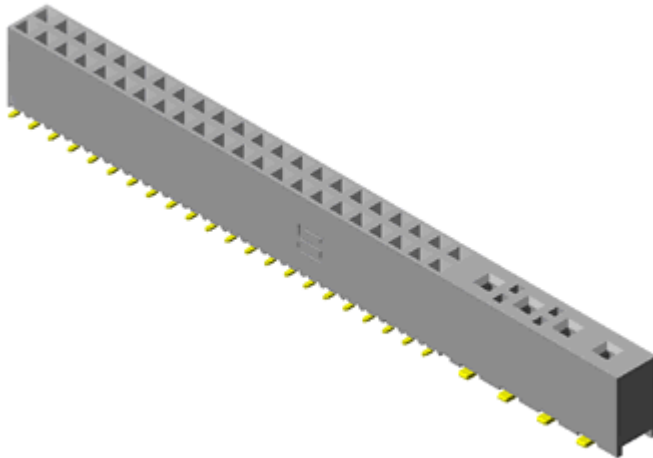




Project Number: N/A		Tracking Code: TC0327-N/A-0224	
Requested by: Phil Eckert		Date: 6/30/2003	Product Rev: N/A
Part #: HPF-16-02-T-S-A		Lot #: N/A	Tech: Troy Cook Eng: John Tozier
Part description: HPF			Qty to test: 10
Test Start: 07/15/2003	Test Completed: 8/19/2003		



Satin-Tin contact comparison, soldered with and without a Nitrogen blanket

PART DESCRIPTION

**HPF-16-02-T-S-A
Mated with
HPM-16-01-T-SV-S**

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to ISO 10012-1 and ANSI/NCSL 2540-1, as applicable.

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SCOPE

To evaluate Satin-Tin contact system integrity after exposure to typical Pb-free soldering processes. The evaluation will occur on systems soldered with and without the Nitrogen blanket.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

The two mating components (if applicable) were soldered using AIM TSC-4 lead free alloy using Sn with 3.8%-4% Ag, and 0.5% - 0.7% Cu solder paste using the oven profile .

- 1) All materials were manufactured in accordance with the applicable product specification.
- 2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
- 3) After soldering, the parts were cleaned with the Aqueous Inline Cleaning System (Aqueous Millennium Technologies)

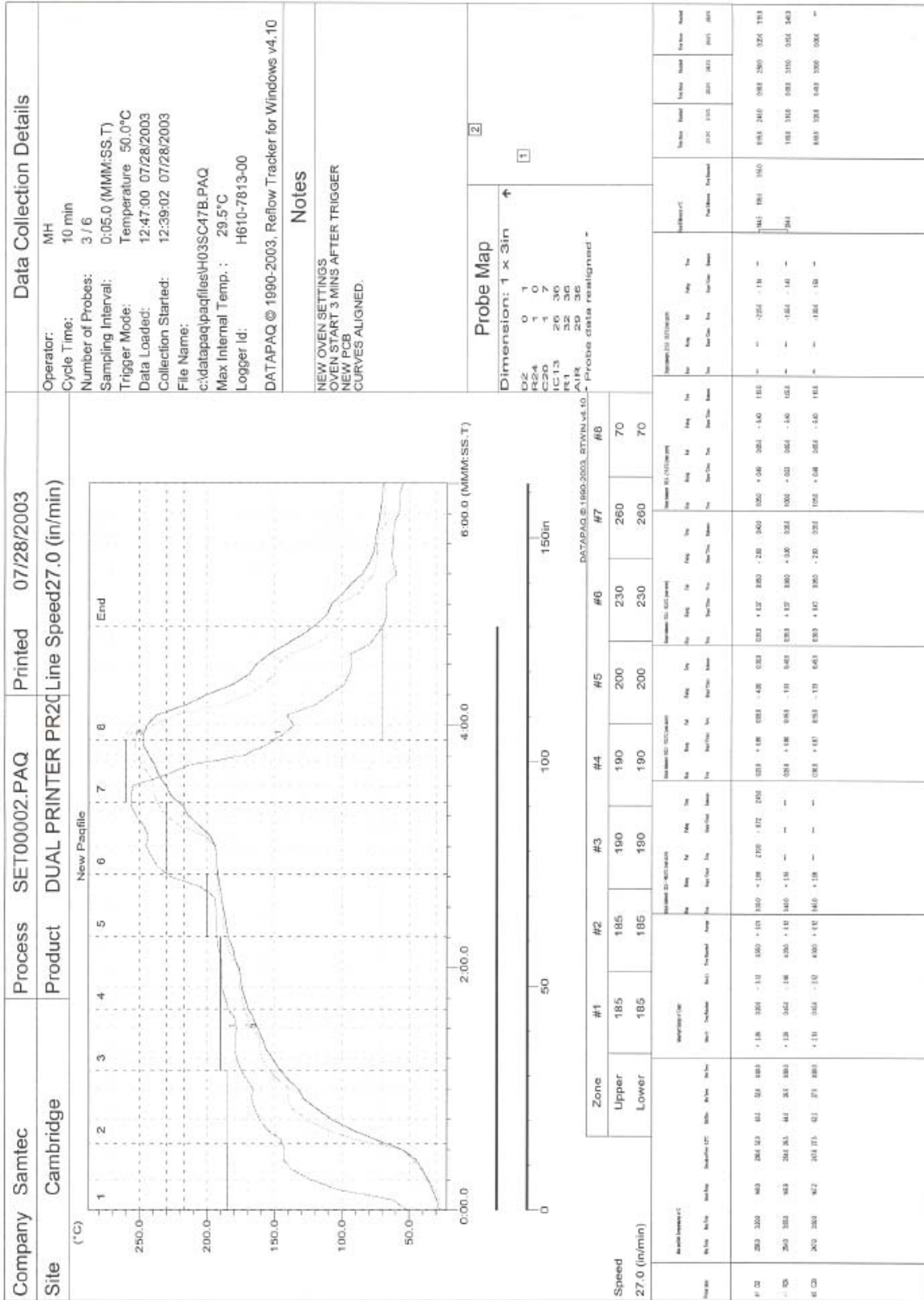
FLOWCHART

TEST STEP	GROUP A 160 Points 480 hour Test Processed in AIR	GROUP B 160 Points 480 hour Test Processed in Nitrogen
01	LLCR-1	LLCR-1
02	Data Review	Data Review
03	Cyclic Humidity, 240 Hours	Cyclic Humidity, 240 Hours
04	LLCR-2	LLCR-2
05	Data Review	Data Review
06	Cyclic Humidity, 240 Hours	Cyclic Humidity, 240 Hours
07	LLCR-3	LLCR-3

**Humidity =EIA-364-31, Test Condition B (240 Hours)
and Method III (+25 ° C to +65 ° C @ 90%RH to 98% RH)
delete steps 7a and 7b**

**LLCR = EIA-364-23, LLCR
use Keithley 580 in the dry circuit mode, 10 mA Max**

OVEN PROFILE



Company Samtec		Process SET00002.PAQ		Printed 07/28/2003	
Site Cambridge		Product DUAL PRINTER PR2		Line Speed 27.0 (in/min)	
Operator:	MH	Data Collection Details			
Cycle Time:	10 min				
Number of Probes:	3 / 6				
Sampling Interval:	0:05.0 (MM:SS.T)				
Trigger Mode:	Temperature 50.0°C				
Data Loaded:	12:47:00 07/28/2003				
Collection Started:	12:39:02 07/28/2003				
File Name:	c:\datapq\paqfiles\H03SC47B.PAQ				
Max Internal Temp.:	29.5°C				
Logger id:	H610-7813-00				
DATAPAQ © 1990-2003, Reflow Tracker for Windows v4.10					

Notes
 NEW OVEN SETTINGS
 OVEN START 3 MINS AFTER TRIGGER
 NEW PCB
 CURVES ALIGNED.

Dimension: 1 x 3in

Probe	Zone	#1	#2	#3	#4	#5	#6	#7	#8
D2	0	1							
R24	1	0							
C20	1	7							
IC13	2	3							
T1	2	3							
A2	2	3							

Probes data realigned *

Speed	Zone	#1	#2	#3	#4	#5	#6	#7	#8
27.0 (in/min)	Upper	185	185	190	190	200	230	260	70
	Lower	185	185	190	190	200	230	260	70

ATTRIBUTE DEFINITION

Following is a brief, simplified description of attributes.

CYCLIC HUMIDITY:

- 1) Reference document: EIA-364-31, *Humidity Test Procedure for Electrical Connectors*.
 - a) Test Condition B, 240 Hours.
 - b) Method III, +25° C to + 65° C, 90% to 98% Relative Humidity excluding sub-cycles 7a and 7b.
- 2) Connectors are mated.
- 3) Test Condition B run twice for a total of 480 hours.
 - a) Intermediate results taken at 240 hours.

LLCR:

- 1) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets*.
- 2) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 3) The following guidelines are used to categorize the changes in LLCR as a result from stressing
 - a) $\leq +5.0$ mOhms: ----- Stable
 - b) +5.1 to +10.0 mOhms:----- Minor
 - c) +10.1 to +15.0 mOhms: ----- Acceptable
 - d) +15.1 to +50.0 mOhms: ----- Marginal
 - e) +50.1 to +2000 mOhms: ----- Unstable
 - f) $>+2000$ mOhms:----- Open Failure

RESULTS**LLCR (160 LLCR test points)**

- **Initial**
 - Air Processed ----- 2.2 mOhms Max
 - Nitrogen Processed----- 2.2 mOhms Max
- **Stressed 240 Hours**
 - **<= +5.0 mOhms**
 - Air Processed-----160 Points ----- Stable
 - Nitrogen Processed-----160 Points ----- Stable
 - **+5.1 to +10.0 mOhms**
 - Air Processed-----0 Points ----- Minor
 - Nitrogen Processed-----0 Points ----- Minor
 - **+10.1 to +15.0 mOhms**
 - Air Processed-----0 Points ----- Acceptable
 - Nitrogen Processed-----0 Points ----- Acceptable
 - **+15.1 to +50.0 mOhms**
 - Air Processed-----0 Points ----- Marginal
 - Nitrogen Processed-----0 Points ----- Marginal
 - **+50.1 to +2000 mOhms**
 - Air Processed-----0 Points ----- Unstable
 - Nitrogen Processed-----0 Points ----- Unstable
 - **>+2000 mOhms**
 - Air Processed-----0 Points ----- Open Failure
 - Nitrogen Processed-----0 Points ----- Open Failure
- **Stressed 480 Hours**
 - **<= +5.0 mOhms**
 - Air Processed-----160 Points ----- Stable
 - Nitrogen Processed-----160 Points ----- Stable
 - **+5.1 to +10.0 mOhms**
 - Air Processed-----0 Points ----- Minor
 - Nitrogen Processed-----0 Points ----- Minor
 - **+10.1 to +15.0 mOhms**
 - Air Processed-----0 Points ----- Acceptable
 - Nitrogen Processed-----0 Points ----- Acceptable
 - **+15.1 to +50.0 mOhms**
 - Air Processed-----0 Points ----- Marginal
 - Nitrogen Processed-----0 Points ----- Marginal
 - **+50.1 to +2000 mOhms**
 - Air Processed-----0 Points ----- Unstable
 - Nitrogen Processed-----0 Points ----- Unstable
 - **>+2000 mOhms**
 - Air Processed-----0 Points ----- Open Failure
 - Nitrogen Processed-----0 Points ----- Open Failure

After soldering, parts soldered in the 'open air process' showed slight discoloration compared to those parts soldered in the 'nitrogen blanket process'. Discoloration is seen as a slight 'yellowing' or 'bronzing'.

