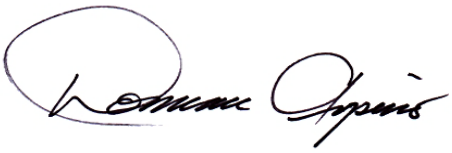
JANUARY 30, 2012

TEST REPORT #211630B

MIXED FLOWING GAS
TESTING

HCSD/TSM CONNECTOR SERIES

SAMTEC, INC.



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ATTLEBORO, MA

ilac-MRA

1478 - 01
ACCREDITED
Test Laboratory
1478 - 02

Contech Research
An Independent Test and Research Laboratory

REVISION HISTORY

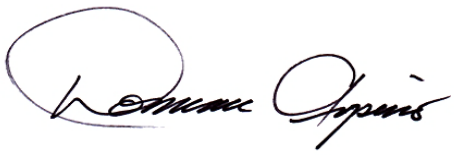
DATE	REV. NO.	DESCRIPTION	ENG.
1/30/2012	1.0	Initial Issue	DA

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 Samtec, Inc., of New Albany, IN who was the test sponsor.

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.



Dominic Arpino
Project Engineering Manager
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SCOPE

To perform Mixed Flowing Gas testing on the HCSD/TSM connector series as manufactured and submitted by the test sponsor Samtec, Inc.

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. Standard: EIA Publication 364

TEST SAMPLES AND PREPARATION

1. The following test samples were submitted by the test sponsor, Samtec, Inc., for the evaluation to be performed by Contech Research, Inc. Samtec request #170903.

   SAMPLE SIZE: Quantity 8 of each

   CONNECTOR PART NUMBERS:

   HCSD-25-S-06.00-01-H-G
   TSM-125-01-S-DV-A

2. Test samples were supplied assembled and terminated to test boards by the test sponsor.

3. Test leads were attached to the appropriate measurement areas of the test samples and applicable mating elements.

4. The test samples were tested in their 'as received' condition.

5. 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.

-continued on next page.

TEST SELECTION -continued

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 or military) test methods, standards and/or drawings as specified in the detail specification.

SAMPLE CODING

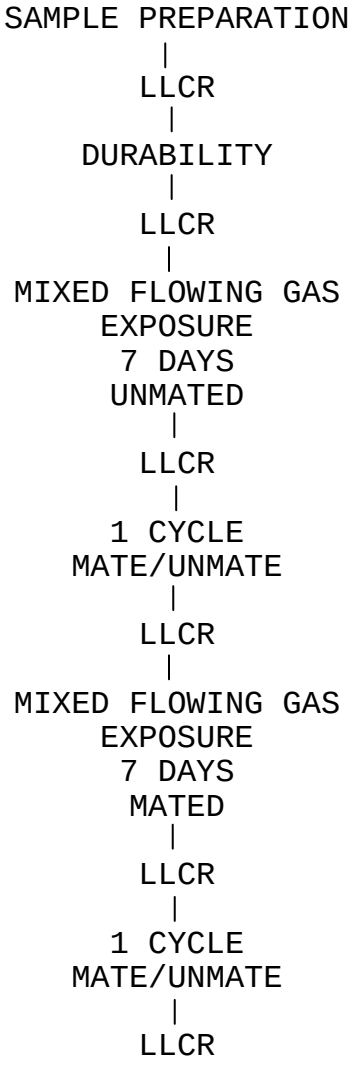
1. All samples were coded. Mated test samples remained with each other throughout the test group/sequences for which they were designated. Coding was performed in a manner which remained legible for the test duration.

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

PART NUMBERS	IDENTIFICATION
HCSD-25-S-06.00-01-H-G	#1-#8
TSM-125-01-S-DV-A	#1-#8

FIGURE #1

TEST PLAN FLOW DIAGRAM



GROUP A
8 SAMPLE PAIRS
HCSD/TSM CONNECTOR SERIES

DATA SUMMARY

TEST	REQUIREMENT	RESULTS
LLCR	RECORD	37.3 mΩ MAX.
DURABILITY	NO DAMAGE	PASSED
LLCR	+15.0 mΩ MAX.CHG.	+1.1 mΩ MAX.CHG.
MFG – UNMATED	NO DAMAGE	CONTACT CORROSION
LLCR	+15.0 mΩ MAX.CHG.	+8.6 mΩ MAX.CHG.
1 CYCLE	NO DAMAGE	PASSED
LLCR	+15.0 mΩ MAX.CHG.	+14.8 mΩ MAX.CHG.
MFG – MATED	NO DAMAGE	PASSED
LLCR	+15.0 mΩ MAX.CHG.	+15.9 mΩ MAX.CHG.
1 CYCLE	NO DAMAGE	PASSED
LLCR	+15.0 mΩ MAX.CHG.	+19.7 mΩ MAX.CHG.

