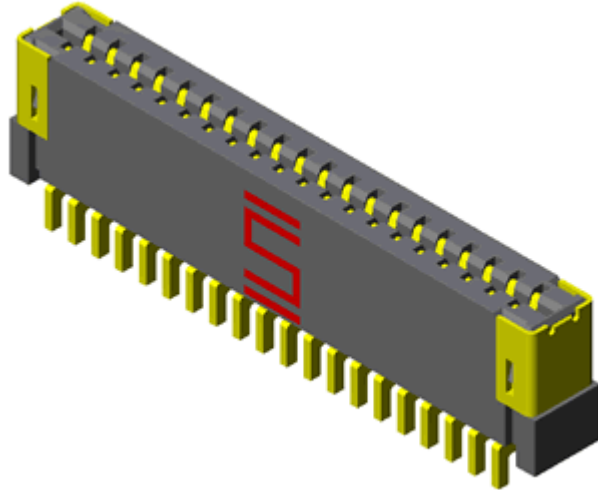




Project Number: N/A		Tracking Code: TC0327-N/A-0226	
Requested by: Phil Eckert		Date: 6/30/2003	Product Rev: N/A
Part #: FC1-25-01-T-LC		Lot #: N/A	Tech: Troy Cook Eng: John Tozier
Part description: FC1			Qty to test: 10
Test Start: 07/17/2003	Test Completed: 8/21/2003		



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

PART DESCRIPTION

**FC1-25-01-T-LC
Mated with
FJ-25-D-2.00-4**

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)

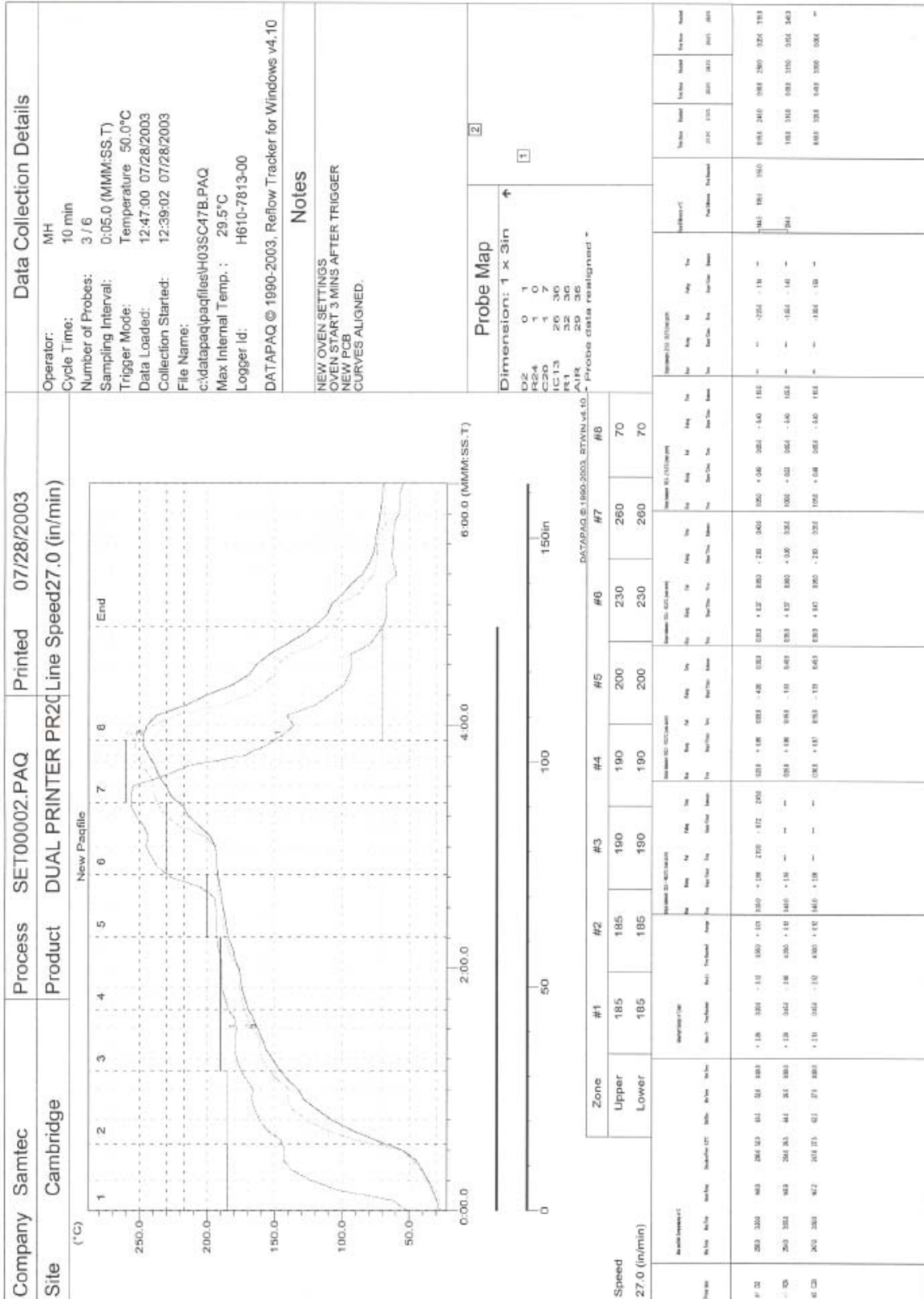
FLOWCHART

TEST STEP	GROUP A 200 Points 480 hour Test Processed in AIR	GROUP B 200 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



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 (200 LLCR test points)**

- **Initial**
 - Air Processed ----- 21.3 mOhms Max
 - Nitrogen Processed----- 20.8 mOhms Max
- **Stressed 240 Hours**
 - <= +5.0 mOhms
 - Air Processed-----200 Points ----- Stable
 - Nitrogen Processed-----200 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-----199 Points ----- Stable
 - Nitrogen Processed-----199 Points ----- Stable
 - +5.1 to +10.0 mOhms
 - Air Processed-----1 Points ----- Minor
 - Nitrogen Processed-----1 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

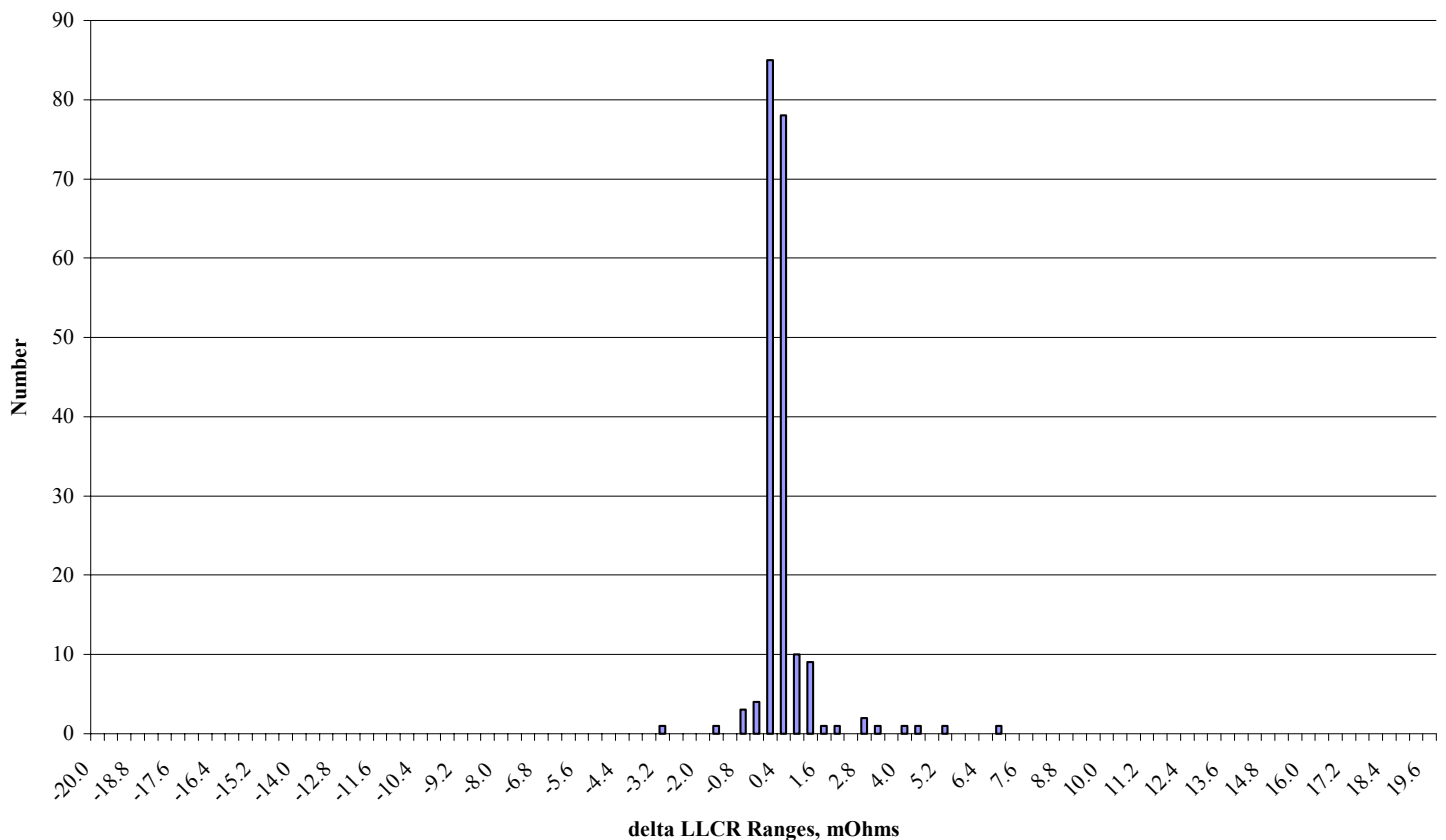
After soldering, neither the parts soldered in the ‘open air process’ or parts soldered in the ‘nitrogen blanket process’ showed discoloration.