DATA SUMMARIES

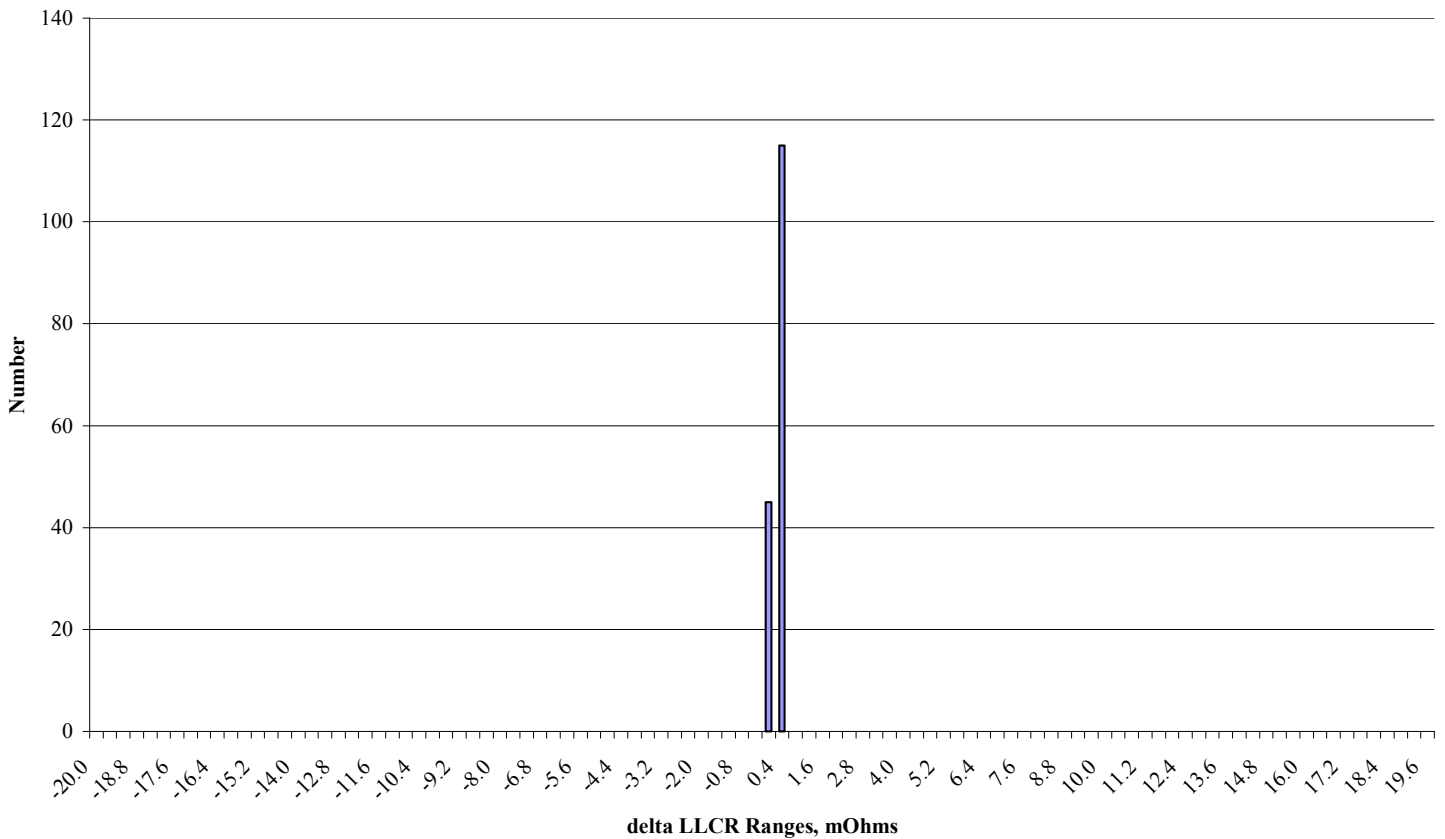
LLCR:

- 1) A total of 160 points were measured.
- 2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets.*
- 3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
- 4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
 - a) $\leq +5.0$ mOhms: ----- Stable
 - b) $+5.1$ to $+10.0$ mOhms:----- Minor
 - c) $+10.1$ to $+15.0$ mOhms: ----- Acceptable
 - d) $+15.1$ to $+50.0$ mOhms: ----- Marginal
 - e) $+50.1$ to $+2000$ mOhms ----- Unstable
 - f) $>+2000$ mOhms:----- Open Failure

Air Processed

mOhm values	Actual Initial	Delta 240 Hour Humidity	Delta 480 Hour Humidity
Average	1.8	0.0	0.0
St. Dev.	0.1	0.1	0.1
Min	1.5	-0.2	-0.1
Max	2.2	0.2	0.3
Count	160	160	160

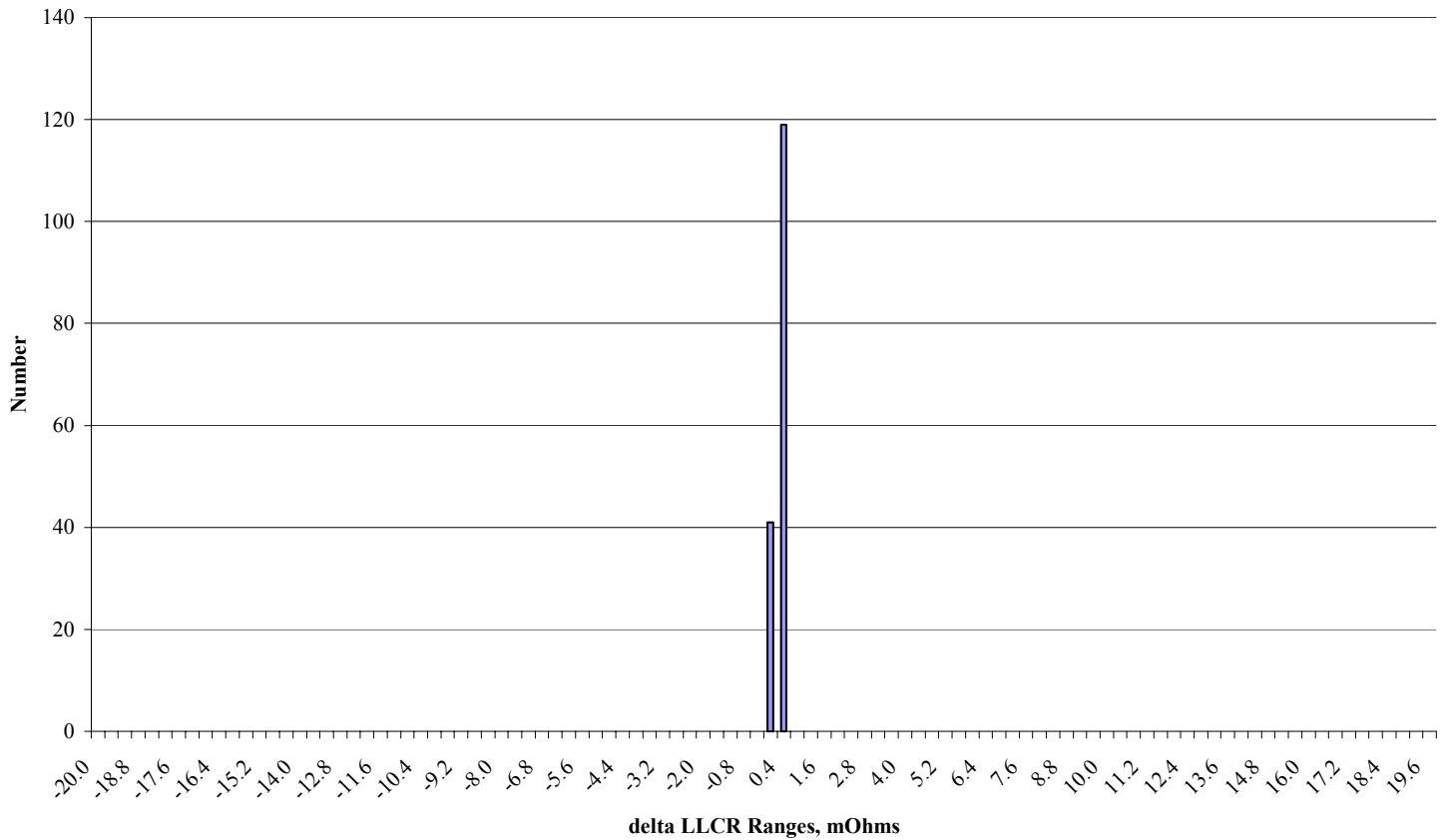
**Air Processed
After 480 Hours**



DATA SUMMARIES Continued

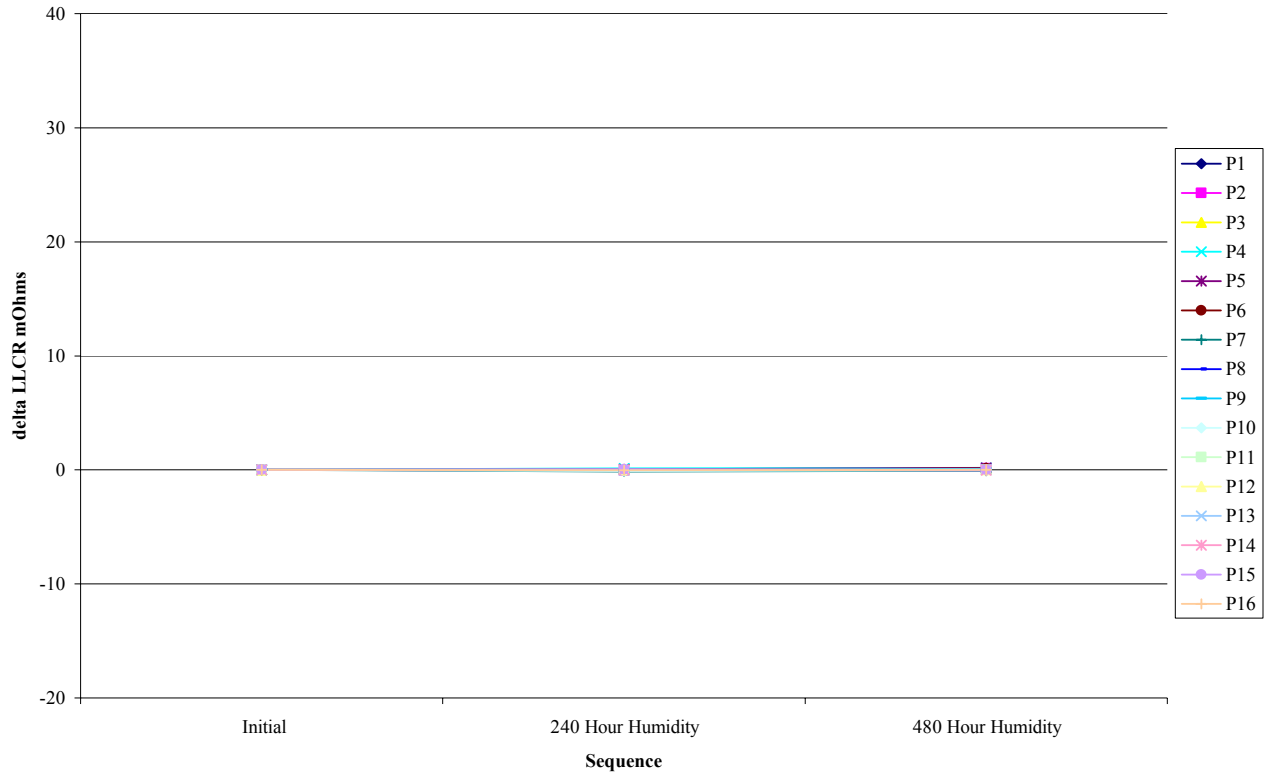
mOhm values	Nitrogen Processed		
	Actual Initial	Delta 240 Hour Humidity	Delta 480 Hour Humidity
Average	1.8	0.0	0.0
St. Dev.	0.1	0.1	0.1
Min	1.6	-0.1	-0.1
Max	2.2	0.2	0.4
Count	160	160	160