EQUIPMENT LIST

ID#	Next Cal	Last Cal	Equipment Name	Manufacturer	Model #	Serial #	Accuracy	Freq.Cal
207	12/22/2012	12/22/2011	Micro-Ohm Meter	Keithley Co.	580	438208	See Cal Cert	12 mon
509			Regulator	Liquid Carbonic	SGS 160C	M2 42365	N/A	N/A
543	11/1/2012	11/1/2011	Analytical Balance	Ohaus Co.	AP250D	MO9198	± .4mg	12 mon
650	1/31/2012	1/31/2011	Digital Multimeter	Hewlett Packard	34401A	US36032126	See Cal Cert	12 mon
1045	8/9/2012	8/9/2011	Microohm Meter	Keithley	580	708216	See Cal Cert	12 mon
1297			MFG Control Panel	Contech Research	N/A	N/A	C1686A	N/A
1298			MFG Chamber	Contech Research	64 Cu Ft	N/A	N/A	N/A
1326			Gas Regulator	Matheson	3810-660	R77108	N/A	N/A
1327			Gas Regulator	Matheson	3810-330	262813	N/A	N/A
1380			Scanner Main Frame	Keithley	7011	0672970	See Manual	Ea Test
1381			Air Dryer	Balston	75-20	A03391	See Manual	N/A
1555			Computer	IBM PC M50	MT-M 8818-KUF	KLRY141	N/A	N/A
1571			Chlorine Analyzer	IMS CO.	Air Sentury	1265AN	See Cal Cert	EA Test
1589			Computer	IBM	Dans Office	N/A	N/A	N/A
1595	3/1/2012	3/1/2011	H2S Analyzer	Teledyne Analyzer	101-E	1231	See Cal Cert	12 mon
1599	3/1/2012	3/1/2011	NO2 Analyzer	Teledyne Analyzer	200E	289	See Cal Cert	12 mon
1648	4/5/2012	4/5/2011	Temp/Humidity Transmitter	Vaisala	HMT333	F1250113	See Cal Cert	12 mon
1687			Regulator Chlorine	APG CO	S2-75	N/A	N/A	N/A
1727			Computer	Dell	GX620	FYF0T91	N/A	N/A

TEST RESULTS

GROUP A

PROJECT NO.: 211630B SPECIFICATION: EIA-364-23

PART NO.: See page 4 PART DESCRIPTION: See page 4

SAMPLE SIZE: 8 connectors TECHNICIAN: MHB, DWR

START DATE: 12/5/11 COMPLETE DATE: 12/5/11

ROOM AMBIENT: 21°C RELATIVE HUMIDITY: 38%

EQUIPMENT ID#: 207, 1045, 1555, 1727

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.

-continued on next page.

PROCEDURE: -continued

2. Test Conditions:

a) Test Current : 10 milliamps maximum
b) Open Circuit Voltage : 20 millivolts
c) No. of Positions Tested : 24 per test sample

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)

Sample ID#	Avg.	Max.	Min.
1	36.0	36.9	35.2
2	36.3	37.3	34.7
3	36.4	37.3	35.7
4	36.3	37.3	35.7
5	36.1	37.1	35.2
6	36.3	37.1	35.9
7	36.5	37.7	35.7
8	36.2	37.7	35.4

2. See data files 211630B65 through 211630B72 for individual data points.

PROJECT NO.: 211630B	SPECIFICATION: EIA-364-09
PART NO.: See page 4	PART DESCRIPTION: See page 4
SAMPLE SIZE: 8 connectors	TECHNICIAN: MHB
START DATE: 11/2/11	COMPLETE DATE: 11/2/11
ROOM AMBIENT: 20°C	RELATIVE HUMIDITY: 31%
EQUIPMENT ID#: N/A	

DURABILITY

PURPOSE:

1. This is a preconditioning 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 or preconditioning 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.

2. Test Conditions:

    a) No. of Cycles : 20X
    b) Rate : Manually

-continued on next page.

PROCEDURE: -continued

3. The test samples were carefully aligned to accomplish the mating and unmating function.

4. 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 +15.0 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)

Sample ID#	Avg. Change	Max. Change
1	-0.1	+0.7
2	-0.2	+0.6
3	-0.1	+0.7
4	-0.1	+0.8
5	-0.1	+0.9
6	+0.0	+1.1
7	-0.1	+0.6
8	-0.2	+0.2

3. See data files 211630B65 through 211630B72 for individual data points.

PROJECT NO.: 211630B	SPECIFICATION: EIA-364-65
PART NO.: See page 4	PART DESCRIPTION: See page 4
SAMPLE SIZE: 8 connectors	TECHNICIAN: AJP
START DATE: 12/20/11	COMPLETE DATE: 1/13/12
ROOM AMBIENT: 21°C	RELATIVE HUMIDITY: 48%
EQUIPMENT ID#: 509, 543, 650, 1297, 1298, 1326, 1327, 1380, 1381, 1571, 1589, 1595, 1599, 1648, 1687	

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, Class IIA.