DATA SUMMARIES**LLCR:**

- 1) A total of 200 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

mOhm values	Air Processed		
	Actual	Delta	Delta
	Initial	Humidity- 240 Hours	Humidity- 480 Hours
Average	18.2	-0.1	0.2
St. Dev.	0.7	0.4	0.9
Min	16.0	-3.0	-3.2
Max	21.3	2.0	6.4
Count	200	200	200

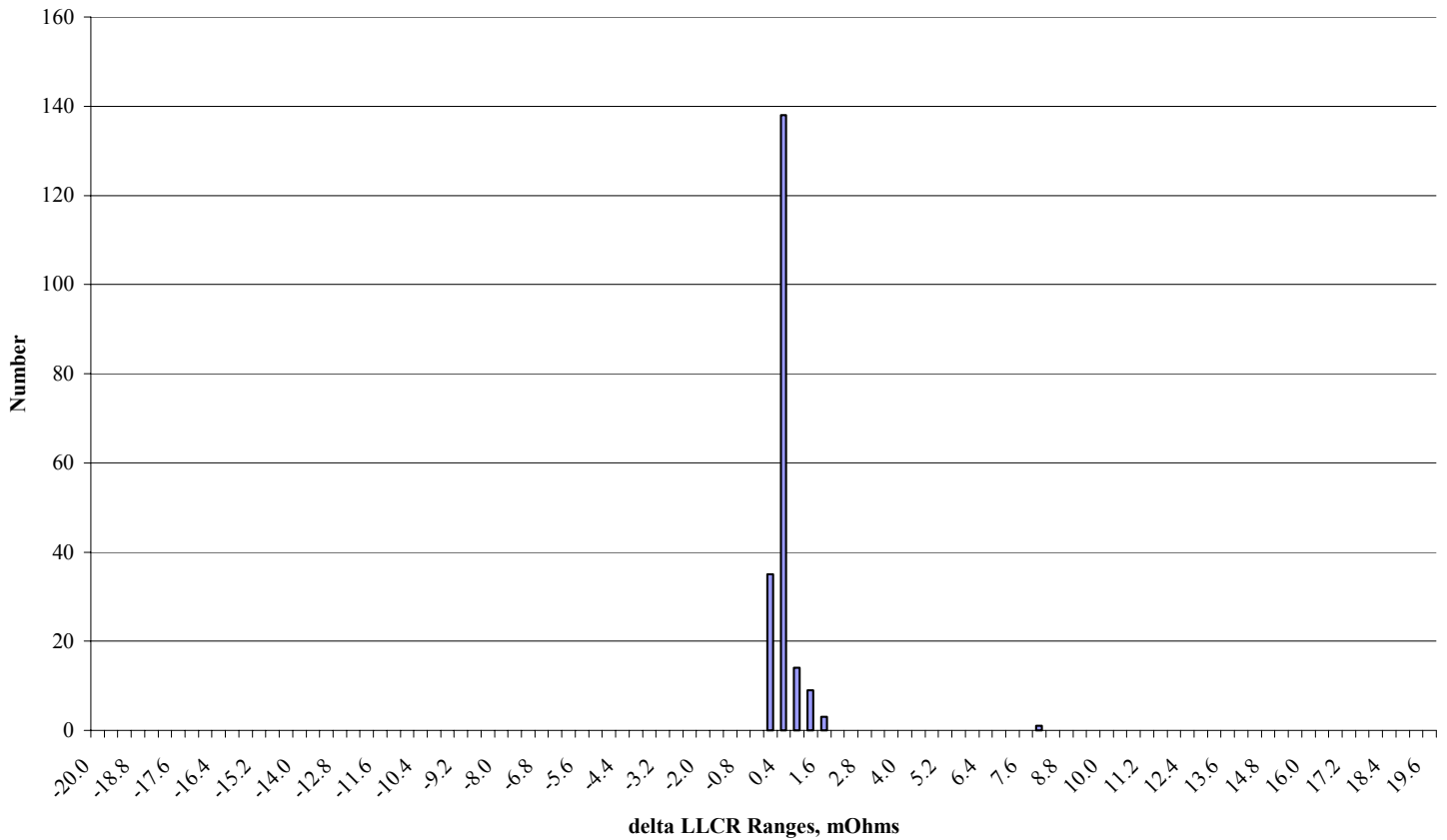
**Air Processed
After 480 Hours**



DATA SUMMARIES Continued

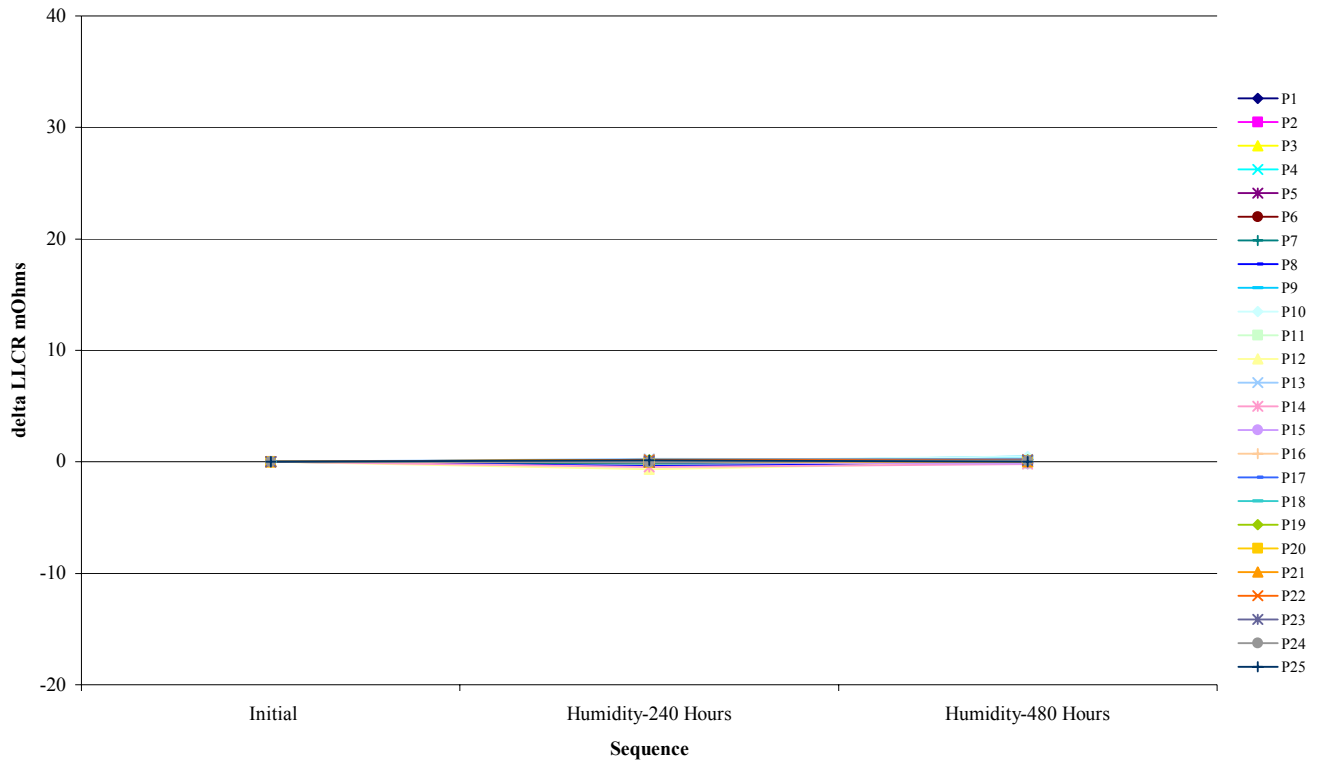
mOhm values	Nitrogen Processed		
	Actual	Delta	Delta
	Initial	Humidity- 240 Hours	Humidity- 480 Hours
Average	18.1	0.1	0.2
St. Dev.	0.6	0.2	0.6
Min	16.7	-0.5	-0.2
Max	20.8	1.1	7.7
Count	200	200	200