**Nitrogen Processed
After 480 Hours**

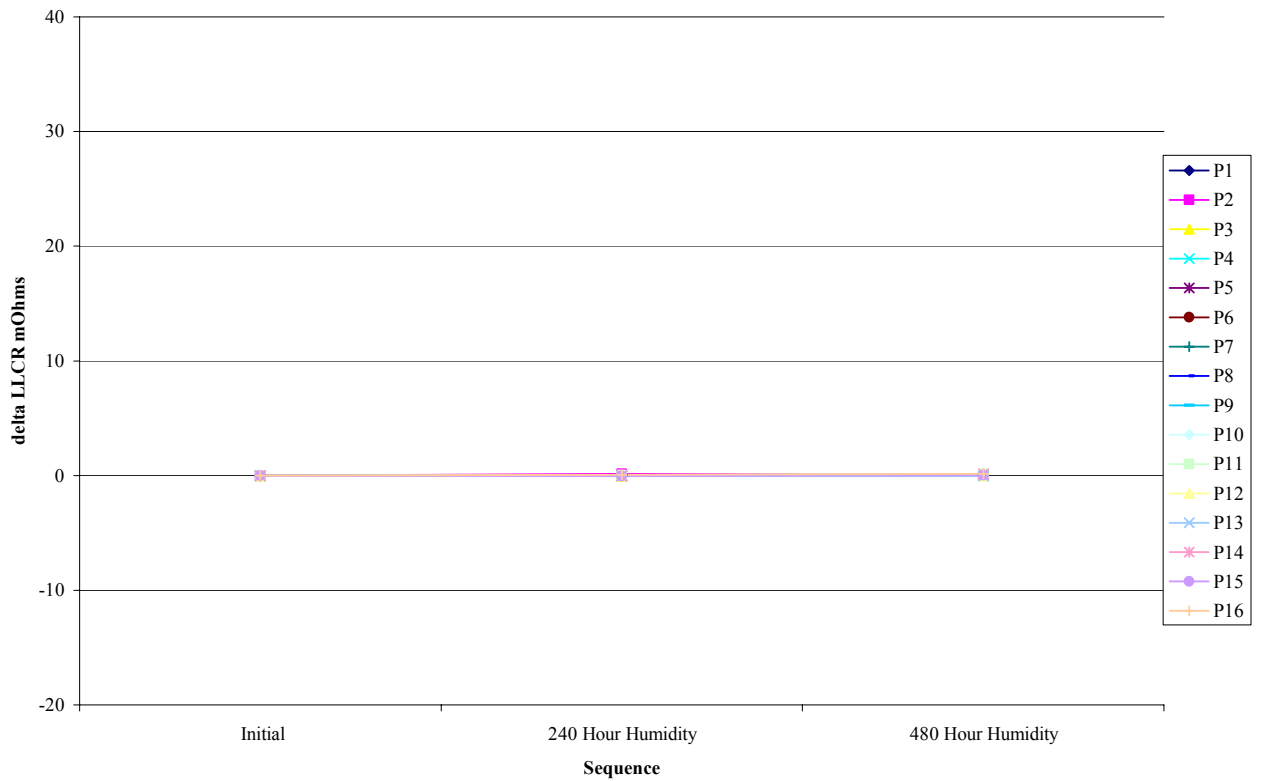


DATA SUMMARIES Continued

Air Processed
Board #1

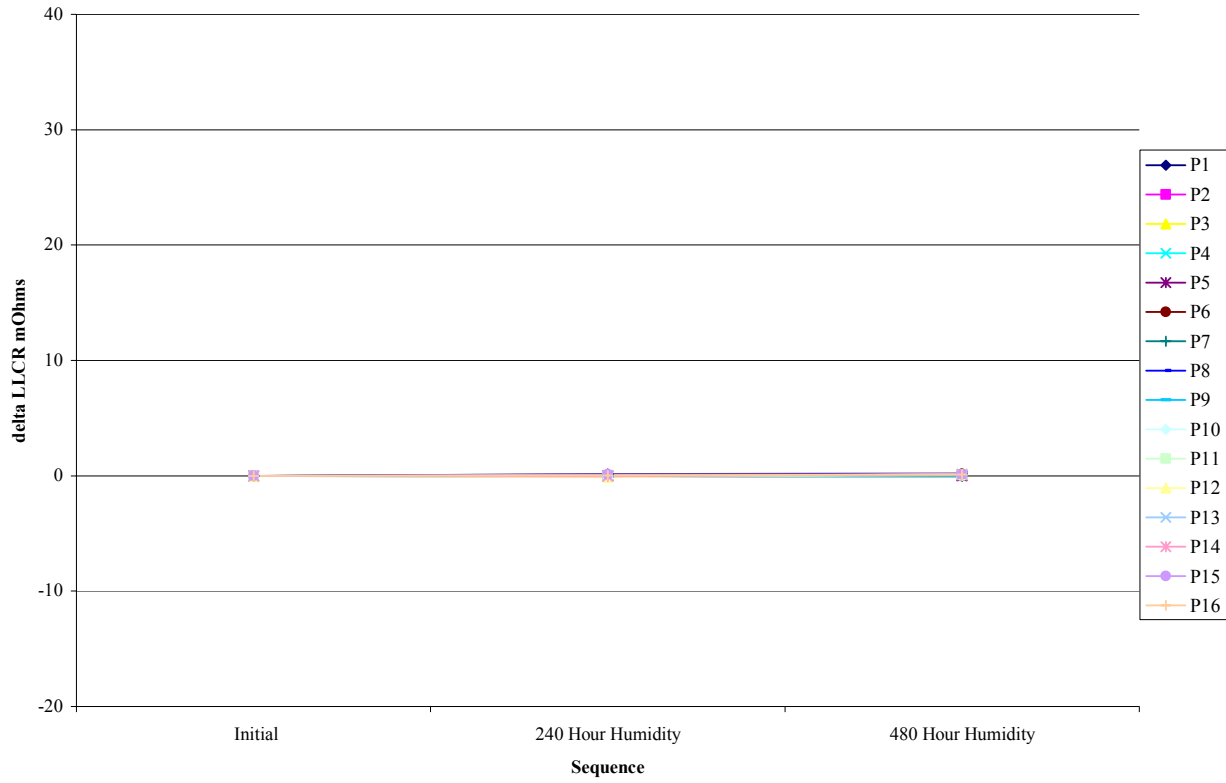


Air Processed
Board #2

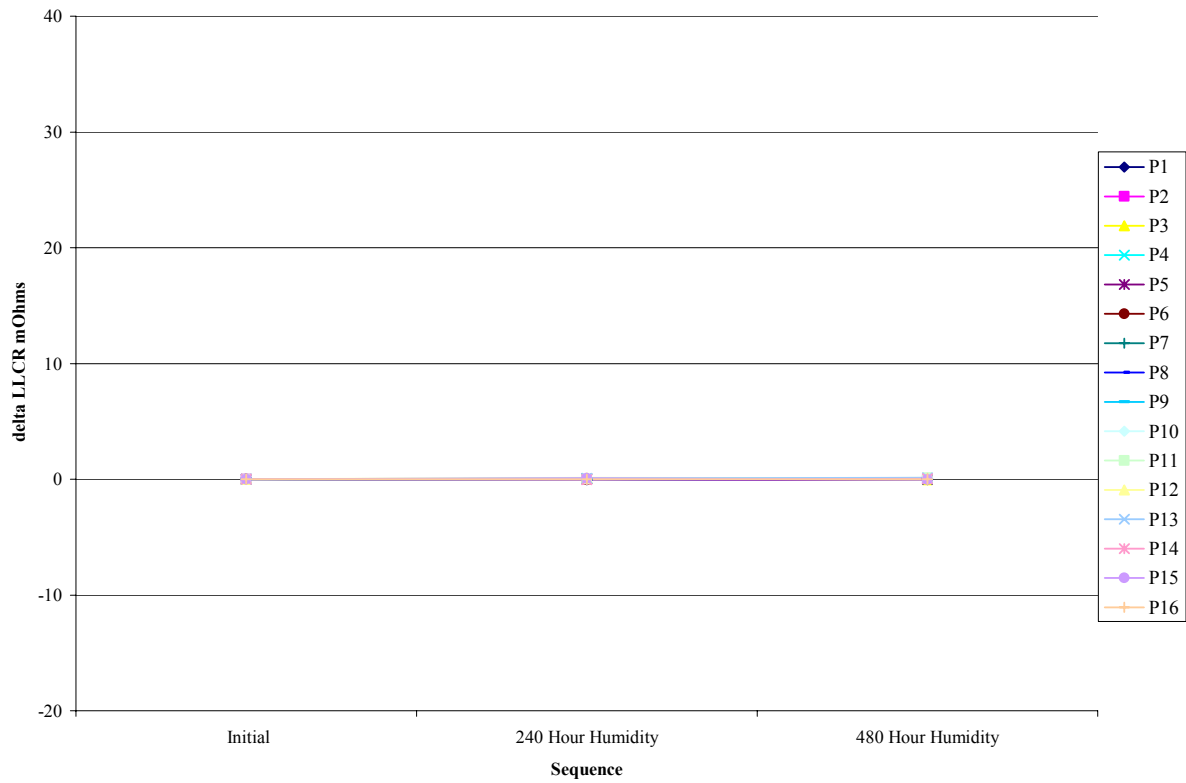


DATA SUMMARIES Continued

Air Processed
Board #3

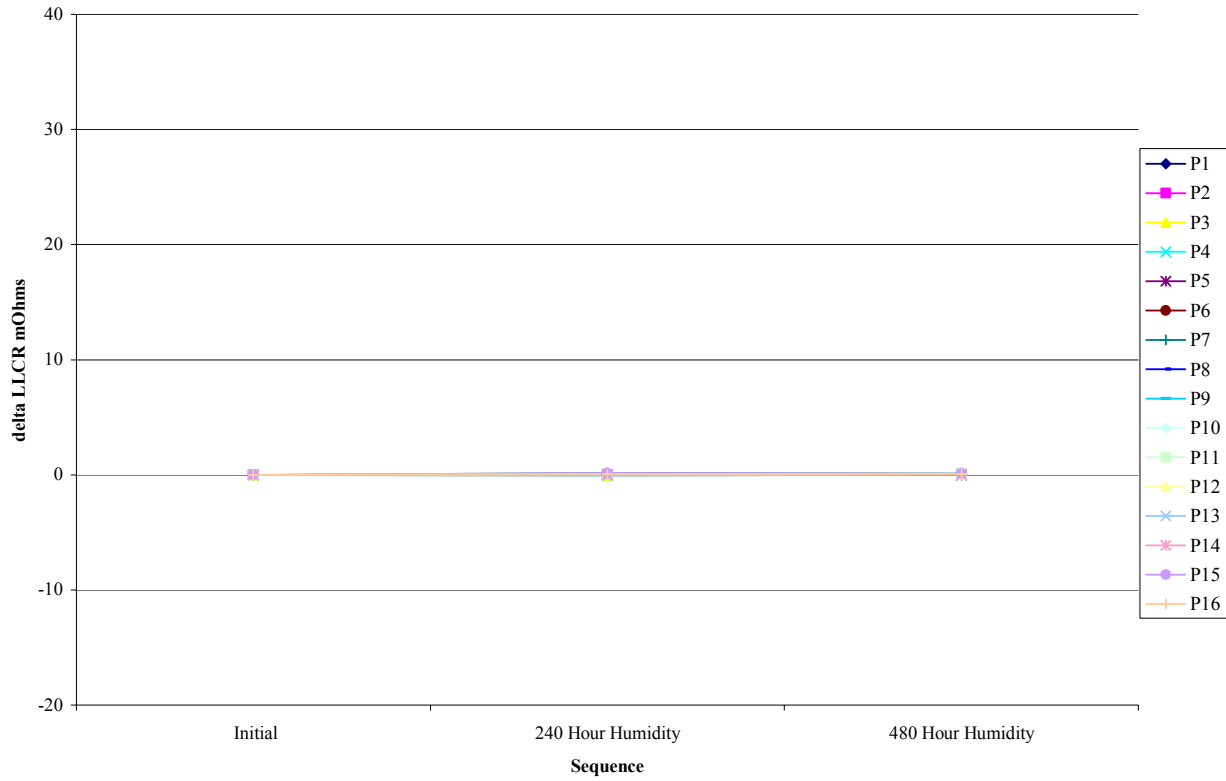


Air Processed
Board #4

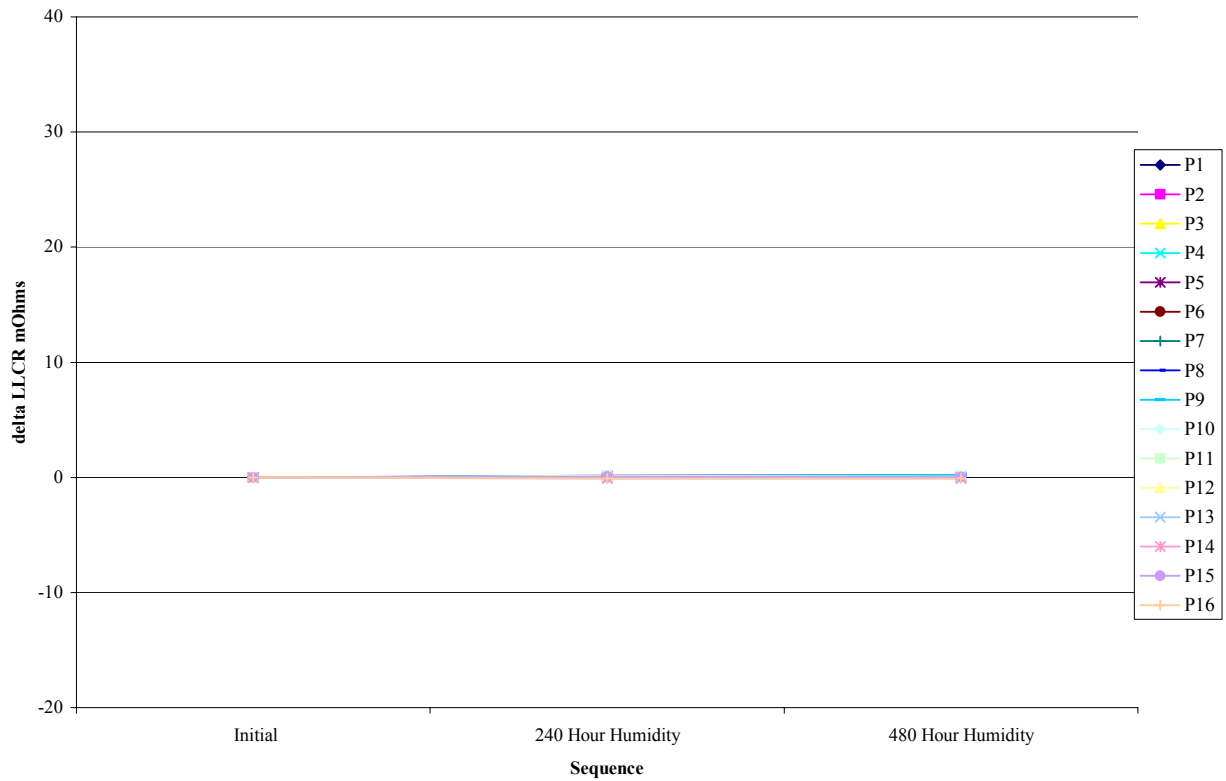


DATA SUMMARIES Continued

Air Processed
Board #5

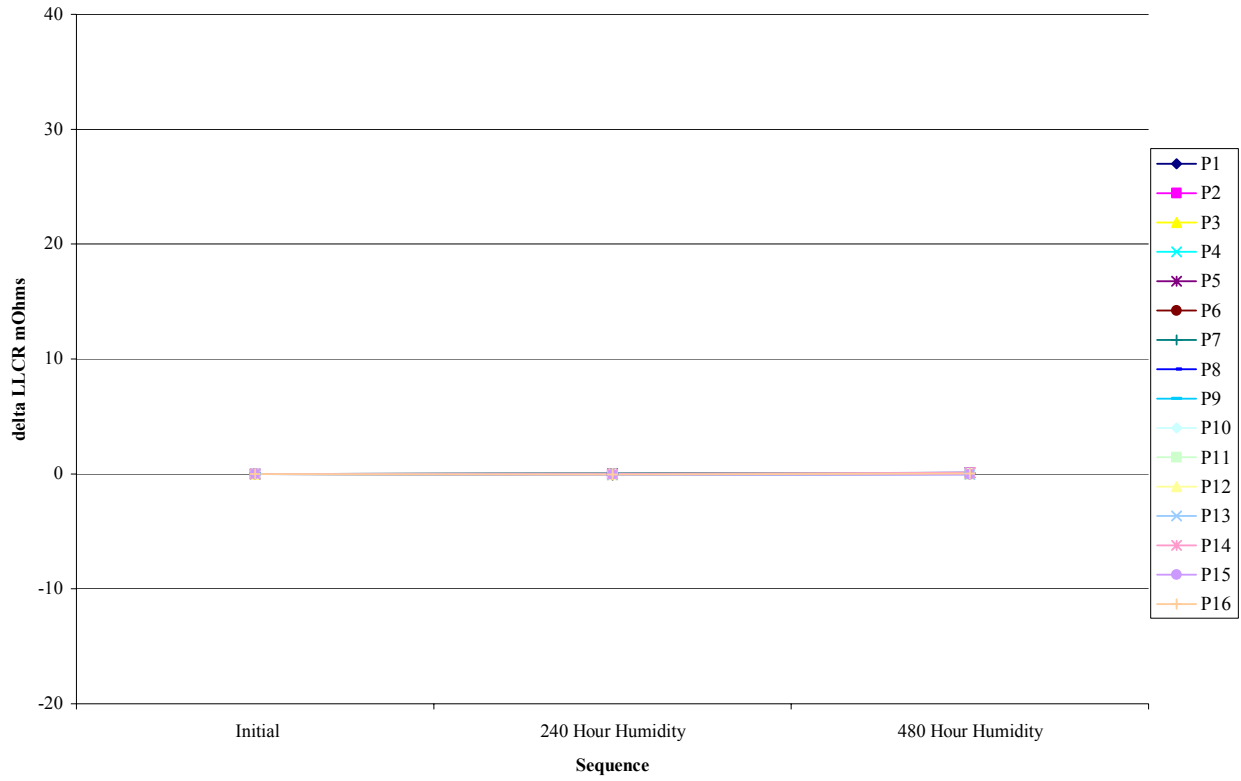


Air Processed
Board #6

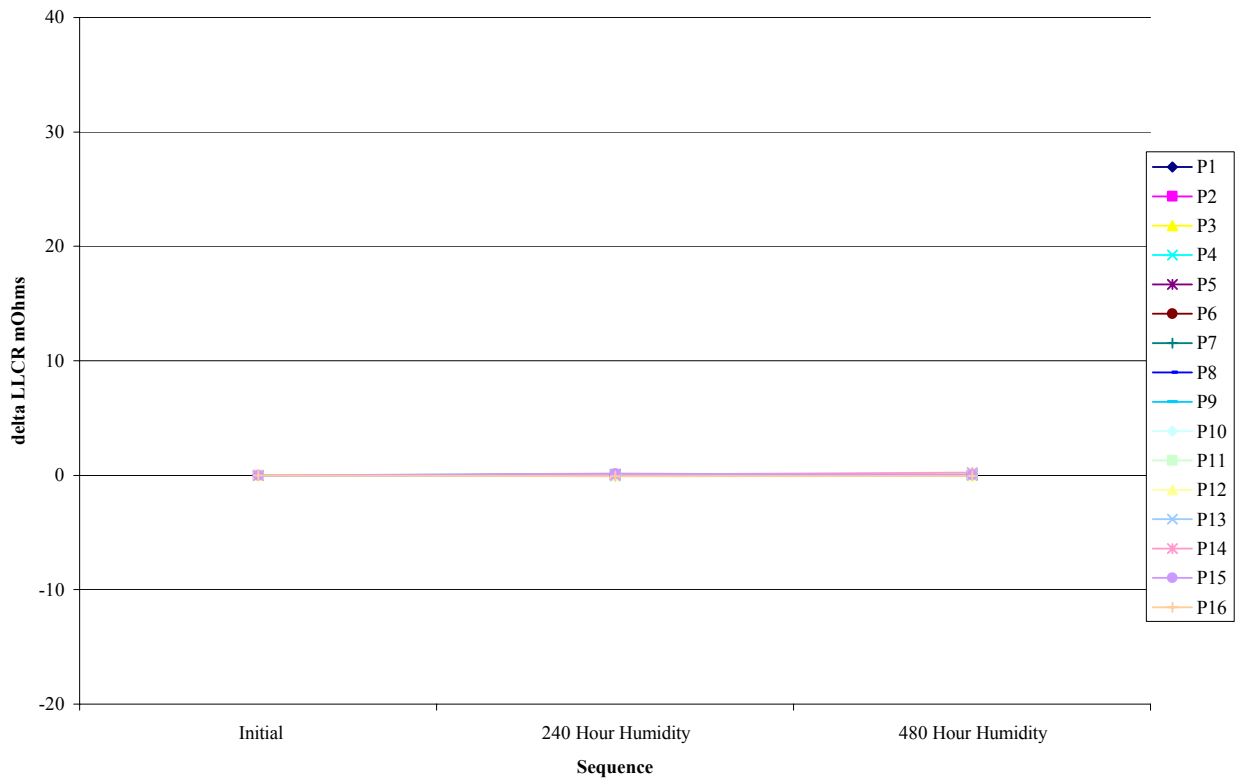


DATA SUMMARIES Continued

Air Processed
Board #7

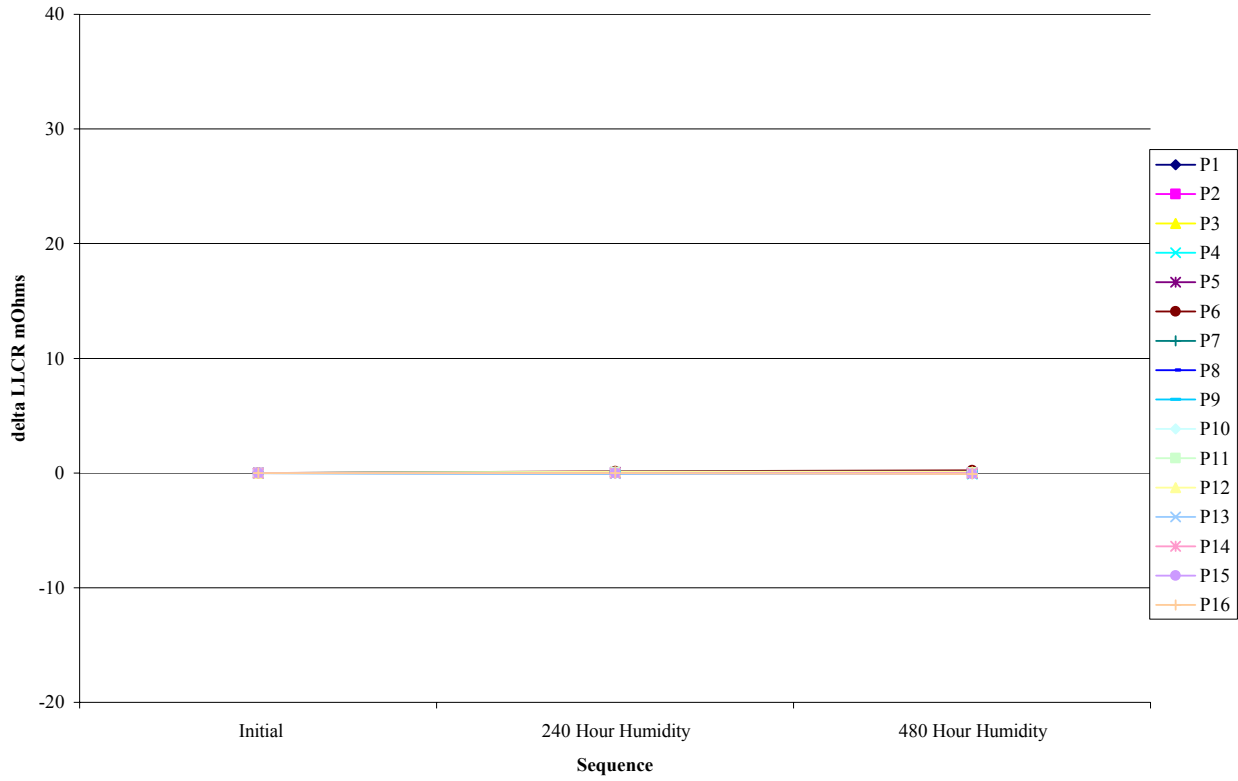


Air Processed
Board #8