-continued on next page.

PROCEDURE: -continued

2. Environmental Conditions:

a)	Temperature	: 30°C ± 1°C
b)	Relative Humidity	: 70% ± 2%
c)	$C1_2$	: 10 ± 3 ppb
d)	NO_2	: 200 ± 50 ppb
e)	H_2S	: 10 ± 5 ppb
f)	SO_2	: 100 ± 20 ppb
g)	Exposure Time	: 14 days
h)	Mating Conditions	: First 7 days - unmated
		: Second 7 days - 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. 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 +15.0 milliohms.

RESULTS: See Next Page

RESULTS:

1. Some evidence of corrosion was observed on the contact area, see Figure #3 and #4.

2. The following is a summary of the data observed following the 7 days unmated portion of the exposure.

MAXIMUM CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
POST UNMATED MFG EXPOSURE
(milliohms)

	after 7 days		1 cycle	
Sample ID#	Avg. Chg.	Max. Chg.	Avg. Chg.	Max. Chg.
1	+1.1	+2.6	+0.5	+2.7
2	+0.9	+3.3	+0.1	+1.7
3	+0.7	+3.5	+0.2	+3.4
4	+1.2	+4.2	+2.1	+14.8
5	+2.4	+8.6	+0.8	+3.4
6	+1.6	+4.5	+0.6	+2.4
7	+1.3	+4.2	+1.6	+13.4
8	+0.7	+4.2	+0.5	+2.5

3. The following is a summary of the data observed following the 7 days mated portion of the exposure.

MAXIMUM CHANGE IN
LOW LEVEL CIRCUIT RESISTANCE
POST UNMATED MFG EXPOSURE
(milliohms)

	after 14 days		1 CYCLE	
Sample ID#	Avg. Chg.	Max. Chg.	Avg. Chg.	Max. Chg.
1	+0.3	+2.4	+0.2	+2.6
2	-0.4	+2.7	+0.0	+1.4
3	+0.0	+3.8	+0.0	+3.5
4	+1.1	+7.2	+2.1	+19.7
5	+0.3	+2.6	+1.9	+16.2
6	-0.1	+4.0	+0.8	+3.0
7	+1.2	+15.9	+0.8	+14.5
8	+0.4	+2.1	+0.4	+2.6

RESULTS: –continued

7. See data files 211630B65 through 211630B72 for individual data points.

8. Five copper coupons were placed in the chamber. Upon removal said coupons were evaluated via weight gain technique with the following results:

	WEIGHT GAIN ($\mu gm/cm^2/Day$)	
Coupon No.	Unmated	Mated
1	12	14+
2	12+	16
3	12+	12
4	13+	12+
5	13	15+