**Nitrogen Processed
After 480 Hours**

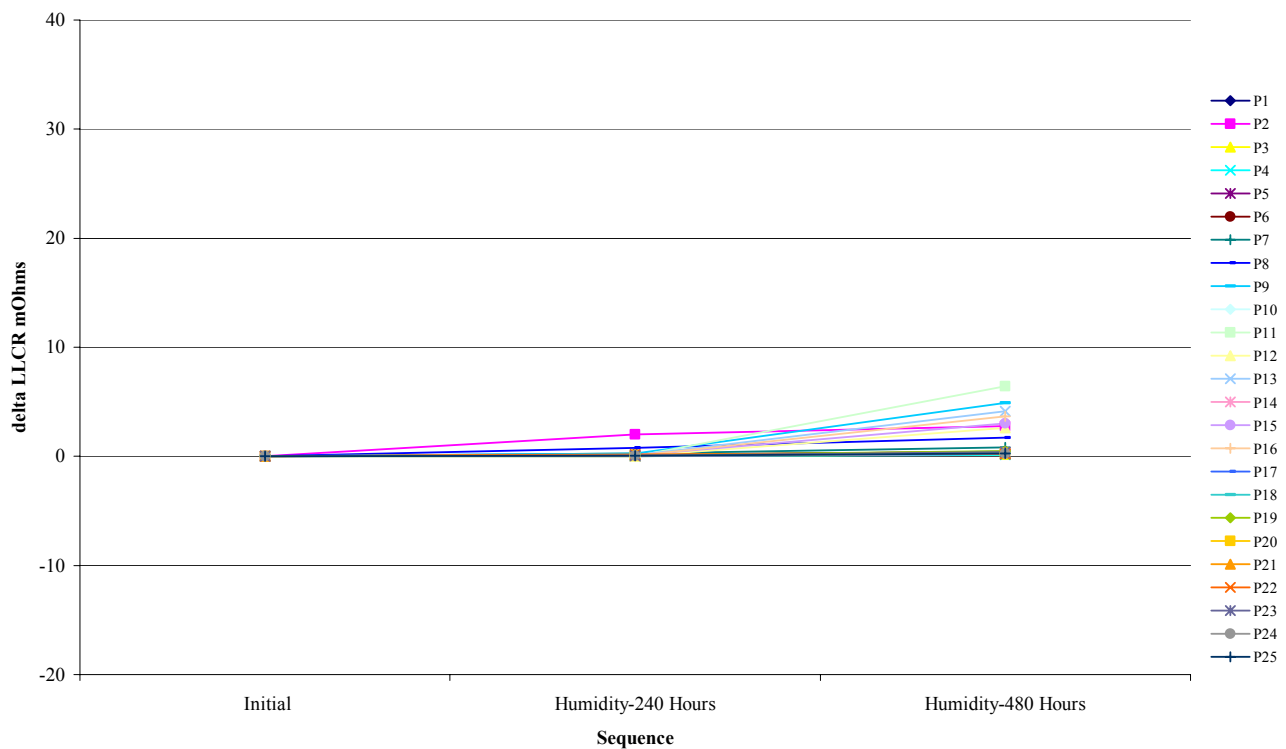


DATA SUMMARIES Continued

Air Processed
Board #1

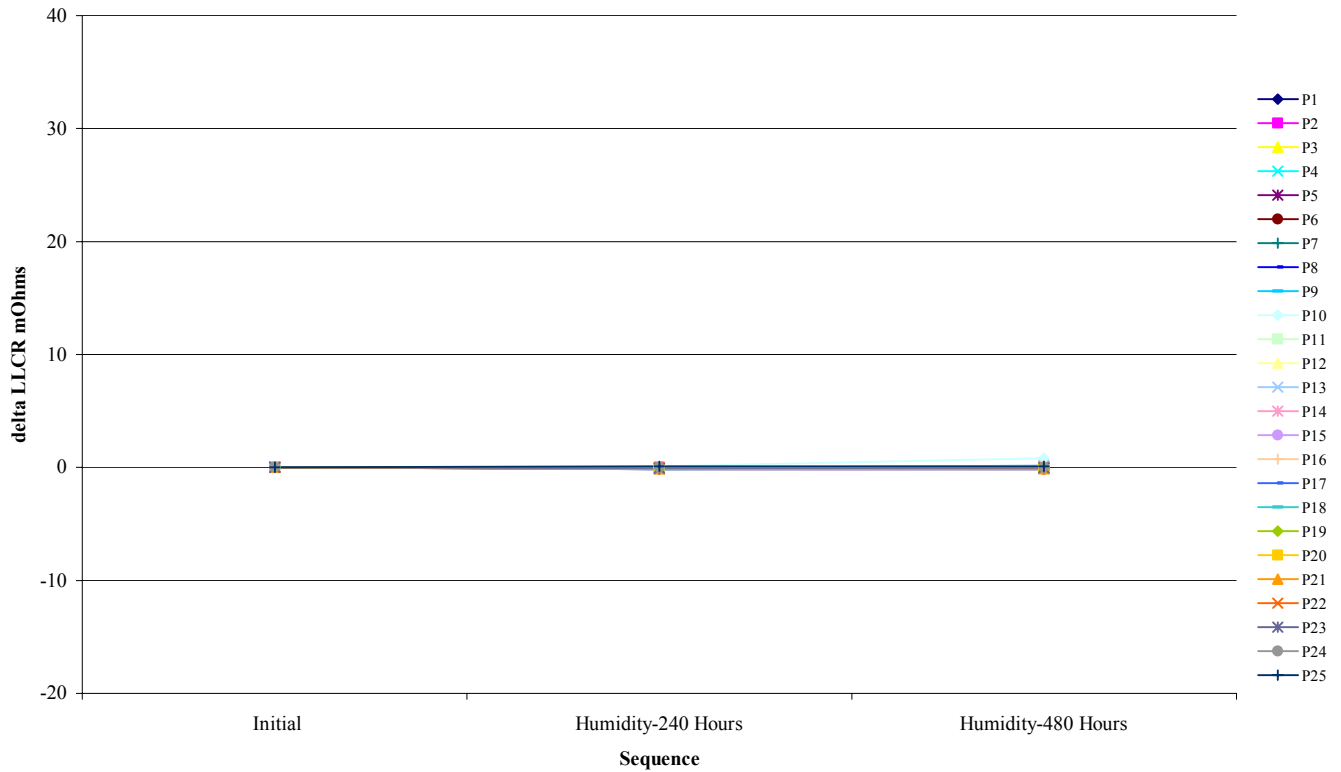


Air Processed
Board #2

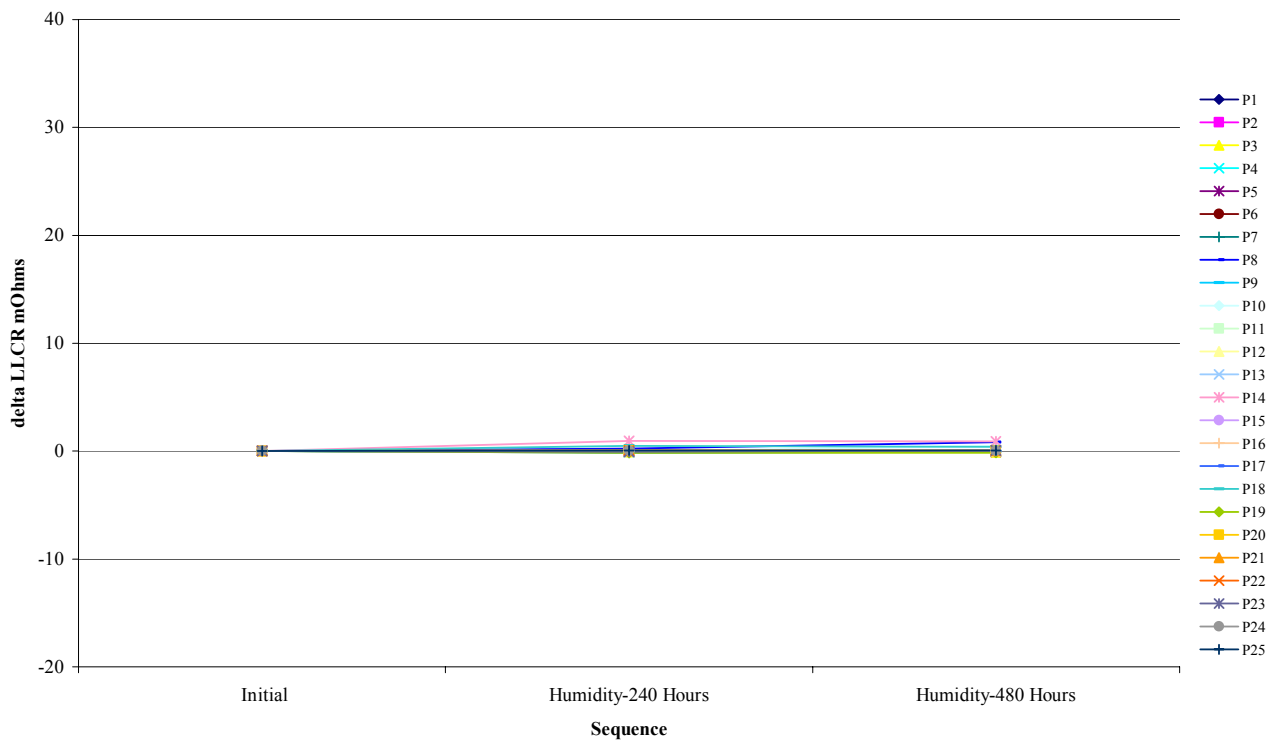


DATA SUMMARIES Continued

Air Processed
Board #3

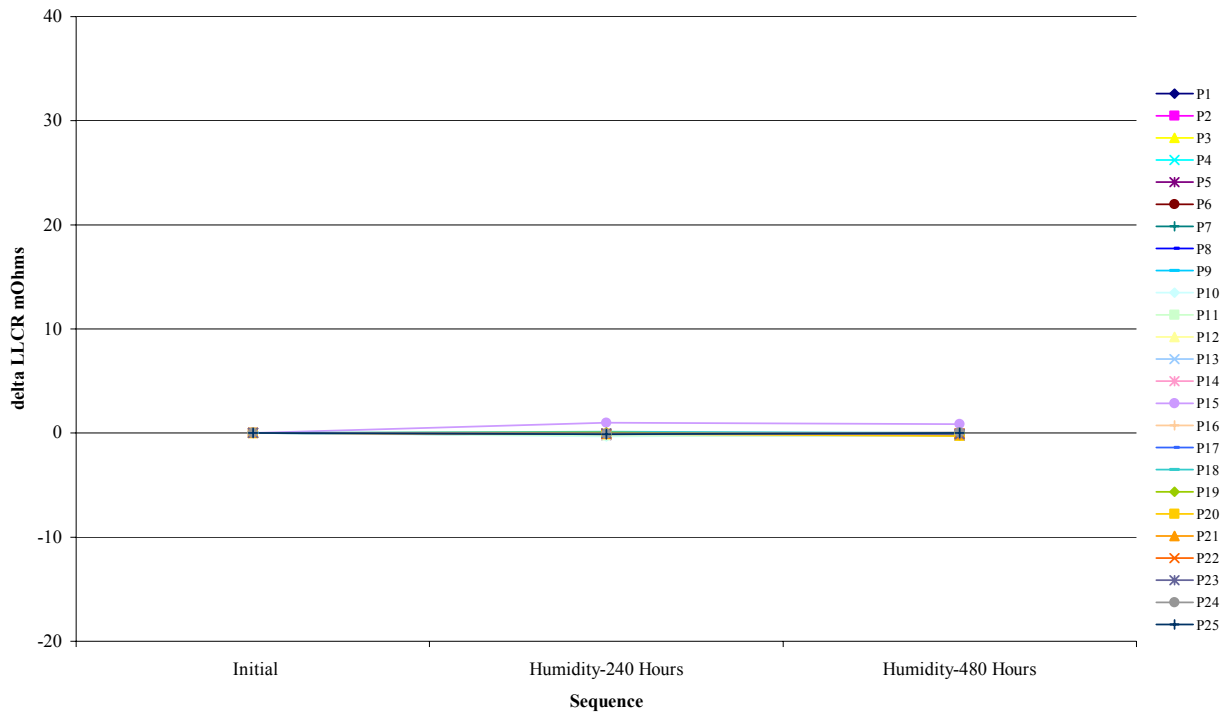


Sequence
Air Processed
Board #4

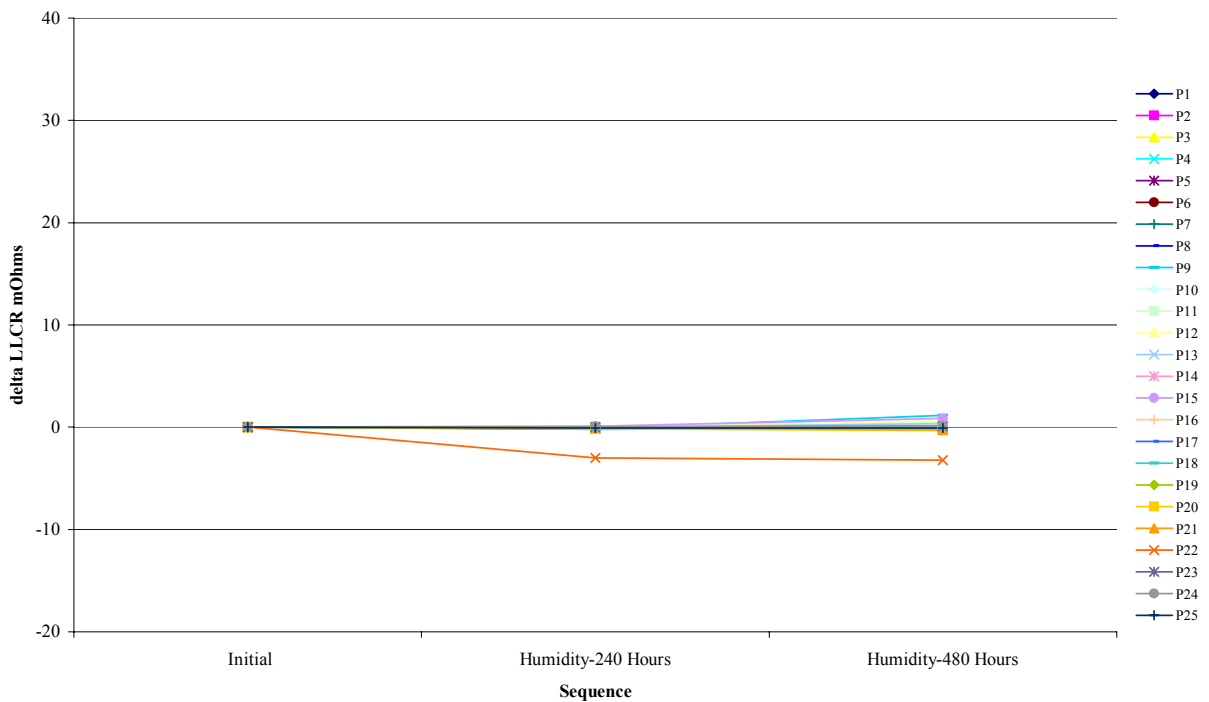


DATA SUMMARIES Continued

Air Processed
Board #5

