	2.0	3.0	4.2	3.0	8.5	4.0	1.8
MIN	7.7	-1.9	-1.0	-1.9	-2.2	-2.3	-2.4	-2.9
AVG	10.4	-0.1	0.8	0.6	0.3	0.6	0.4	-0.2
STD	1.2	0.7	0.8	1.3	1.0	1.7	1.2	0.8
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	S-R	S-R	BE	BE	BE	BE
Equip ID	601	601	681	681	601	601	601	601
	677	677	1278	1278	677	677	677	677

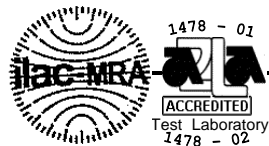


Low Level Contact Resistance - Delta Values

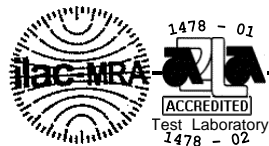
Project:	210428A						Spec:	EIA 364 TP 23	
Customer:	FCI						Subgroup:	Sample ID# 4-6FA-2	
Product:	6x6 Crossbow						File #:	210428A20	
Description:	Ground Contacts								
Open circuit voltage:	20mv						Current:	100ma	
units:	milliohms								
Temp °C	22	22	22	22	22	22	22	22	
R.H. %	52	50	48	48	50	51	51	55	
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10	
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability	
	300hrs	100X	Unmated	Unmated	Mated	Mated		100X	
1GN1	9.0	-0.8	-0.8	1.8	0.5	0.9	-0.5	-0.8	
1GN7	10.8	-0.1	-0.2	5.6	5.9	7.3	3.3	1.7	
1GN13	10.8	-0.5	3.0	2.0	1.2	1.9	1.9	-0.4	
1GN19	11.3	-0.4	0.9	2.6	1.0	1.0	1.3	-0.4	
1GN25	11.1	-0.2	0.2	0.0	-0.2	-0.8	0.2	0.9	
1GN31	11.8	-0.1	-0.3	0.6	0.2	0.3	0.3	0.2	
1GN37	11.5	0.1	1.0	1.4	0.6	1.1	0.5	0.6	
1GN26	11.6	-0.1	0.5	2.7	0.4	0.9	1.5	0.0	
1GN32	12.0	0.1	-0.4	0.0	-0.1	0.2	-0.3	-0.4	
1GN33	12.0	-0.3	-0.2	0.5	0.2	0.3	0.4	-0.1	
1GN27	11.7	-0.2	-0.2	0.6	-0.2	0.2	0.3	-0.8	
1GN21	11.0	-0.2	0.5	1.2	0.3	0.8	2.8	0.1	
1GN34	11.9	-0.3	-0.3	0.1	-0.1	0.2	0.0	-0.1	
1GN28	11.7	-0.7	-0.1	0.2	-0.3	0.1	0.2	-0.8	
1GN35	12.0	-0.8	-0.8	-0.4	-0.5	0.0	-0.2	-0.7	
1GN29	11.4	-0.1	-0.2	0.3	0.3	1.9	0.1	-0.6	