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

9. Figure #2 illustrates the samples as exposed to the environment.

FIGURE #2

TEST SAMPLES EXPOSED INSIDE THE MFG CHAMBER

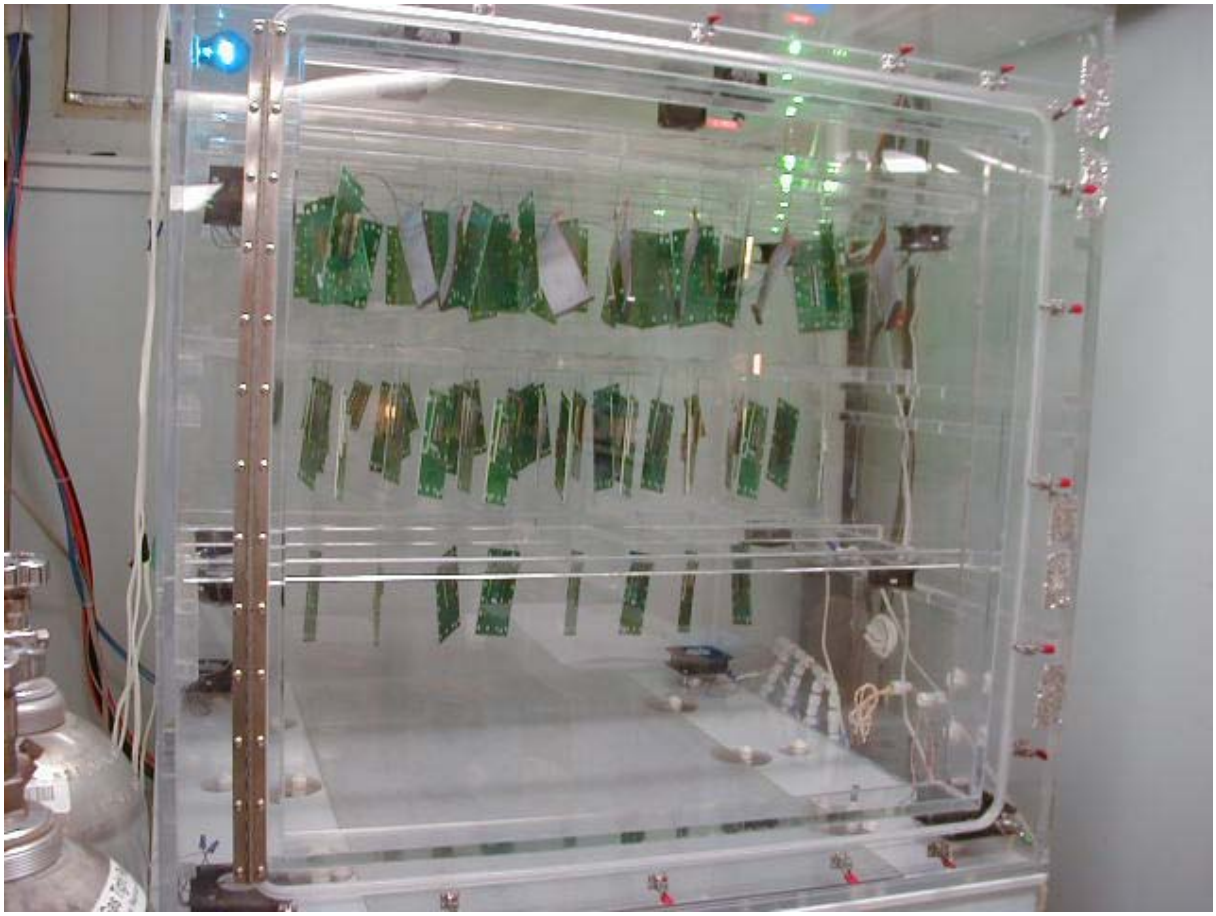
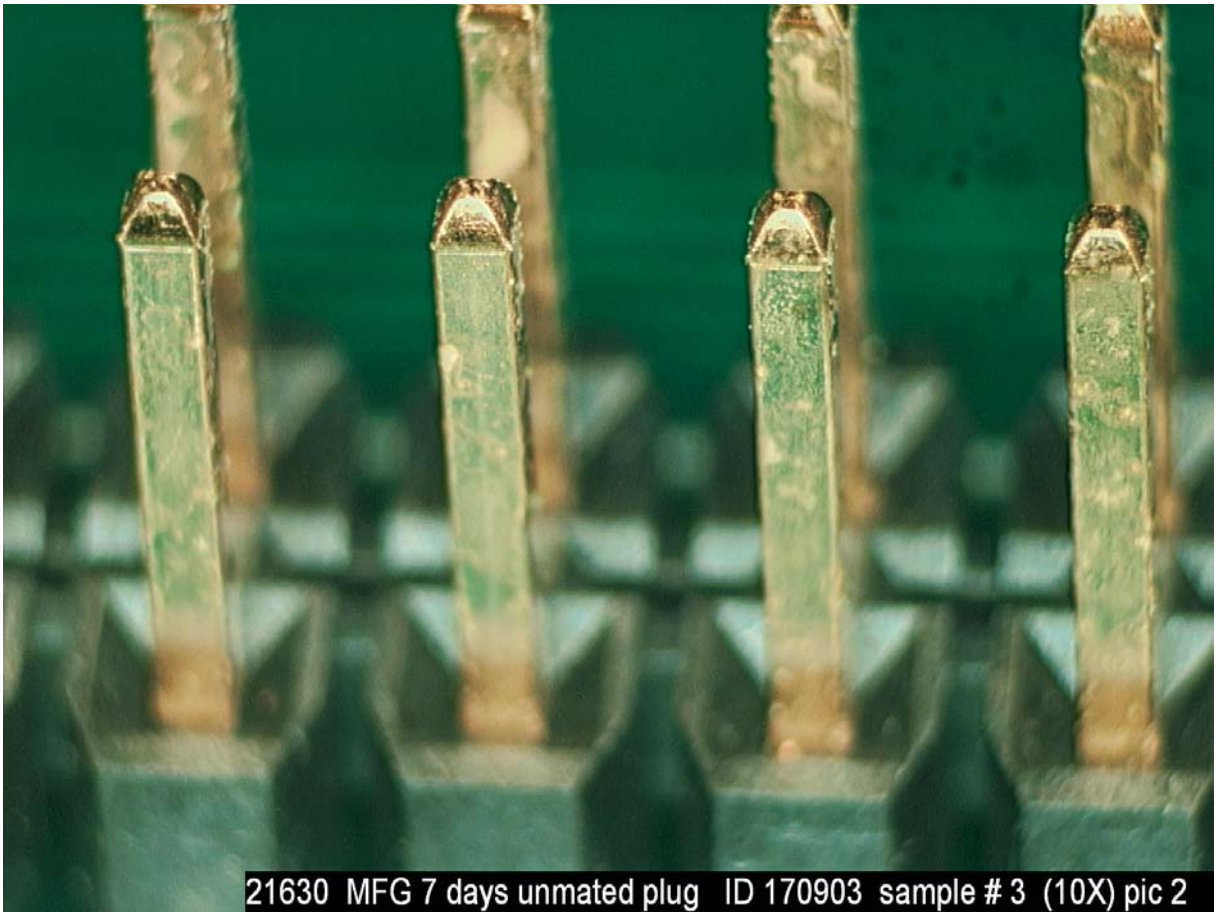