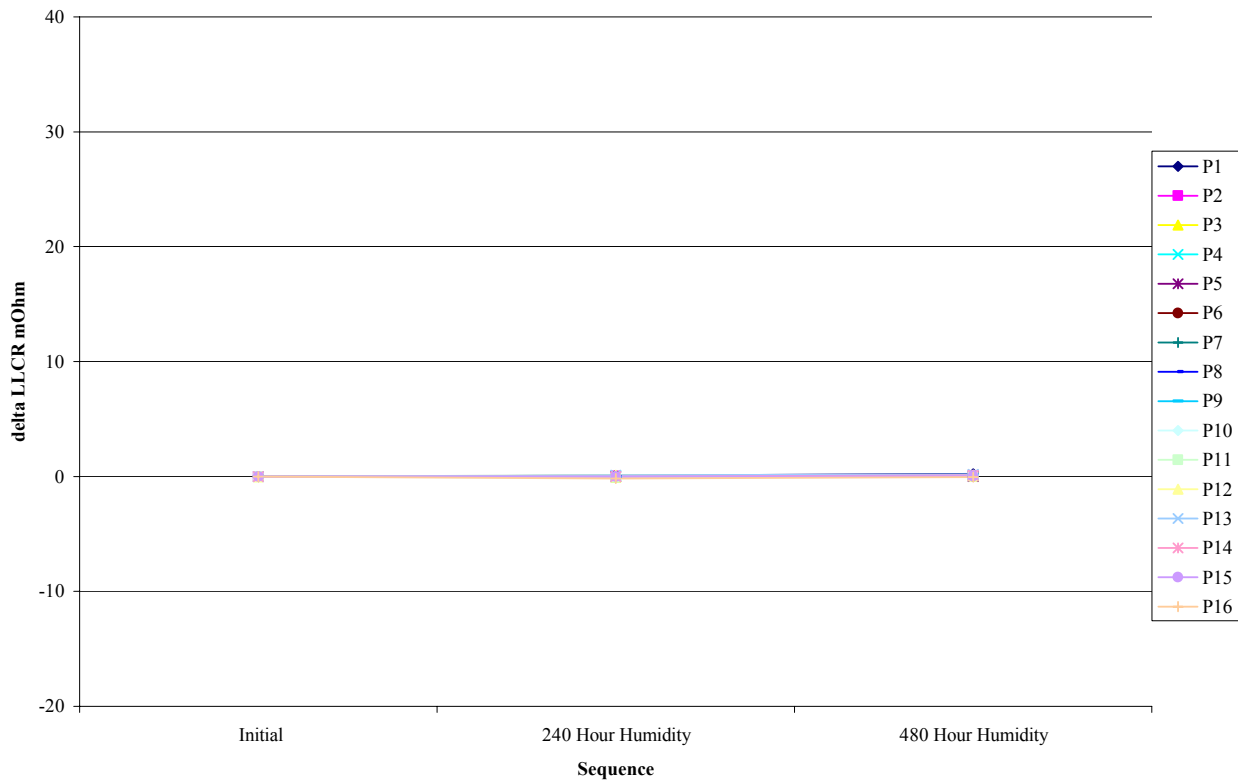


DATA SUMMARIES Continued

Air Processed
Board #9

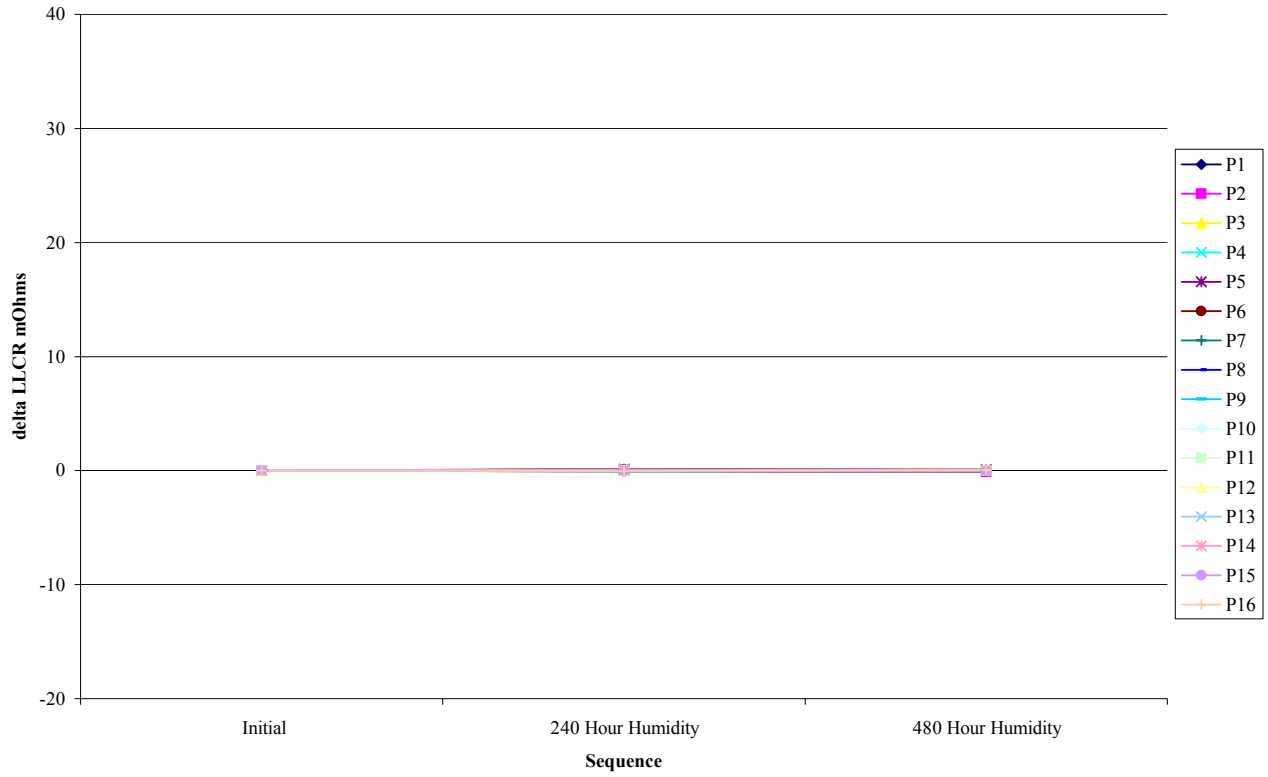


Air Processed
Board #10

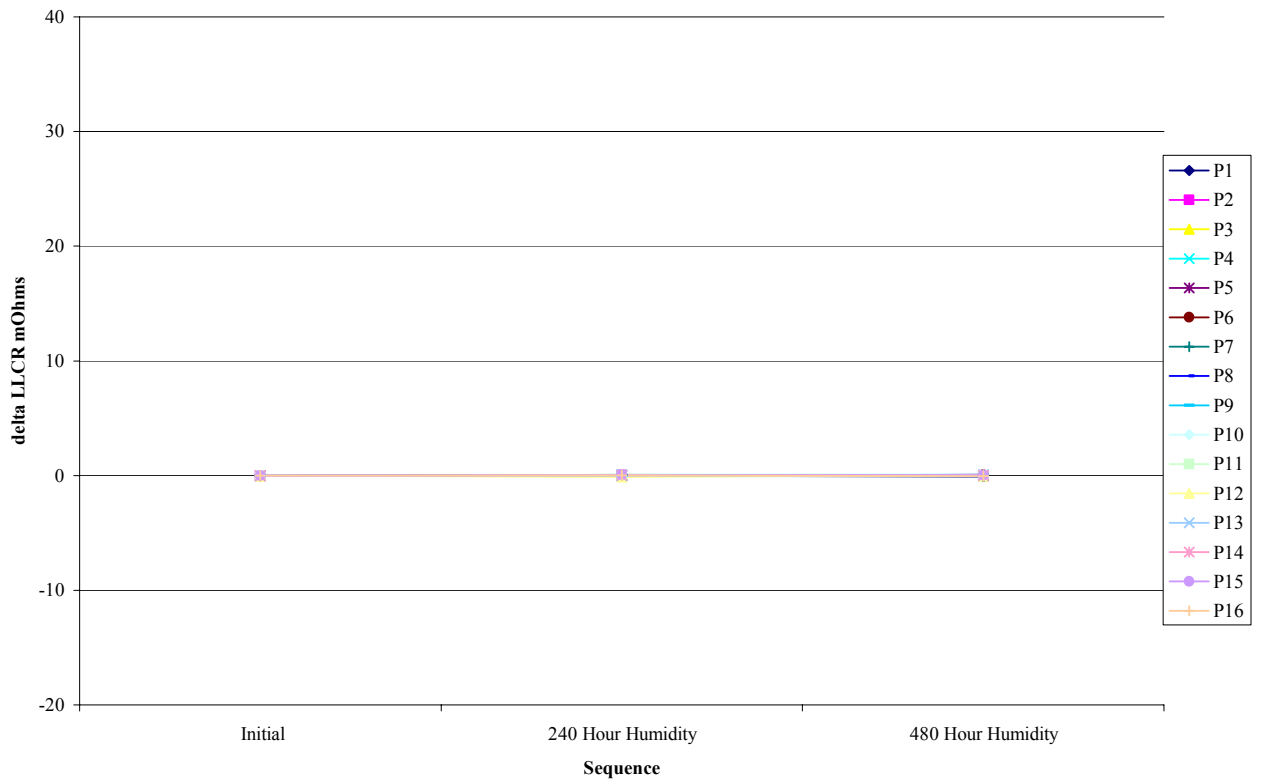


DATA SUMMARIES Continued

Nitrogen Processed Board #1



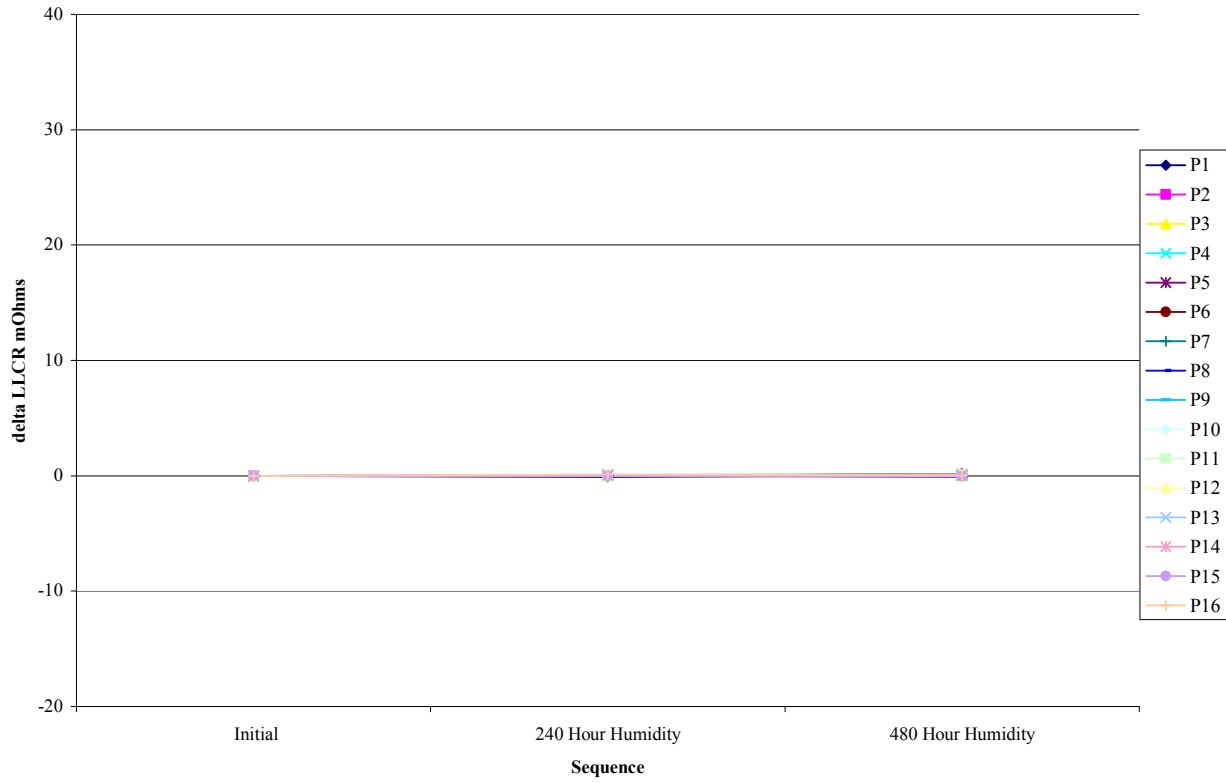
Nitrogen Processed Board #2



DATA SUMMARIES Continued

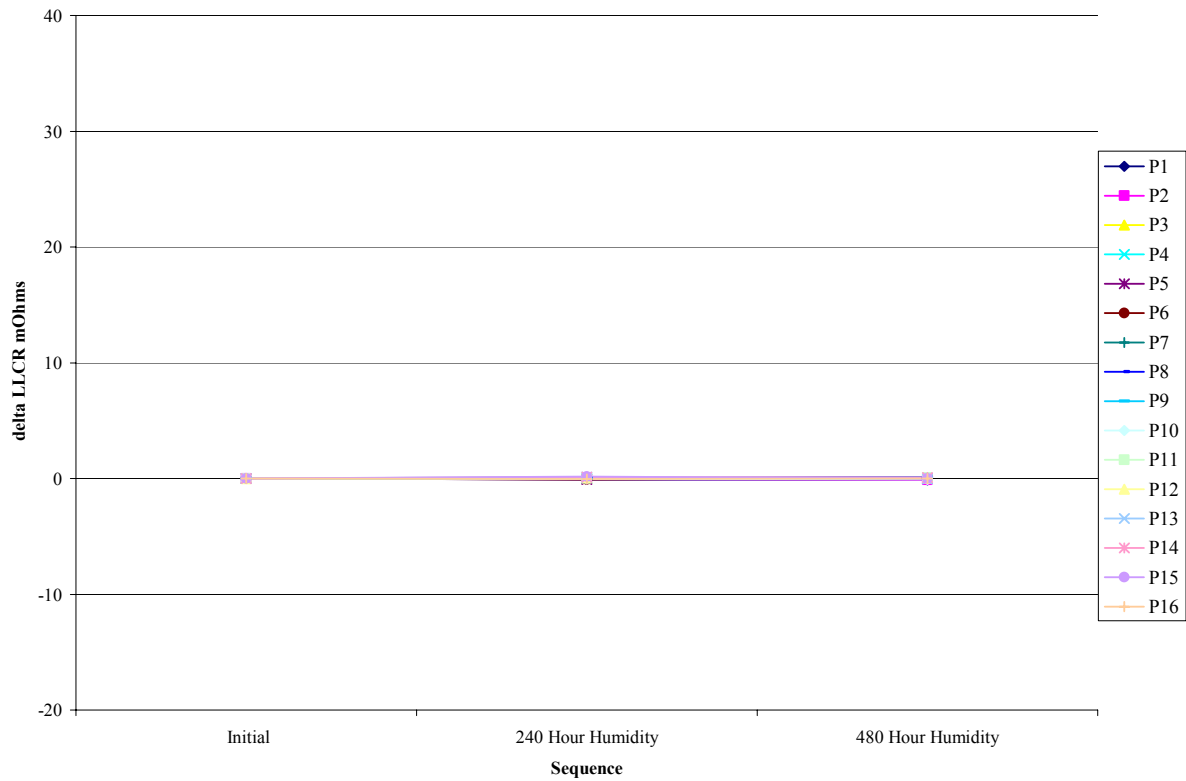
Nitrogen Processed

Board #3



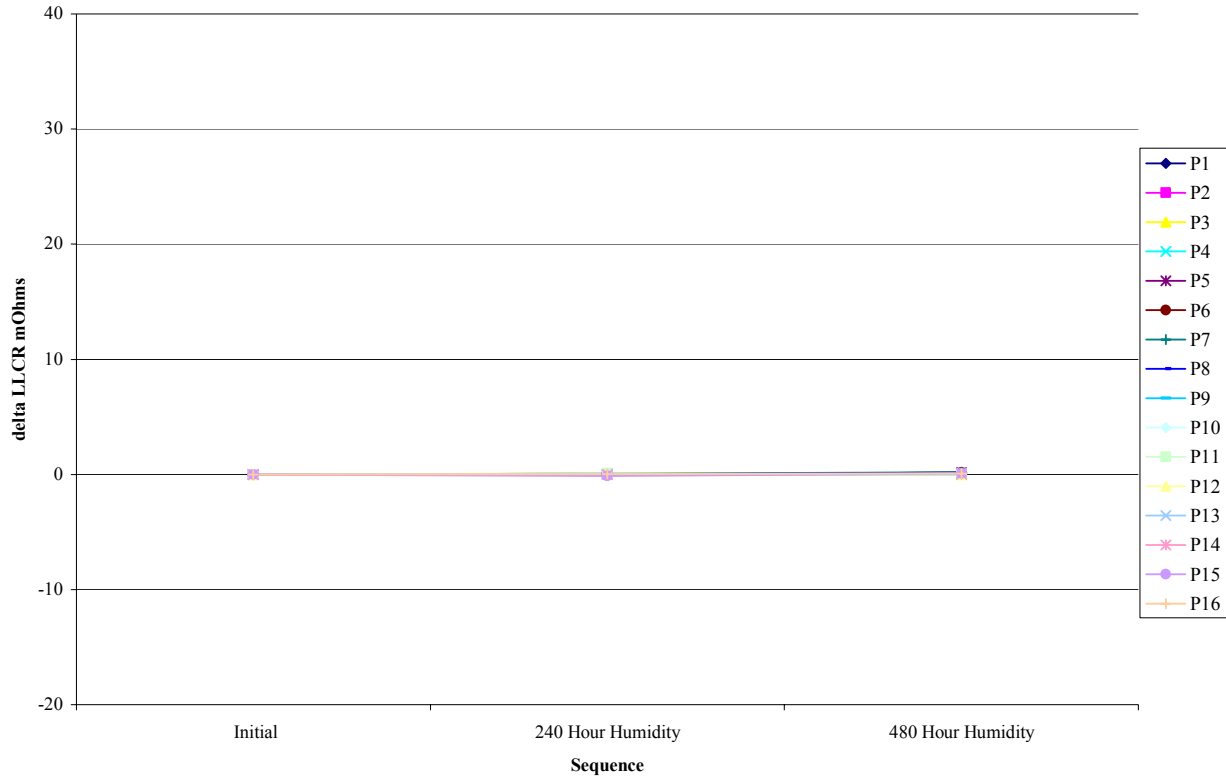
Nitrogen Processed

Board #4

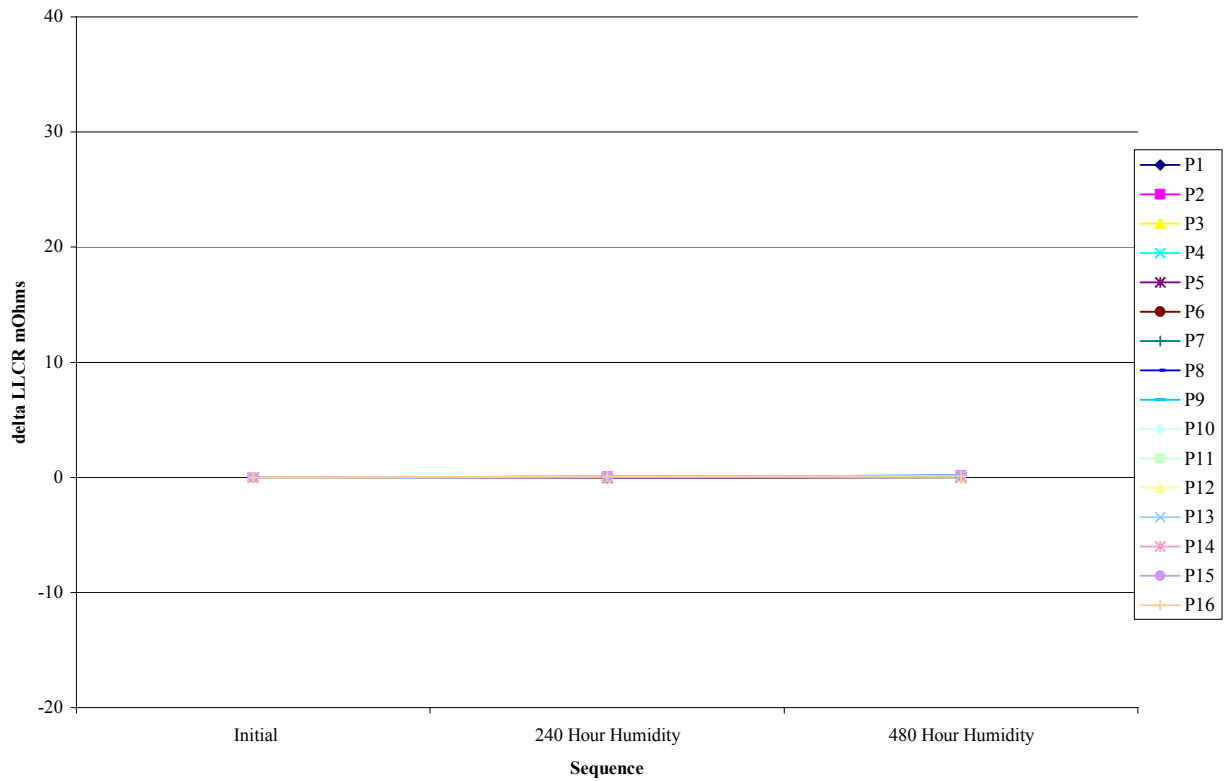


DATA SUMMARIES Continued

Nitrogen Processed Board #5



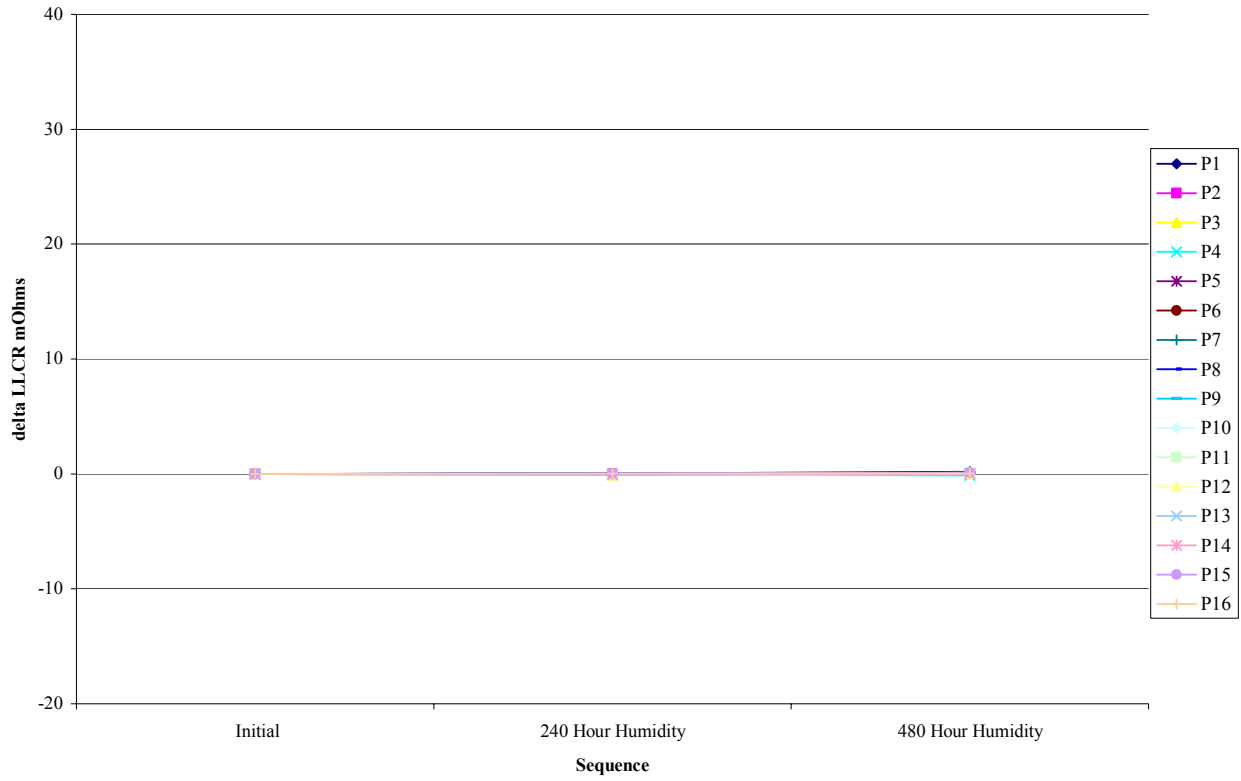
Nitrogen Processed Board #6



DATA SUMMARIES Continued