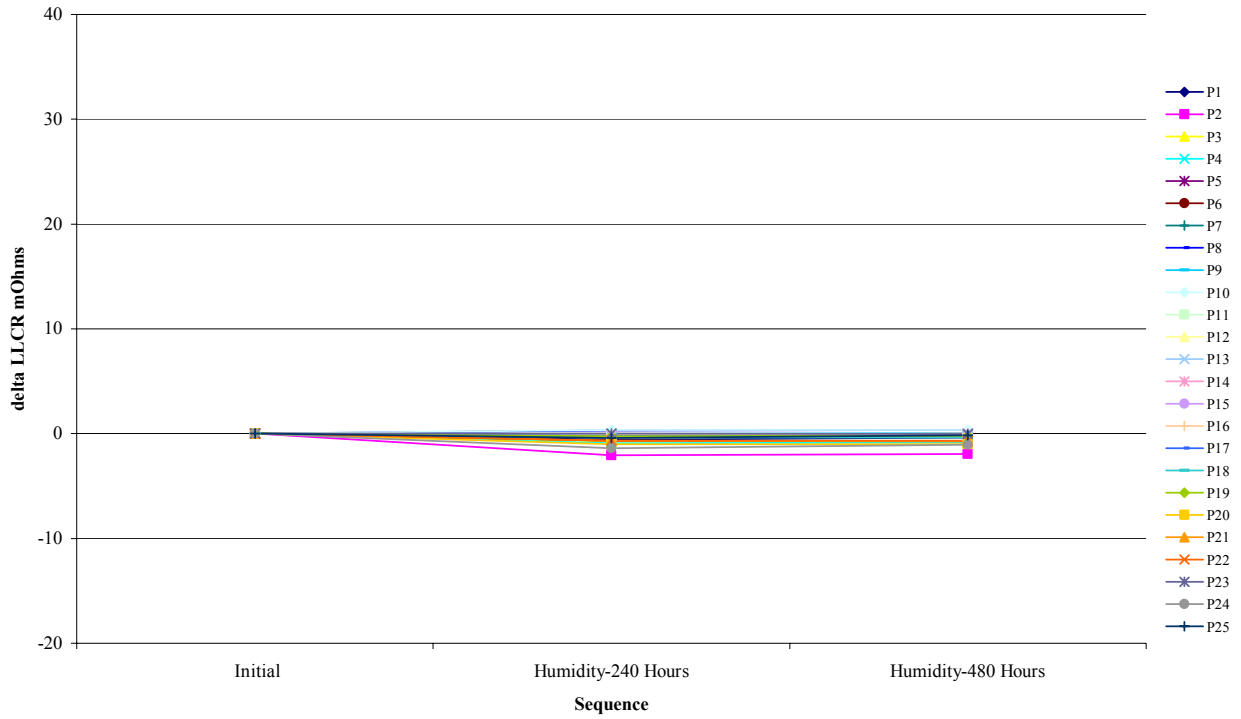


Air Processed
Board #6

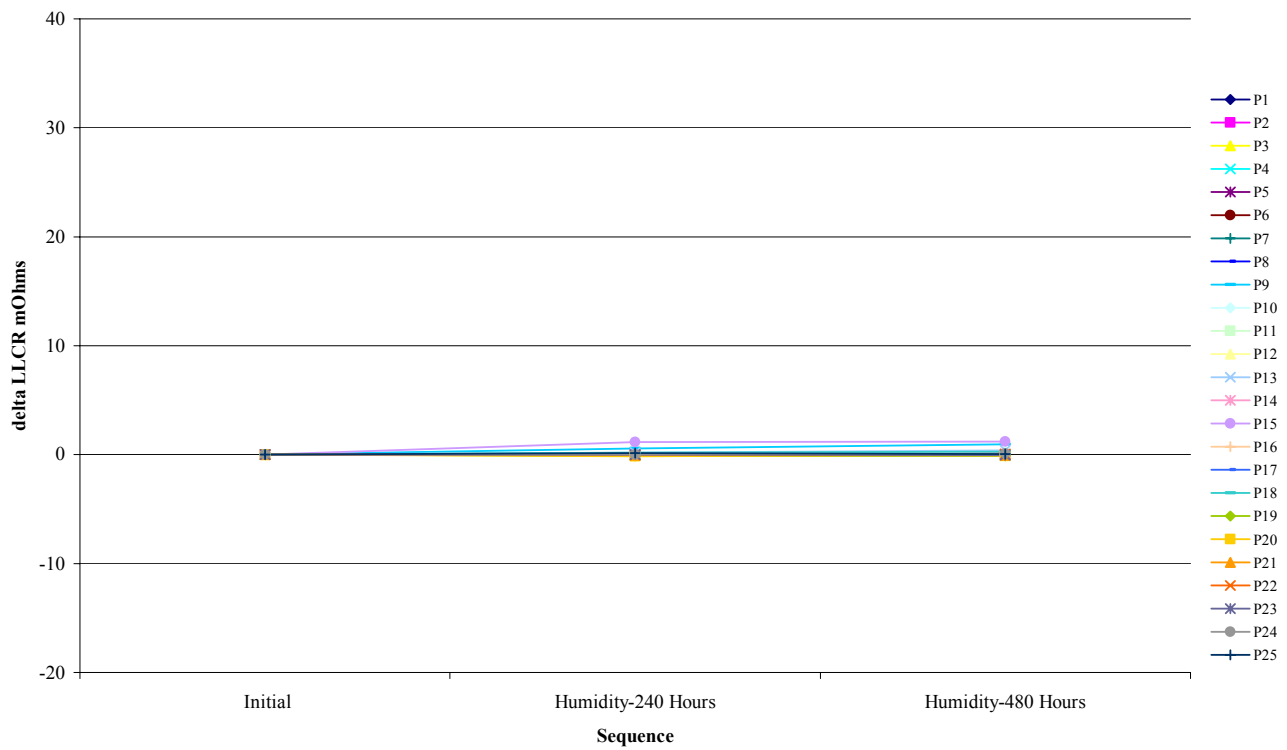


DATA SUMMARIES Continued

Air Processed
Board #7

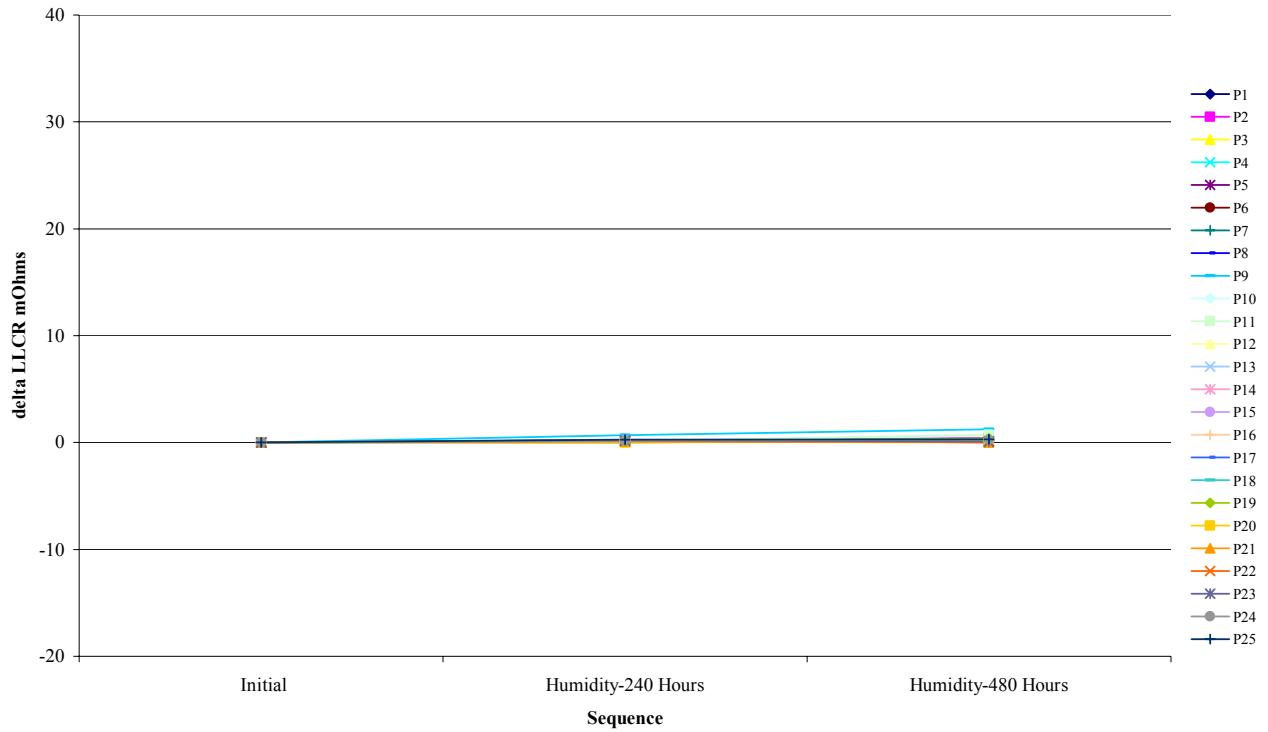


Air Processed Board #8



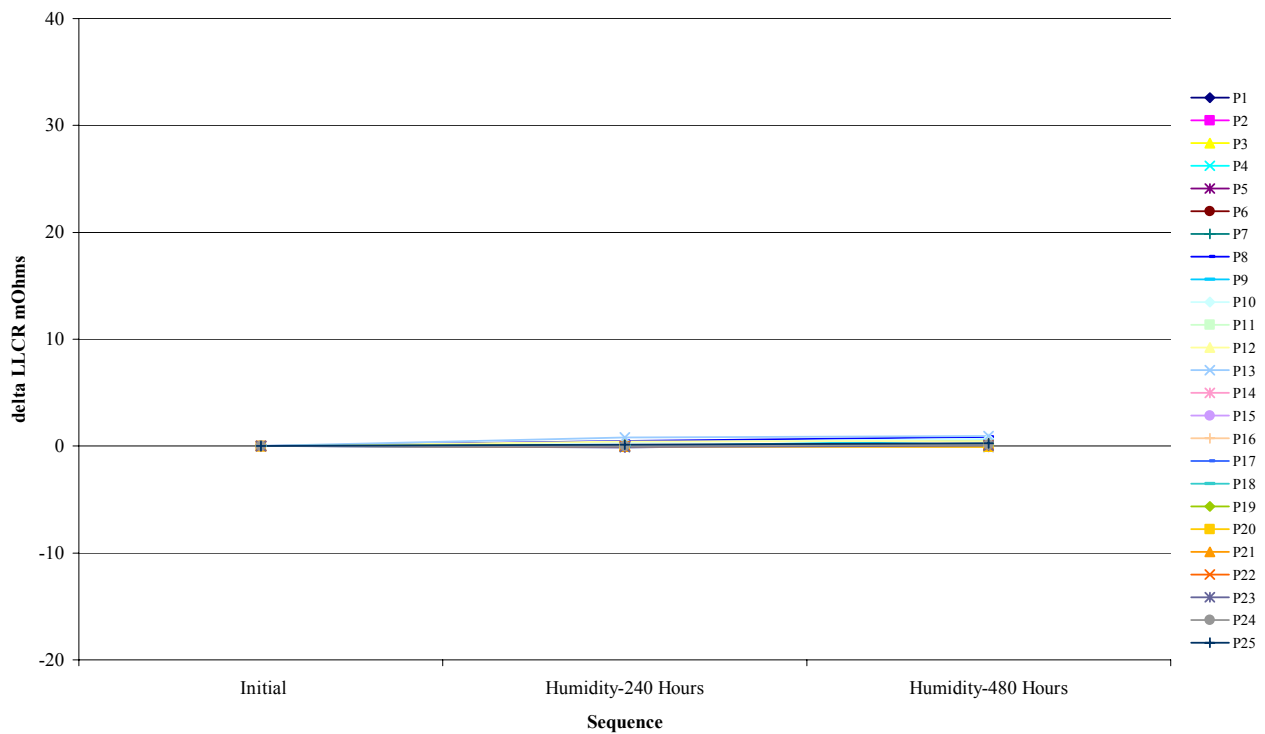
DATA SUMMARIES Continued

Nitrogen Processed
Board #1



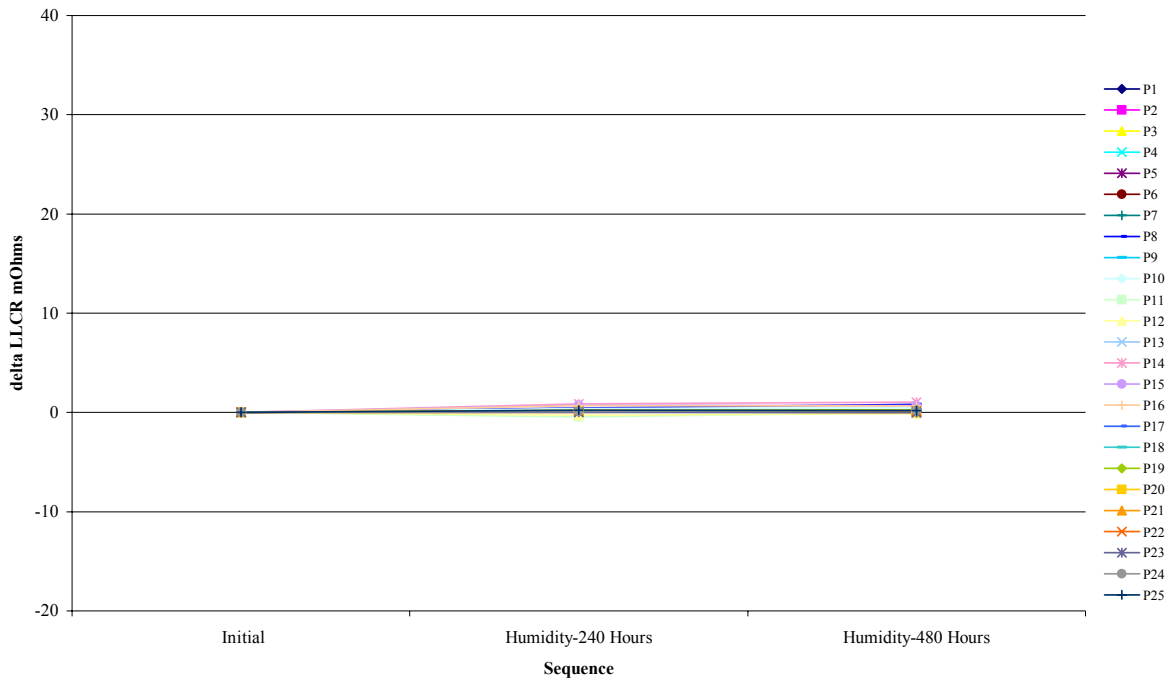
Nitrogen Processed

Board #2

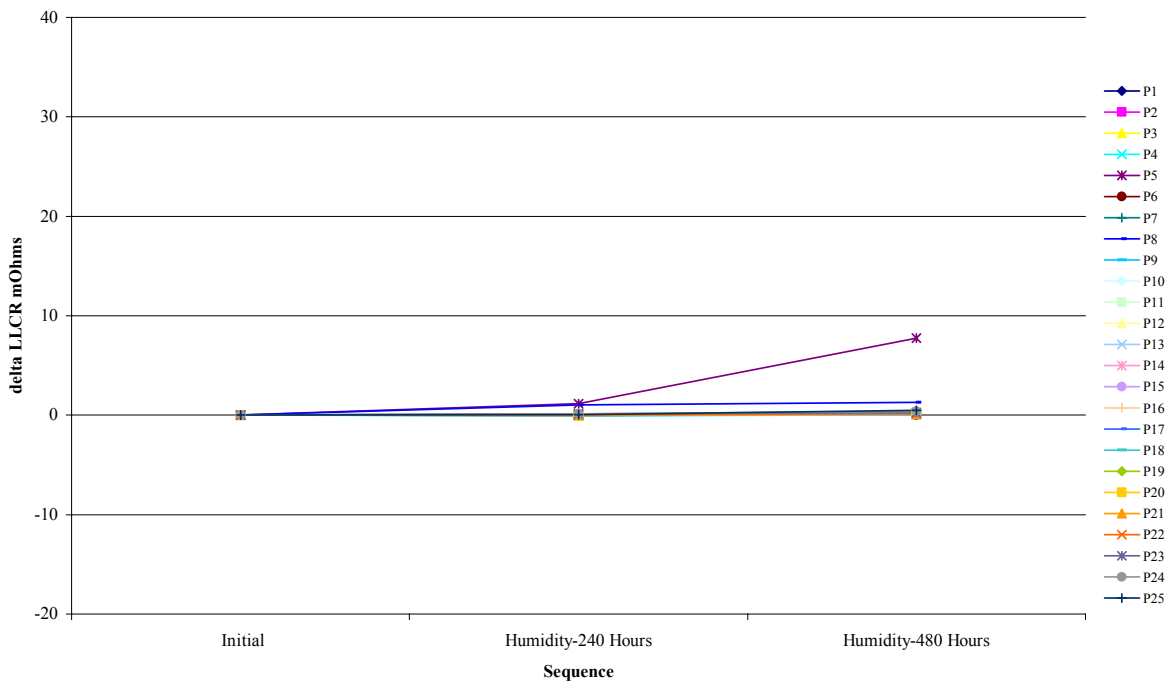


DATA SUMMARIES Continued