FIGURE #3

FIGURE #4



LLCR DATA FILES

FILE NUMBERS

211630B65
211630B66
211630B67
211630B68
211630B69
211630B70
211630B71
211630B72

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	211630B65
Description:	ID# 1					
Open circuit voltage: 20mV					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial	20 X	MFG 7 Days	1X	MFG 7 Days	1X
		0.0	Unmated		Mated	
1	36.3	0.1	1.9	0.1	-0.1	1.2
2	35.6	0.0	0.9	0.5	0.4	0.7
3	35.4	0.2	1.2	0.9	0.6	0.4
4	35.4	0.4	1.2	1.0	0.7	0.9
5	35.6	0.4	0.9	0.7	0.4	0.7
6	35.7	-0.3	0.6	0.6	0.1	0.4
7	35.2	-0.4	0.7	1.0	1.7	-0.9
8	36.3	-0.3	-0.4	-0.2	-0.4	-0.3
9	36.1	-0.2	0.6	0.6	0.6	0.1
10	36.1	-0.3	1.2	-0.2	-0.5	-1.0
11	36.6	-1.3	-0.6	-0.3	-0.3	-0.9
12	36.1	-0.2	1.1	0.2	0.7	-0.3
13	36.1	-0.1	0.6	0.9	1.0	1.0
14	36.9	-1.6	0.9	-0.3	-0.3	-1.1
15	36.4	0.1	2.3	0.1	-0.1	-0.3
16	36.7	0.1	-0.5	-0.8	-1.1	-1.2
17	36.2	-0.3	0.2	0.4	0.1	0.0
18	36.2	-0.2	1.3	-0.1	-0.2	-0.7
19	35.3	0.3	1.1	0.9	0.8	0.5
20	35.5	0.7	1.2	0.8	0.9	0.9
21	36.3	0.5	2.0	0.1	-0.2	0.0
22	35.5	0.3	2.2	1.2	-0.2	0.8
23	35.3	0.3	2.6	2.7	2.4	2.6
24	35.9	0.2	2.1	0.5	0.2	0.3
MAX	36.9	0.7	2.6	2.7	2.4	2.6
MIN	35.2	-1.6	-0.6	-0.8	-1.1	-1.2
AVG	36.0	-0.1	1.1	0.5	0.3	0.2
STD	0.5	0.5	0.9	0.7	0.8	0.9
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	211630B66
Description:	ID# 2					
Open circuit voltage: 20mV					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial	20 X	MFG 7 Days	1X	MFG 7 Days	1X
			Unmated		Mated	
1	37.3	-1.0	-0.6	-0.5	-0.7	-0.8
2	36.3	-0.4	1.2	-0.2	-3.7	-0.3
3	36.3	-0.8	1.1	0.5	-3.6	-0.2
4	36.7	-0.6	0.7	-0.1	-3.0	-0.3
5	36.5	-0.3	0.6	-0.1	-0.1	-0.5
6	34.7	0.5	1.7	1.7	1.6	1.4
7	36.3	0.1	-0.9	-0.7	-0.4	-0.8
8	36.0	0.1	0.0	-0.1	0.1	-0.3
9	36.0	0.0	0.4	0.4	0.5	0.2
10	36.2	-0.2	-0.2	-0.4	-0.2	-0.3
11	36.4	0.0	0.4	-0.7	-0.8	-0.4
12	37.0	-1.0	1.2	-1.0	-0.9	-0.5
13	36.0	0.1	1.9	0.6	-0.1	0.6
14	36.0	0.5	1.1	1.2	1.2	1.4
15	36.6	-0.4	0.4	-0.3	-0.1	0.3
16	36.5	-0.1	3.3	-0.5	-0.3	0.1
17	36.5	-0.6	2.5	-0.2	-0.2	0.0
18	35.9	0.2	0.9	-0.1	0.0	-0.3
19	35.5	0.6	2.0	0.9	1.2	0.9
20	36.1	-0.2	0.7	0.3	-0.1	-0.1
21	36.4	-0.2	0.6	0.0	-1.4	-0.5
22	36.5	-0.5	0.7	0.0	-1.2	-0.7
23	36.1	-0.8	2.5	1.7	2.7	1.4
24	37.0	-0.8	-0.6	-0.6	-0.4	-0.8
MAX	37.3	0.6	3.3	1.7	2.7	1.4
MIN	34.7	-1.0	-0.9	-1.0	-3.7	-0.8
AVG	36.3	-0.2	0.9	0.1	-0.4	0.0
STD	0.5	0.5	1.0	0.7	1.5	0.7
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	21163067
Description:	ID# 3					
Open circuit voltage: 20mV					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial	20 X	MFG 7 Days	1X	MFG 7 Days	1X
			Unmated		Mated	
1	36.5	-0.3	0.9	0.9	0.0	1.1