							File #:	210428A20
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmated	Unmated	Mated	Mated		100X
1GN20	10.5	-0.2	1.1	3.8	4.0	4.9	4.6	-0.3
1GN38	11.8	-0.1	0.3	0.5	0.1	0.1	0.1	0.2
1GN39	11.6	0.5	0.2	0.4	0.1	0.2	0.5	0.5
1GN40	11.7	-0.2	0.0	0.4	-0.2	0.1	0.5	0.2
1GN22	10.5	-0.4	0.3	0.4	0.1	0.6	0.6	-0.2
1GN41	11.7	0.0	0.3	0.9	0.3	0.5	0.6	0.8
1GN23	12.2	-1.6	-1.5	5.1	2.6	26.1	2.4	-1.6
1GN6	8.6	-0.7	-0.6	0.0	-0.3	-0.4	-0.5	-0.4
1GN12	10.9	-1.2	-1.1	-0.5	-0.4	-0.3	-0.9	-0.9
1GN18	12.4	-2.1	-2.2	-1.7	-1.5	0.6	-2.0	-2.1
1GN24	11.5	-1.2	-1.3	-0.6	-0.9	-0.4	-1.3	-1.3
1GN30	11.2	-0.2	0.0	1.3	0.7	1.4	-2.1	-0.2
1GN36	11.4	-0.3	-0.2	0.1	-0.1	0.3	0.0	-0.1
1GN42	12.4	-0.3	-0.2	-0.2	-0.2	-0.2	-0.1	-0.2
1GN14	10.6	-0.4	1.1	4.6	4.0	4.8	1.9	-0.6
1GN2	8.9	-1.1	-0.7	-0.4	-0.8	-0.9	-0.9	-1.1
1GN9	10.6	-0.5	-0.3	0.2	-0.3	0.0	0.5	-0.8
1GN3	8.9	-1.0	-0.8	-0.7	-0.9	-1.0	-0.8	-0.9
1GN4	9.2	-1.2	-1.3	-1.0	-1.1	-1.2	-1.5	-1.1
1GN5	8.3	-0.4	-0.5	-0.2	-0.3	0.7	-0.4	-0.3
1GN8	12.7	-2.4	-0.8	1.9	1.2	1.9	0.2	-2.4
1GN15	10.7	-0.8	-0.4	1.0	0.2	0.8	1.1	-0.1
1GN10	12.5	-2.1	-1.5	-0.3	0.1	1.6	-0.2	-2.1

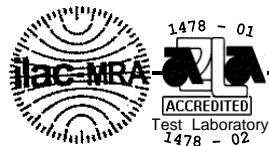


							File #:	210428A20
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmated	Unmated	Mated	Mated		100X
1GN16	11.0	-0.4	1.0	0.6	1.0	4.1	-2.9	-0.1
1GN11	16.2	-5.8	-5.6	-3.1	-0.6	16.4	-4.8	-4.7
1GN17	12.3	-1.6	-1.4	2.5	2.1	11.1	-0.2	-1.0
MAX	16.2	0.5	3.0	5.6	5.9	26.1	4.6	1.7
MIN	8.3	-5.8	-5.6	-3.1	-1.5	-1.2	-4.8	-4.7
AVG	11.2	-0.7	-0.3	0.8	0.4	2.1	0.1	-0.5
STD	1.4	1.0	1.2	1.7	1.4	5.0	1.6	1.0
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	GL	S-R	BE	BE	BE	BE
Equip ID	601	601	601	681	601	601	601	601
	677	677	677	1278	677	677	677	677

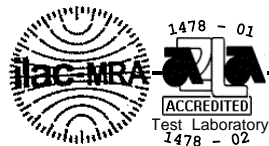


Low Level Contact Resistance - Delta Values

Project:	210428A						Spec:	EIA 364 TP 23	
Customer:	FCI						Subgroup:	Sample ID# 4-6FA-3	
Product:	6x6 Crossbow						File #:	210428A21	
Description:	Ground Contacts								
Open circuit voltage:	20mv							Current:	100ma
units:	milliohms								
Temp °C	22	22	22	22	22	22	22	22	
R.H. %	52	50	48	48	50	51	51	55	
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10	
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability	
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X	
1GN1	8.3	-0.5	0.2	2.3	1.6	1.8	3.1	2.3	
1GN7	10.4	0.2	0.7	5.1	5.0	7.5	0.9	0.8	
1GN13	10.0	0.8	0.3	3.3	1.7	1.6	1.1	0.0	
1GN19	10.3	0.7	-0.1	5.6	5.0	9.9	4.1	2.6	
1GN25	10.6	-0.2	-0.2	2.0	1.7	2.8	1.0	-0.4	
1GN31	11.3	0.0	0.3	2.0	1.5	2.9	2.7	0.2	
1GN37	11.1	0.1	0.3	1.6	1.1	1.2	0.6	2.1	
1GN26	10.9	0.3	0.0	1.6	1.4	2.3	0.7	-0.4	
1GN32	11.6	-0.1	-0.4	1.6	0.8	0.7	1.4	-0.4	
1GN33	11.8	0.3	0.0	0.5	0.5	1.4	0.4	-0.3	
1GN27	10.9	0.8	0.4	3.0	4.1	7.7	7.0	-0.3	
1GN21	11.7	-1.1	-0.7	0.3	0.1	0.4	4.7	-1.1	
1GN34	12.1	-0.1	0.1	0.3	0.2	0.6	1.4	-0.7	
1GN28	11.7	0.4	0.4	1.9	2.5	2.9	3.3	-0.8	
1GN35	11.1	-0.1	0.2	1.4	1.1	1.2	1.0	-0.4	
1GN29	10.8	0.4	0.3	2.8	2.3	3.3	4.9	-0.3	