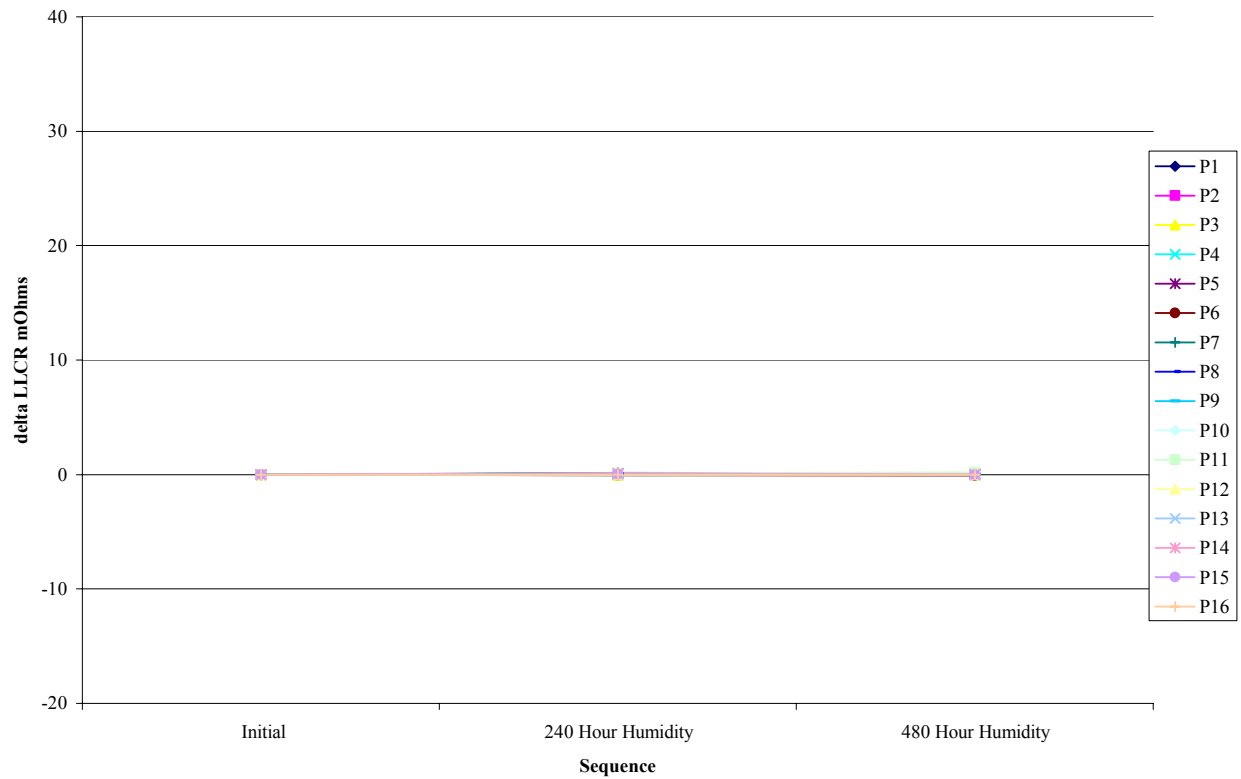
Nitrogen Processed

Board #7



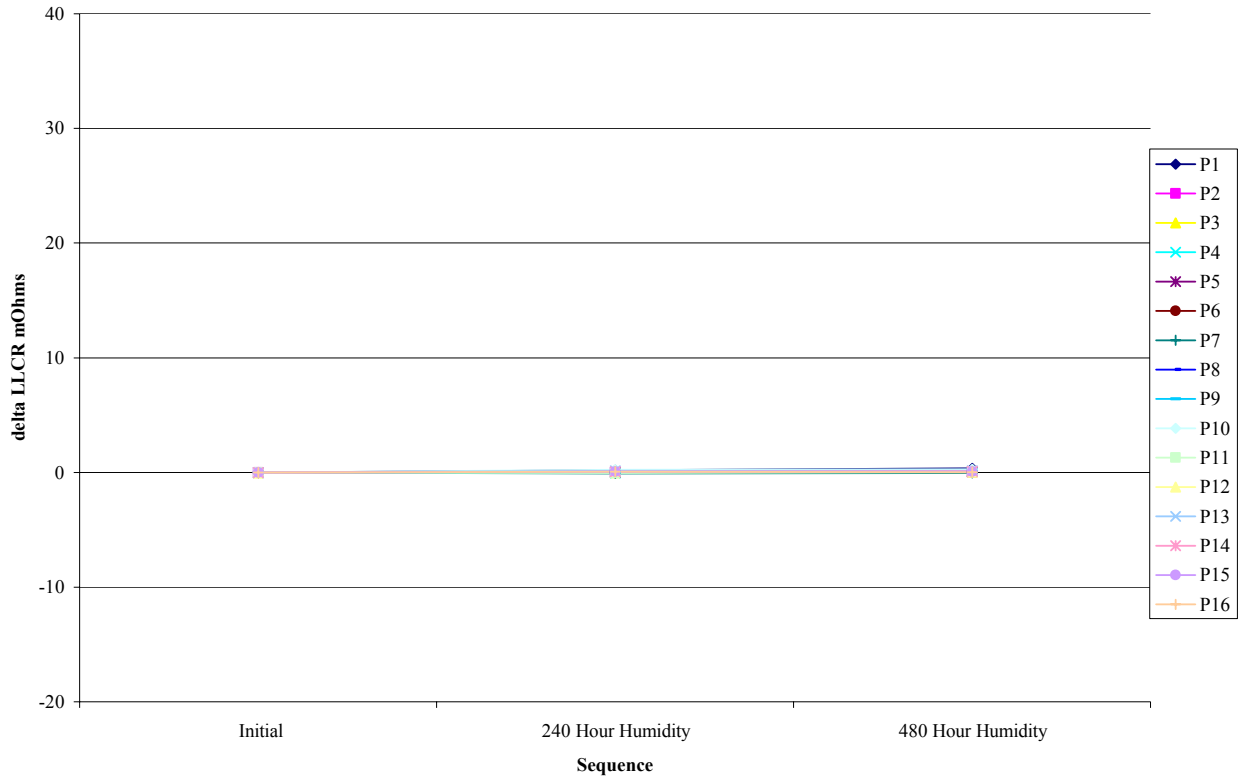
Nitrogen Processed

Board #8



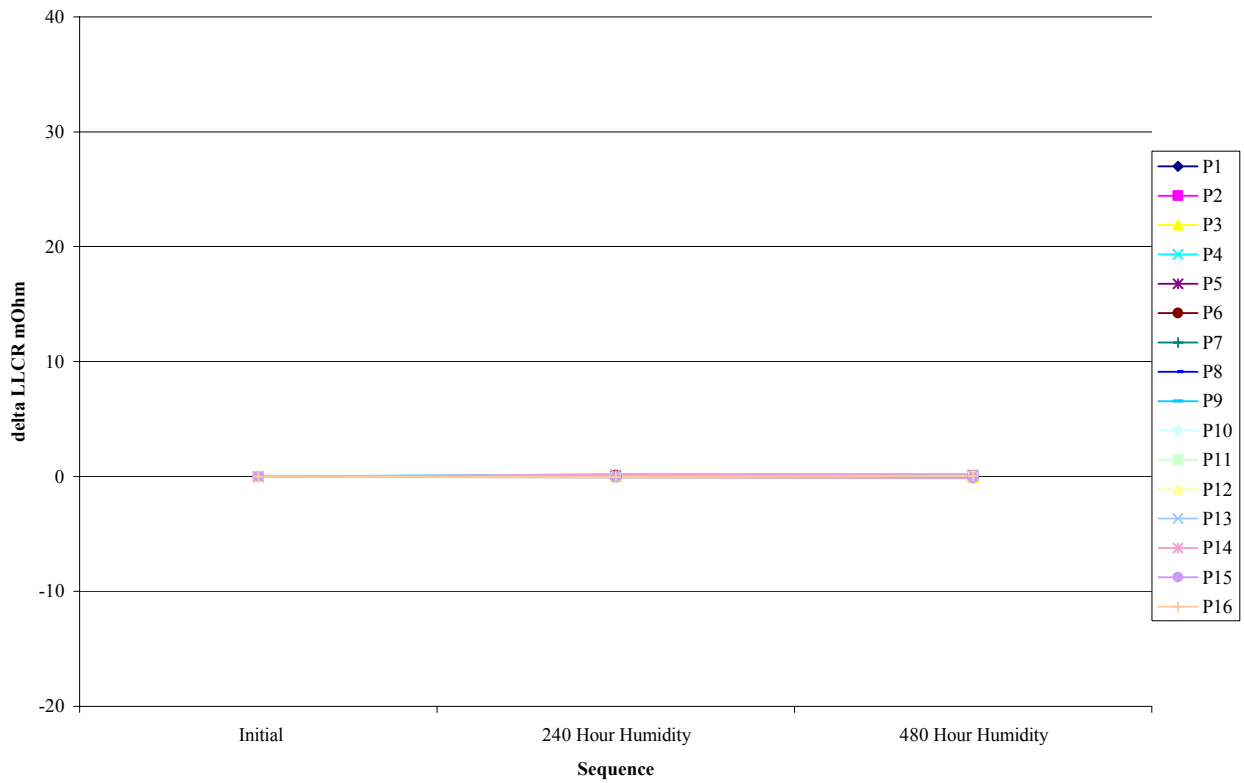
DATA SUMMARIES Continued

Nitrogen Processed
Board #9



Nitrogen Processed

Board #10



DATA**LLCR, Air Processed:**

Date	Jul. 15 2003	Aug. 04 2003	Aug. 19 2003
Room Temp C	21	21	22
RH	46%	49%	58%
Name	Troy Cook	Troy Cook	Troy Cook

mOhm values		Actual	Delta	Delta
Board	Position	Initial	240 Hour Humidity	480 Hour Humidity
1	P1	1.7	-0.1	0.0
1	P2	1.8	-0.1	0.1
1	P3	1.7	0.1	0.1
1	P4	1.7	0.1	0.2
1	P5	1.7	0.1	0.2
1	P6	1.8	0.0	0.2
1	P7	1.9	-0.2	-0.1
1	P8	1.8	0.0	0.0
1	P9	1.7	0.0	0.1
1	P10	1.8	-0.1	0.0
1	P11	1.7	0.0	0.0