2	36.4	-0.5	0.4	0.0	-0.4	0.0
3	36.4	-0.6	1.4	0.6	-2.0	0.7
4	36.2	-0.6	1.8	1.2	0.1	1.0
5	37.3	-0.8	1.3	-0.5	0.0	-0.6
6	36.3	-0.6	0.4	0.6	-0.9	0.8
7	36.4	0.2	-1.7	-0.3	-1.2	-1.4
8	36.5	0.3	-1.6	-1.4	-0.3	-1.3
9	36.0	0.7	1.7	0.2	-0.3	-0.4
10	36.2	0.3	-0.1	-0.3	-0.5	-0.8
11	37.1	0.0	-0.5	-0.8	-0.8	-1.0
12	37.1	-0.3	-0.7	-1.2	-0.8	-1.1
13	36.7	0.2	0.0	-0.2	-0.1	-0.1
14	36.2	0.3	2.7	0.5	0.7	0.3
15	36.5	0.3	1.4	-0.3	0.1	-0.4
16	36.7	0.2	0.2	-0.7	0.0	-0.2
17	36.1	0.4	1.2	1.1	1.5	0.9
18	36.6	0.3	-0.4	-0.4	-0.2	-0.4
19	36.1	-0.5	0.5	0.3	0.2	0.0
20	35.7	0.0	1.3	0.5	0.7	0.3
21	36.1	-0.4	1.3	0.9	0.5	0.0
22	36.0	-0.5	0.9	0.5	-0.1	0.1
23	36.1	-0.2	3.5	3.4	3.8	3.5
24	36.5	-0.7	0.5	0.2	0.1	-0.1
MAX	37.3	0.7	3.5	3.4	3.8	3.5
MIN	35.7	-0.8	-1.7	-1.4	-2.0	-1.4
AVG	36.4	-0.1	0.7	0.2	0.0	0.0
STD	0.4	0.4	1.2	1.0	1.1	1.0
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	211630B68
Description:	ID# 4					
Open circuit voltage: 20mV					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial	20 X	MFG 7 Days	1X	MFG 7 Days	1X
			Unmated		Mated	
1	36.5	-0.4	1.8	4.0	3.0	2.2
2	35.9	-0.2	2.3	1.0	0.6	1.1
3	35.8	-0.3	1.0	1.6	-0.7	0.8
4	35.9	-0.2	0.8	0.8	0.2	2.9
5	36.3	-0.3	1.4	0.2	0.3	1.0
6	36.0	-0.1	2.5	2.5	2.6	5.0
7	36.1	0.1	0.4	1.7	2.0	1.8
8	36.1	0.3	4.2	2.7	1.7	1.4
9	36.4	-0.1	0.4	1.6	0.8	1.2
10	36.8	-0.1	3.1	0.7	0.1	-0.1
11	36.4	0.2	2.7	0.4	0.4	0.0
12	36.4	0.0	-0.4	3.1	4.2	-0.7
13	36.4	0.2	0.7	0.8	-0.7	0.5
14	37.2	-0.3	0.1	0.6	-1.9	0.6
15	36.6	-0.3	0.8	14.8	7.2	19.7
16	37.3	0.0	-0.1	-0.1	-1.2	1.2
17	36.7	-0.3	-0.2	3.2	2.4	0.1
18	36.0	0.8	0.9	1.1	0.7	0.7
19	36.1	-0.2	0.2	0.7	0.2	0.9
20	36.2	-0.3	0.6	0.3	-0.3	1.0
21	36.3	-0.4	0.4	0.4	0.3	0.8
22	35.7	0.1	1.4	4.5	0.6	3.1
23	35.9	-0.4	2.2	2.1	3.0	3.4
24	36.0	-0.4	1.2	1.6	1.2	2.0
MAX	37.3	0.8	4.2	14.8	7.2	19.7
MIN	35.7	-0.4	-0.4	-0.1	-1.9	-0.7
AVG	36.3	-0.1	1.2	2.1	1.1	2.1
STD	0.4	0.3	1.1	3.0	1.9	3.9
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	21163069
Description:	ID# 5					
Open circuit voltage: 20Mv					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial		MFG 7 Days	1X	MFG 7 Days	1X
			Unmated		Mated	
1	36.4	-0.2	3.1	0.3	0.2	0.2
2	36.3	-0.3	2.0	1.0	1.4	1.4
3	36.2	-0.4	1.4	0.6	0.1	0.2
4	35.7	-0.3	4.1	0.9	0.5	1.0
5	36.6	-0.5	0.9	0.3	-0.4	2.9
6	35.4	-0.2	1.9	1.5	2.2	1.9
7	35.4	0.8	1.1	0.6	0.3	0.1
8	35.9	0.0	1.3	0.4	0.2	-0.1
9	35.2	0.9	4.6	1.0	0.9	1.9
10	36.8	-0.2	8.6	-0.6	-0.9	1.7
11	35.8	0.7	1.6	0.2	0.0	5.4
12	36.4	0.1	3.1	0.3	0.2	-0.3
13	36.4	-0.3	0.6	0.2	0.1	-0.3
14	37.1	-1.2	0.8	-0.9	-0.8	0.4
15	36.5	-0.3	1.0	-0.1	-0.3	1.9
16	36.6	-0.2	1.7	-0.4	-0.9	-0.5