							File #:	210428A21
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1GN20	10.1	0.6	0.8	1.1	1.5	3.8	1.2	-0.4
1GN38	11.3	0.2	0.7	1.8	1.9	2.4	2.9	5.0
1GN39	11.6	0.1	-0.1	0.4	0.1	0.0	0.3	0.0
1GN40	12.2	-0.9	-0.9	0.5	-0.5	-0.5	0.1	-0.8
1GN22	10.4	1.0	0.7	2.7	2.8	3.4	2.3	-0.2
1GN41	11.4	-0.1	0.0	1.2	1.4	2.3	3.1	0.0
1GN23	9.9	0.5	0.7	1.7	2.1	2.3	5.0	-0.2
1GN6	8.5	-0.5	-0.3	0.3	0.0	-0.1	0.0	1.5
1GN12	10.3	-0.6	-0.3	0.7	1.2	1.4	1.5	-0.8
1GN18	10.4	-0.5	0.0	0.8	0.8	1.3	3.5	-0.3
1GN24	9.8	0.0	0.2	0.5	0.3	0.3	1.3	0.0
1GN30	11.3	-0.5	-0.2	1.4	1.6	2.3	3.3	-0.4
1GN36	10.8	-0.1	0.2	0.5	0.7	0.4	4.9	0.0
1GN42	12.0	-0.4	0.0	0.2	0.1	0.0	0.9	0.0
1GN14	9.8	1.6	1.5	1.8	0.9	1.2	0.9	0.2
1GN2	8.3	-0.8	-0.6	0.0	-0.4	-0.5	-0.3	-0.2
1GN9	10.5	2.9	0.8	2.0	2.6	3.5	5.3	0.2
1GN3	8.2	-0.7	-0.5	0.0	-0.4	-0.5	0.0	-0.6
1GN4	8.4	-0.4	-0.6	-0.2	-0.5	-0.6	-0.3	-0.8
1GN5	7.8	0.2	0.1	0.7	0.0	0.0	0.0	-0.3
1GN8	10.8	0.6	1.0	2.4	4.5	5.2	1.0	-0.7
1GN15	11.1	0.2	0.0	1.8	0.8	0.8	1.1	-0.7
1GN10	12.0	-1.2	-1.2	-1.2	-0.3	0.4	-1.2	-1.8



							File #:	210428A21
Temp °C	22	22	22	22	22	22	22	22
R.H. %	52	50	48	48	50	51	51	55
Date:	03Sep10	07Sep10	13Sep10	18Sep10	23Sep10	28Sep10	28Sep10	29Sep10
Pos. ID	105 C	Durability	MFG 5d	MFG 10d	MFG 15d	MFG 20d	Dist	Durability
	300hrs	100X	Unmate	Unmated	Mated	Mated		100X
1GN16	11.7	0.5	-0.4	-0.6	-0.6	0.4	1.3	-1.7
1GN11	12.3	-1.8	-1.6	-0.5	0.0	0.6	-1.1	-2.3
1GN17	11.3	-0.1	-0.1	-0.1	3.4	3.9	0.5	-1.0
MAX	12.3	2.9	1.5	5.6	5.0	9.9	7.0	5.0
MIN	7.8	-1.8	-1.6	-1.2	-0.6	-0.6	-1.2	-2.3
AVG	10.6	0.0	0.0	1.3	1.3	1.9	1.8	-0.1
STD	1.2	0.8	0.6	1.4	1.5	2.3	1.9	1.2
Open	0	0	0	0	0	0	0	0
Tech	BE	BE	S-R	S-R	BE	BE	BE	BE
Equip ID	601	601	681	681	601	601	601	601
	677	677	1278	1278	677	677	677	677