Nitrogen Processed Board #3

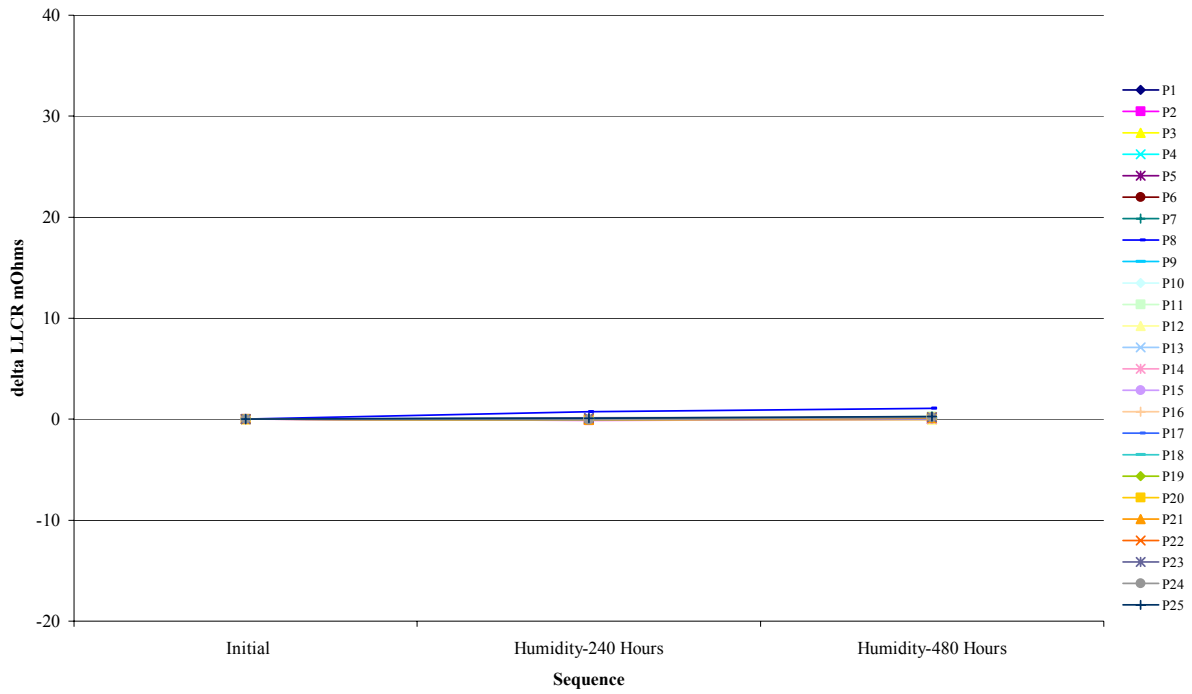


Nitrogen Processed Board #4

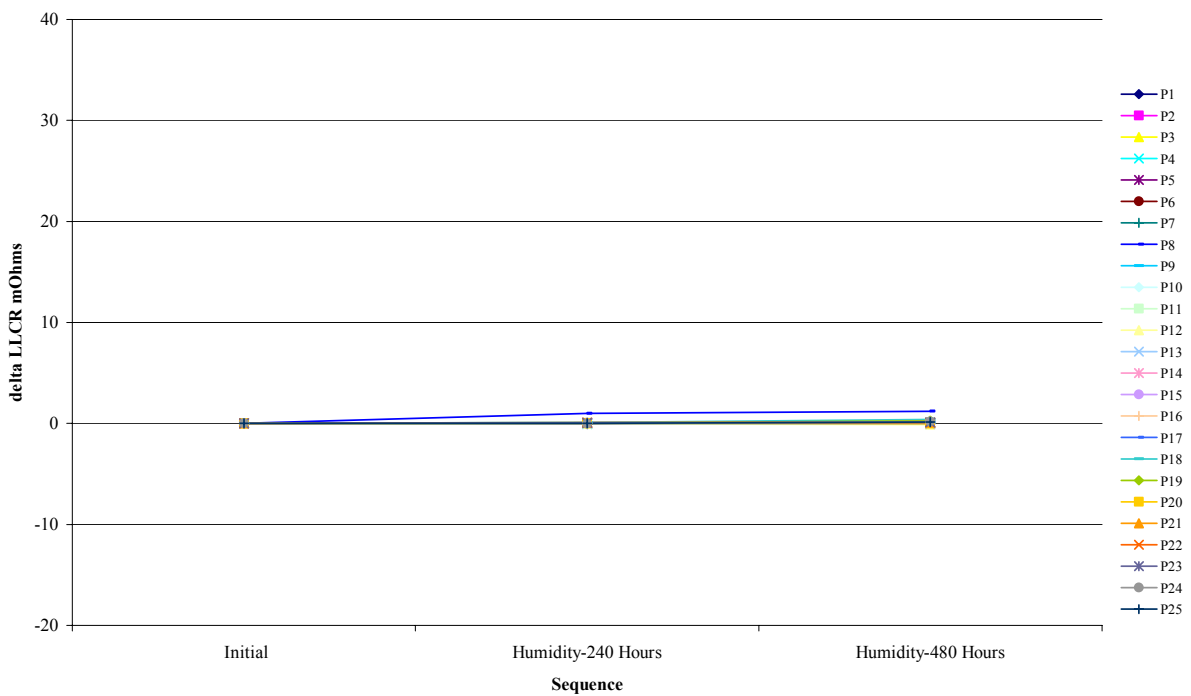


DATA SUMMARIES Continued

Nitrogen Processed Board #5

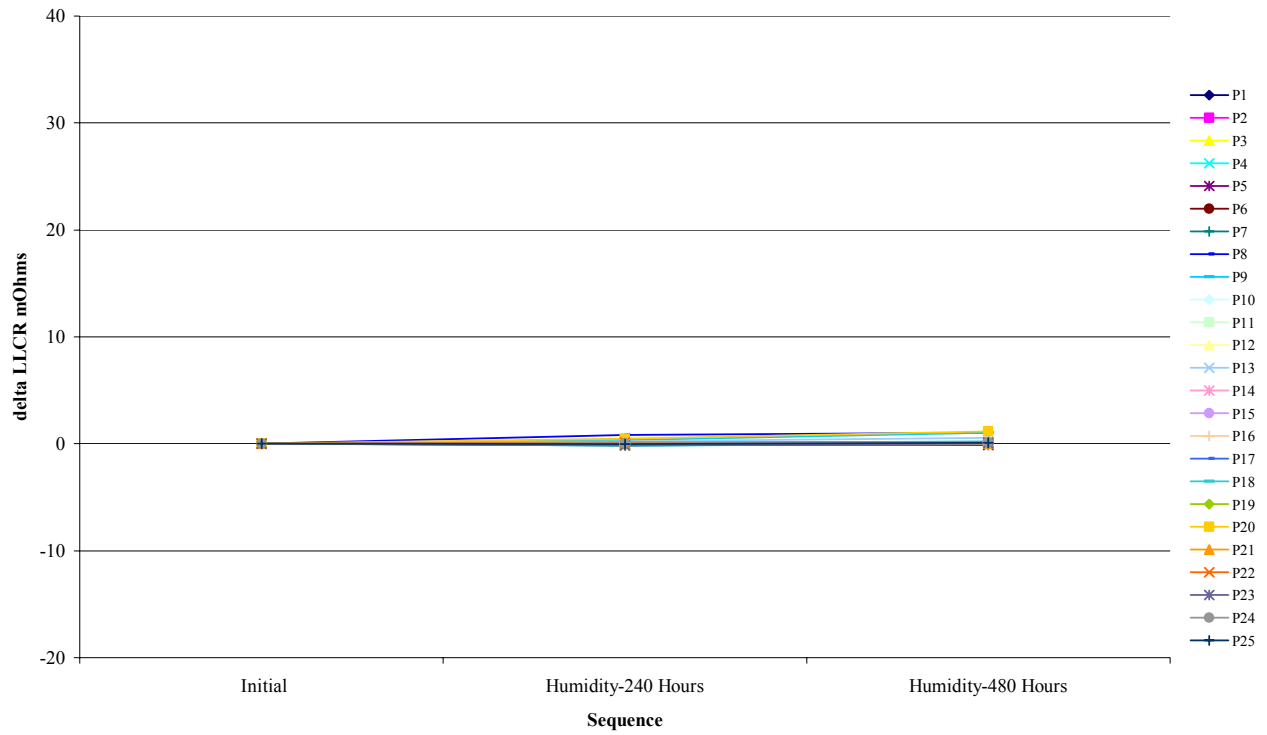


Nitrogen Processed Board #6

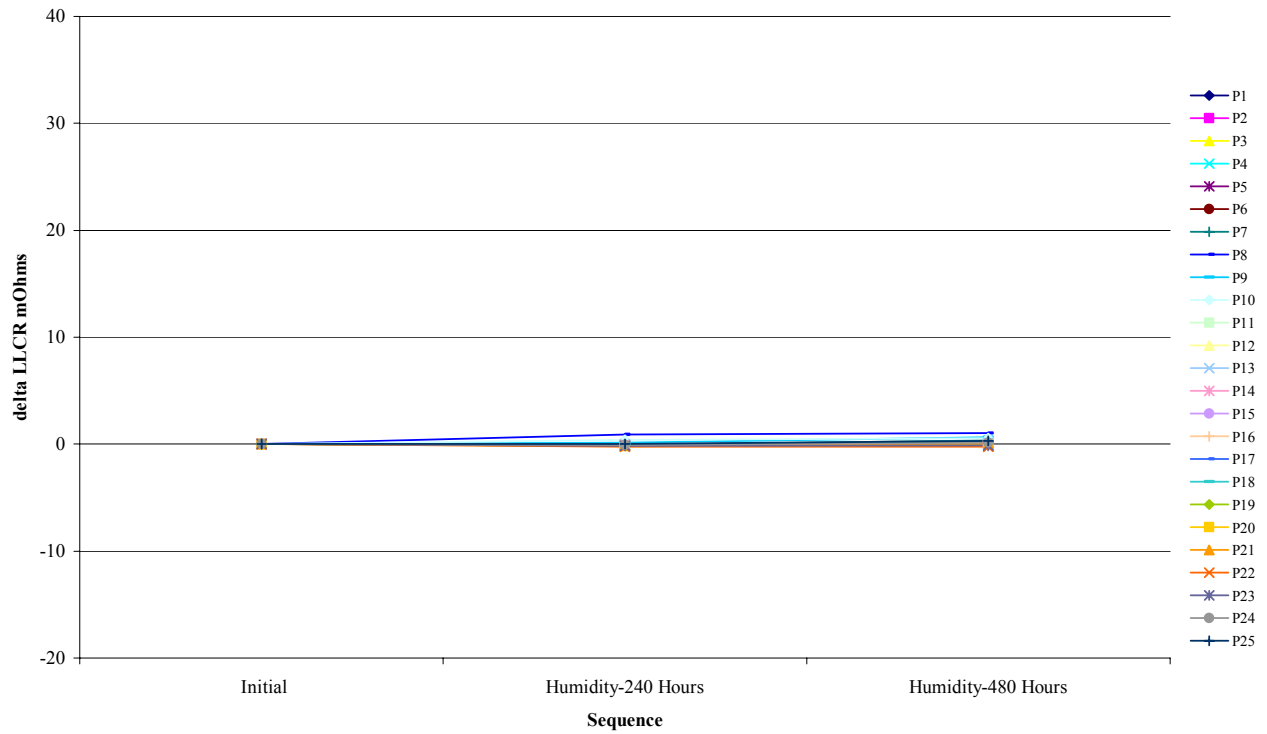


DATA SUMMARIES Continued

Nitrogen Processed Board #7



Nitrogen Processed Board #8



DATA**LLCR, Air Processed:**

Date	Jul. 17 2003	Aug. 05 2003	Aug. 19 2003