17	36.0	-0.1	4.0	0.8	0.8	0.5
18	36.2	-0.1	2.3	0.0	-0.4	-0.3
19	35.5	-0.1	1.0	2.2	2.2	2.5
20	36.0	0.0	1.0	2.3	-3.2	16.2
21	36.0	-0.2	2.0	1.0	0.2	2.2
22	36.0	-0.1	2.8	1.9	2.6	2.9
23	35.9	0.0	4.3	3.4	2.4	2.0
24	36.1	-0.5	3.1	1.1	0.5	2.6
MAX	37.1	0.9	8.6	3.4	2.6	16.2
MIN	35.2	-1.2	0.6	-0.9	-3.2	-0.5
AVG	36.1	-0.1	2.4	0.8	0.3	1.9
STD	0.5	0.4	1.8	1.0	1.3	3.4
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	211630B70
Description:	ID# 6					
Open circuit voltage: 20mV					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial	20 X	MFG 7 Days	1X	MFG 7 Days	1X
			Unmated		Mated	
1	36.2	0.1	0.5	0.4	0.2	0.9
2	35.9	-0.1	1.8	0.5	-0.1	0.8
3	36.0	-0.3	1.2	0.9	-3.9	1.6
4	36.1	-0.3	1.6	1.1	0.7	0.8
5	36.9	-1.0	-0.1	0.2	0.0	-0.2
6	37.1	0.3	0.3	0.0	-0.4	0.0
7	36.3	1.1	1.0	0.1	0.2	0.1
8	36.3	0.0	1.1	0.6	-0.4	1.7
9	36.2	0.0	1.1	0.0	-0.1	0.1
10	36.5	-0.2	2.1	-0.4	-0.5	-0.6
11	36.4	0.0	1.9	0.1	-0.4	-0.1
12	36.2	-0.1	2.2	-0.2	-0.5	-0.3
13	36.5	-0.1	4.0	0.1	0.1	0.7
14	36.5	0.0	1.5	0.3	0.1	1.0
15	36.7	-0.2	4.5	0.0	-3.1	0.4
16	36.9	-0.1	1.6	-0.6	-0.9	0.3
17	36.3	0.2	1.4	0.5	0.7	0.9
18	36.2	0.3	1.7	2.4	4.0	3.0
19	35.9	0.2	0.7	1.0	-1.1	0.9
20	36.1	0.0	1.0	1.0	1.0	0.6
21	36.4	-0.1	1.4	1.1	0.3	0.7
22	36.1	-0.2	3.0	2.3	1.8	2.5
23	36.0	0.0	2.6	2.1	2.0	2.2
24	36.1	0.0	1.1	0.4	-1.2	1.2
MAX	37.1	1.1	4.5	2.4	4.0	3.0
MIN	35.9	-1.0	-0.1	-0.6	-3.9	-0.6
AVG	36.3	0.0	1.6	0.6	-0.1	0.8
STD	0.3	0.4	1.1	0.8	1.5	0.9
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	21163071
Description:	ID# 7					
Open circuit voltage: 20mV					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial	20 X	MFG 7 Days	1X	MFG 7 Days	1X
			Unmated		Mated	
1	36.7	-0.2	0.2	0.2	0.0	-0.2
2	36.6	-0.3	0.6	0.3	-2.2	-0.1
3	36.1	-0.4	1.2	0.9	0.6	0.6
4	36.1	0.0	1.6	1.3	0.4	0.4
5	36.1	0.6	0.8	1.1	1.1	1.2
6	35.7	0.1	2.4	3.9	3.7	5.0
7	36.3	0.0	4.2	13.4	15.9	14.5
8	36.5	0.1	-0.6	0.4	0.1	-0.4
9	36.7	-0.2	0.2	1.0	0.5	-0.6
10	36.5	-0.1	0.7	0.0	-0.4	-0.8
11	37.2	-0.2	-0.4	-0.4	-1.1	-1.3
12	36.6	-0.1	1.4	0.5	0.7	0.9
13	36.6	-0.1	1.7	0.5	0.2	0.3
14	36.9	-0.1	2.0	0.4	-0.2	-0.6
15	36.8	0.0	1.3	0.7	0.8	0.1
16	36.8	0.5	2.3	0.3	0.1	-0.5
17	36.3	-0.1	2.5	1.8	1.0	0.4
18	36.6	-0.4	-0.3	-0.3	-0.5	-0.6
19	37.7	-1.3	-0.8	-0.7	-1.1	-1.4
20	36.2	-0.1	1.3	1.8	1.2	0.4
21	36.4	-0.4	2.4	1.7	1.1	0.2
22	36.2	-0.3	2.7	2.1	1.6	0.2
23	36.3	-0.1	2.1	5.4	2.9	1.5
24	36.2	-0.2	1.0	2.9	1.3	0.5
MAX	37.7	0.6	4.2	13.4	15.9	14.5
MIN	35.7	-1.3	-0.8	-0.7	-2.2	-1.4
AVG	36.5	-0.1	1.3	1.6	1.2	0.8
STD	0.4	0.3	1.2	2.9	3.4	3.2
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045