1	P12	1.7	0.0	0.0
1	P13	1.8	0.0	0.0
1	P14	1.7	0.0	0.0
1	P15	1.7	0.0	0.0
1	P16	1.8	0.0	0.0
2	P1	1.6	0.1	0.1
2	P2	1.6	0.1	0.0
2	P3	1.6	0.0	0.1
2	P4	1.6	0.0	0.1
2	P5	1.7	0.0	0.1
2	P6	1.6	0.0	0.0
2	P7	1.6	0.0	0.1
2	P8	1.6	0.0	0.0
2	P9	1.7	0.0	0.1
2	P10	1.6	-0.1	0.0
2	P11	1.6	0.0	0.1
2	P12	1.6	0.0	0.0
2	P13	1.8	-0.1	-0.1
2	P14	1.6	0.0	0.1
2	P15	1.7	-0.1	0.0
2	P16	1.6	0.1	0.1
3	P1	1.8	0.2	0.2
3	P2	1.8	0.0	0.0
3	P3	1.8	0.0	0.1
3	P4	1.9	0.0	0.0

Tracking Code: TC0327-N/A-0224

Part #: HPF-16-02-T-S-A

Part description: HPF

3	P5	1.8	0.0	0.0
3	P6	1.8	0.1	0.2
3	P7	1.8	0.0	-0.1
3	P8	1.7	0.0	0.1
3	P9	1.8	-0.1	0.1
3	P10	1.7	0.0	0.0
3	P11	1.7	0.0	0.1
3	P12	1.7	-0.1	0.2
3	P13	1.7	0.0	0.1
3	P14	1.7	0.0	0.2
3	P15	1.6	0.1	0.1
3	P16	1.7	0.0	0.1
4	P1	1.7	0.0	0.0
4	P2	1.7	0.0	0.0
4	P3	1.6	0.0	0.0
4	P4	1.6	0.1	0.0
4	P5	1.7	0.0	0.0
4	P6	1.7	0.0	0.0
4	P7	1.7	0.0	0.1
4	P8	1.7	0.0	0.0
4	P9	1.7	0.0	0.1
4	P10	1.6	0.0	0.1
4	P11	1.7	0.0	0.1
4	P12	1.5	0.1	0.1
4	P13	1.6	0.1	0.1
4	P14	1.6	0.0	0.0
4	P15	1.7	0.1	-0.1
4	P16	1.7	0.0	0.0
5	P1	1.7	0.0	0.1
5	P2	1.9	0.0	0.0
5	P3	1.8	-0.1	0.0
5	P4	1.8	0.0	0.0
5	P5	1.7	0.0	0.0
5	P6	1.8	0.0	0.1
5	P7	1.7	0.2	0.1
5	P8	1.8	0.0	0.0
5	P9	1.8	0.0	0.1
5	P10	1.7	0.0	0.0
5	P11	1.7	0.1	0.1
5	P12	1.7	0.1	0.1
5	P13	1.8	-0.1	0.0
5	P14	1.6	0.1	0.1
5	P15	1.6	0.2	0.1
5	P16	1.6	0.1	0.0
6	P1	1.9	0.1	0.0
6	P2	2.1	0.0	0.0
6	P3	1.9	0.1	0.1
6	P4	2.0	0.1	0.1
6	P5	1.9	0.1	0.0
6	P6	1.8	0.1	0.0