Low Level Circuit Resistance - Delta Values						
Project:	211630B				Spec: EIA- 364 TP23	
Customer:	Samtec				Subgroup:	9
Product:	Serial # 170903				File No:	211630B72
Description:	ID# 8					
Open circuit voltage: 20mV					Current:	10mA
Units: milliohms						
Temp ºC	20	20	20	20	20	20
R.H. %	40	40	31	28	30	20
Date:	12/05/11	12/05/11	12/29/11	01/03/12	01/13/12	01/16/12
Pos. ID	Initial	20 X	MFG 7 Days	1X	MFG 7 Days	1X
			Unmated		Mated	
1	35.9	0.0	4.2	1.4	1.4	1.0
2	35.7	0.0	0.9	1.1	-0.6	0.6
3	35.5	0.0	1.3	1.2	1.0	0.8
4	35.7	-0.1	1.2	1.5	-0.6	0.7
5	36.0	0.0	1.4	0.7	0.7	0.4
6	35.7	0.2	2.1	1.1	1.3	2.0
7	36.4	-0.2	-0.9	-0.7	-0.1	-0.3
8	36.6	-0.1	-5.4	-0.1	0.6	-0.5
9	37.7	-0.7	-1.2	-1.5	-0.4	-2.0
10	36.3	-0.1	0.3	0.0	-0.2	-0.9
11	36.8	-0.6	-1.6	-1.2	-1.2	-1.7
12	36.6	-0.3	0.0	-0.8	-0.9	-1.4
13	37.1	-0.8	1.6	-0.2	-0.1	-0.3
14	36.3	0.0	1.0	0.6	0.7	1.0
15	36.5	0.0	0.4	1.0	0.3	0.5
16	36.6	0.0	-1.2	-0.2	-0.7	-1.0
17	36.5	0.1	0.5	0.0	0.0	-0.1
18	36.7	-0.4	1.6	1.2	1.0	2.6
19	35.9	-0.2	0.1	0.4	0.3	1.4
20	36.0	-0.3	1.4	0.8	0.5	0.6
21	36.1	-0.2	1.6	0.9	1.1	1.4
22	35.7	-0.2	2.0	1.7	1.3	1.0
23	35.6	-0.1	3.0	2.5	2.1	1.9
24	35.4	0.0	2.6	1.3	1.1	1.2
MAX	37.7	0.2	4.2	2.5	2.1	2.6
MIN	35.4	-0.8	-5.4	-1.5	-1.2	-2.0
AVG	36.2	-0.2	0.7	0.5	0.4	0.4
STD	0.6	0.2	1.9	1.0	0.9	1.2
Open	0	0	0	0	0	0
Tech:	MHB	MHB	MHB	DWR	MHB	DWR
Equip ID	1727	1727	1727	1555	1727	1555
	207	207	207	1045	207	1045