Tracking Code: TC0327-N/A-0224

Part #: HPF-16-02-T-S-A

Part description: HPF

6	P7	1.8	0.1	0.1
6	P8	1.8	0.2	0.2
6	P9	1.8	0.1	0.2
6	P10	1.8	0.0	0.1
6	P11	1.9	0.1	0.1
6	P12	1.8	0.1	0.0
6	P13	2.0	-0.1	-0.1
6	P14	1.7	0.0	0.0
6	P15	1.9	0.1	0.0
6	P16	1.7	-0.1	-0.1
7	P1	1.9	-0.1	0.0
7	P2	1.8	0.0	0.1
7	P3	1.8	0.0	0.1
7	P4	1.8	0.0	0.1
7	P5	1.7	0.0	0.1
7	P6	1.7	0.0	0.0
7	P7	1.7	0.0	0.1
7	P8	1.8	0.0	0.0
7	P9	1.7	0.0	0.0
7	P10	1.7	0.0	0.0
7	P11	1.6	0.0	0.1
7	P12	1.8	-0.1	0.0
7	P13	1.7	-0.1	-0.1
7	P14	1.7	0.0	0.1
7	P15	1.7	-0.1	-0.1
7	P16	1.8	-0.1	0.0
8	P1	1.7	0.1	0.0
8	P2	1.8	0.0	0.0
8	P3	1.7	0.0	0.0
8	P4	2.2	0.1	0.1
8	P5	1.7	0.1	0.0
8	P6	1.7	0.0	0.0
8	P7	1.7	0.0	0.0
8	P8	1.8	0.0	0.0
8	P9	1.8	0.0	0.0
8	P10	1.7	0.1	0.1
8	P11	1.7	0.0	0.1
8	P12	1.7	0.0	0.0
8	P13	1.7	0.0	0.0
8	P14	1.6	0.1	0.3
8	P15	1.6	0.1	0.0
8	P16	1.7	-0.1	0.0
9	P1	1.9	0.0	0.0
9	P2	1.9	0.0	0.0
9	P3	1.9	0.1	0.1
9	P4	1.9	0.0	-0.1
9	P5	1.9	0.1	0.0
9	P6	1.7	0.2	0.2
9	P7	1.9	0.0	0.0
9	P8	1.8	0.0	0.0

Tracking Code: TC0327-N/A-0224

Part #: HPF-16-02-T-S-A

Part description: HPF

9	P9	1.8	0.1	0.1
9	P10	1.8	0.0	0.0
9	P11	1.8	0.1	0.0
9	P12	1.8	0.1	0.1
9	P13	1.8	-0.1	0.0
9	P14	1.8	0.0	0.0
9	P15	1.8	0.0	-0.1
9	P16	1.8	0.0	-0.1
10	P1	1.9	0.0	0.2
10	P2	2.0	0.0	0.1
10	P3	1.8	0.0	0.1
10	P4	1.9	0.1	0.1
10	P5	1.9	0.0	0.0
10	P6	1.9	0.0	0.0
10	P7	1.9	0.0	0.1
10	P8	1.9	0.0	0.1
10	P9	1.9	0.0	0.1
10	P10	1.9	0.0	0.1
10	P11	1.9	-0.1	0.0
10	P12	1.9	0.1	0.1
10	P13	1.8	0.1	0.2
10	P14	1.9	0.0	0.1
10	P15	1.9	0.0	0.0
10	P16	1.9	-0.2	-0.1

DATA Continued**LLCR, Nitrogen Processed:**

Date	Jul. 15 2003	Aug. 04 2003	Aug. 19 2003
Room Temp C	21	21	21
RH	48%	47%	52%
Name	Troy Cook	Troy Cook	Troy Cook

mOhm values		Actual	Delta	Delta
Board	Position	Initial	240 Hour Humidity	480 Hour Humidity
1	P1	1.7	-0.1	0.0
1	P2	1.9	0.0	-0.1
1	P3	1.6	0.1	0.1
1	P4	1.8	0.1	0.1
1	P5	1.6	0.1	0.1
1	P6	1.7	0.1	0.0
1	P7	1.7	-0.1	-0.1
1	P8	1.7	0.1	0.0
1	P9	1.7	0.1	0.1
1	P10	1.7	-0.1	0.0
1	P11	1.6	0.0	0.0
1	P12	1.7	0.0	0.1
1	P13	1.7	0.0	0.0
1	P14	1.7	0.1	0.1
1	P15	1.7	0.0	0.0
1	P16	1.6	0.0	0.1
2	P1	1.8	0.0	-0.1
2	P2	1.8	0.0	0.0
2	P3	1.7	0.1	0.0
2	P4	1.7	0.1	0.1
2	P5	1.8	0.0	0.0
2	P6	1.8	0.0	0.1
2	P7	1.8	0.0	0.0
2	P8	1.7	0.0	0.1
2	P9	1.8	-0.1	-0.1
2	P10	1.8	0.0	0.0
2	P11	1.8	-0.1	0.0
2	P12	1.9	-0.1	0.1
2	P13	1.7	0.0	0.1
2	P14	1.8	0.0	0.0
2	P15	1.6	0.1	0.0
2	P16	1.8	0.0	0.0
3	P1	1.8	-0.1	0.0
3	P2	2.0	0.0	0.0
3	P3	1.7	0.0	0.1
3	P4	2.0	0.1	0.2

Tracking Code: TC0327-N/A-0224

Part #: HPF-16-02-T-S-A

Part description: HPF

3	P5	1.6	0.1	0.0
3	P6	1.8	0.0	0.1
3	P7	1.7	0.0	0.1
3	P8	1.8	0.0	-0.1
3	P9	1.7	0.0	0.0
3	P10	1.6	0.1	0.1
3	P11	1.8	0.0	0.1
3	P12	1.7	0.0	0.0
3	P13	1.7	0.0	0.0
3	P14	1.6	0.1	0.1
3	P15	1.7	0.0	0.0
3	P16	1.6	0.1	0.0
4	P1	2.1	-0.1	-0.1
4	P2	2.2	0.0	-0.1
4	P3	2.0	0.0	0.1
4	P4	2.0	0.0	0.0
4	P5	2.0	-0.1	0.0
4	P6	2.0	-0.1	0.1
4	P7	1.9	0.1	0.1
4	P8	1.8	0.0	0.1
4	P9	1.9	0.0	0.0
4	P10	1.9	0.0	-0.1
4	P11	1.8	0.0	0.1
4	P12	1.9	0.1	0.0
4	P13	1.8	0.1	0.0
4	P14	1.8	0.1	0.1
4	P15	1.8	0.2	0.0
4	P16	1.9	0.0	0.0
5	P1	1.8	0.0	0.2
5	P2	1.9	0.0	0.1
5	P3	1.8	0.0	0.0
5	P4	1.9	0.0	0.0
5	P5	1.8	0.0	0.1
5	P6	1.8	0.1	0.1
5	P7	1.8	0.1	0.2
5	P8	1.8	0.0	0.1
5	P9	1.9	0.1	0.0
5	P10	1.8	0.0	0.0
5	P11	1.8	0.1	0.0
5	P12	1.8	0.0	0.0
5	P13	1.8	0.0	0.1
5	P14	1.8	0.0	0.0
5	P15	1.9	-0.1	0.0
5	P16	1.7	0.0	0.1
6	P1	2.1	0.0	0.2
6	P2	2.0	0.1	0.1
6	P3	1.9	0.0	0.0
6	P4	2.0	0.0	0.0
6	P5	1.9	0.0	0.0
6	P6	1.9	0.0	0.0

Tracking Code: TC0327-N/A-0224

Part #: HPF-16-02-T-S-A

Part description: HPF

6	P7	1.8	0.1	0.0
6	P8	1.9	0.1	0.0
6	P9	1.7	0.0	0.2
6	P10	2.0	0.0	0.1
6	P11	1.8	0.0	0.1
6	P12	1.9	0.1	0.0
6	P13	1.8	0.0	0.1
6	P14	1.9	0.1	0.0
6	P15	1.7	0.1	0.1
6	P16	1.9	0.0	0.1
7	P1	2.1	0.0	0.2
7	P2	1.9	0.0	0.0
7	P3	1.8	-0.1	0.0
7	P4	2.0	0.0	-0.1
7	P5	1.9	0.0	0.0
7	P6	1.8	0.0	0.1
7	P7	1.8	0.0	0.0
7	P8	1.9	0.0	0.1
7	P9	1.8	0.0	0.1
7	P10	1.9	-0.1	0.0
7	P11	1.9	-0.1	0.1
7	P12	1.9	-0.1	0.0
7	P13	2.0	-0.1	0.0
7	P14	1.9	-0.1	0.0
7	P15	1.9	0.0	0.1
7	P16	1.8	0.0	0.0
8	P1	1.7	0.0	0.1
8	P2	1.9	-0.1	0.0
8	P3	1.9	0.0	0.0
8	P4	1.8	0.1	0.1
8	P5	1.8	0.1	0.0
8	P6	1.8	-0.1	-0.1
8	P7	1.7	0.2	0.1
8	P8	1.7	0.1	0.0
8	P9	1.8	-0.1	0.0
8	P10	1.7	-0.1	0.1
8	P11	1.6	0.1	0.2
8	P12	1.7	0.0	0.0
8	P13	1.7	0.0	0.0
8	P14	1.7	0.1	0.0
8	P15	1.8	0.0	0.0
8	P16	1.7	0.0	0.0
9	P1	1.8	0.2	0.4
9	P2	1.8	0.0	0.0
9	P3	1.7	0.0	0.1
9	P4	1.8	0.0	0.1
9	P5	1.7	0.0	0.1
9	P6	1.8	0.0	0.0
9	P7	1.8	-0.1	0.0
9	P8	1.8	0.1	0.2

Tracking Code: TC0327-N/A-0224

Part #: HPF-16-02-T-S-A

Part description: HPF

9	P9	1.7	0.0	0.2
9	P10	1.7	0.2	0.3
9	P11	1.8	-0.1	0.0
9	P12	1.7	0.1	0.0
9	P13	1.7	0.1	0.2
9	P14	1.6	0.1	0.1
9	P15	1.7	0.1	0.1
9	P16	1.7	0.1	0.0
10	P1	2.0	0.0	0.0
10	P2	2.0	0.0	0.1
10	P3	1.9	0.0	-0.1
10	P4	1.9	0.0	0.0
10	P5	1.9	0.0	0.1
10	P6	1.8	0.1	0.1
10	P7	1.9	0.0	0.0
10	P8	1.9	0.0	0.0
10	P9	1.8	0.2	0.2
10	P10	2.0	0.0	0.0
10	P11	1.9	-0.1	0.0
10	P12	1.8	0.0	0.1
10	P13	1.8	0.2	0.1
10	P14	1.9	0.1	0.1
10	P15	1.9	-0.1	-0.1
10	P16	1.9	-0.1	0.0

EQUIPMENT AND CALIBRATION SCHEDULES**Equipment #:** THL-01**Description:** Temperature/Humidity Chart Recorder**Manufacturer:** Dickson**Model:** THDX**Serial #:** 9316255**Accuracy:** Temp: +/- 1C; Humidity: +/-2% RH (0 - 60%) +/- 3% RH (61 - 95%).

... Last Cal: 7/15/02, Next Cal: 7/15/03

Equipment #: MO-01**Description:** Micro-Ohmmeter**Manufacturer:** Keithley**Model:** 580**Serial #:** 0772740**Accuracy:** See Manual

... Last Cal: 6/12/03, Next Cal: 6/12/04

Equipment #: MO-03**Description:** Multimeter /Data Acquisition System**Manufacturer:** Keithley**Model:** 2700**Serial #:** 0791975**Accuracy:** See Manual

... Last Cal: 6/12/03, Next Cal: 6/12/04

Equipment #: THC-01**Description:** Temperature/Humidity Chamber**Manufacturer:** Thermotron**Model:** SM-8-7800**Serial #:** 30676**Accuracy:** See Manual

... Last Cal: 5/28/2003, Next Cal: 5/28/2004

Equipment #: OV-5**Description:** Nitrogen Purge IR Reflow**Manufacturer:** Vitronics Soltec**Model:** XPM-730**Serial #:** XN 70328**Accuracy:** +/- 5 deg. C