Room Temp C	20	23	21
RH	46%	57%	43%

mOhm values		Actual	Delta	Delta
Board	Position	Initial	Humidity- 240 Hours	Humidity- 480 Hours
1	P1	18.5	0.1	0.2
1	P2	18.9	0.0	0.0
1	P3	18.2	0.0	0.1
1	P4	18.5	0.1	0.0
1	P5	18.3	0.0	0.0
1	P6	18.7	0.0	0.0
1	P7	18.5	-0.2	0.0
1	P8	18.4	-0.4	-0.1
1	P9	17.7	0.0	0.5
1	P10	17.2	0.1	0.5
1	P11	17.7	0.0	-0.2
1	P12	17.9	-0.7	0.0
1	P13	17.7	0.3	0.2
1	P14	18.4	-0.4	-0.2
1	P15	16.8	0.0	-0.1
1	P16	18.1	0.0	0.1
1	P17	17.6	0.2	0.2
1	P18	17.5	0.1	0.1
1	P19	18.5	0.2	0.2
1	P20	18.5	0.0	0.1
1	P21	18.6	0.0	0.0
1	P22	18.0	0.2	0.2
1	P23	18.5	0.0	0.1
1	P24	18.0	0.0	0.1
1	P25	18.2	0.1	0.0
2	P1	19.0	0.1	0.4
2	P2	19.7	2.0	2.8
2	P3	18.8	0.0	0.2
2	P4	19.0	0.0	0.1
2	P5	18.8	0.0	0.2
2	P6	18.4	0.2	0.4
2	P7	18.7	0.3	0.8
2	P8	18.6	0.8	1.7
2	P9	19.0	0.3	4.9
2	P10	18.5	0.1	0.2
2	P11	17.9	0.0	6.4
2	P12	17.9	0.0	2.6

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

2	P13	18.6	0.1	4.2
2	P14	18.2	0.1	0.3
2	P15	18.1	0.1	3.0
2	P16	18.4	0.1	3.7
2	P17	17.8	0.1	0.3
2	P18	18.1	0.1	0.3
2	P19	19.0	0.1	0.5
2	P20	19.0	0.1	0.3
2	P21	19.0	0.1	0.3
2	P22	18.4	0.2	0.2
2	P23	18.8	0.0	0.4
2	P24	18.7	0.1	0.3
2	P25	19.0	0.1	0.2
3	P1	18.4	-0.1	0.0
3	P2	18.8	0.0	0.0
3	P3	18.6	0.0	0.0
3	P4	18.8	-0.1	-0.1
3	P5	18.8	-0.1	-0.1
3	P6	18.5	-0.2	-0.2
3	P7	18.5	-0.1	0.0
3	P8	18.5	0.0	0.1
3	P9	19.1	0.0	0.1
3	P10	17.7	0.1	0.8
3	P11	16.8	-0.1	0.0
3	P12	18.0	-0.1	0.1
3	P13	17.4	-0.2	0.2
3	P14	18.3	-0.1	0.1
3	P15	18.1	-0.1	-0.1
3	P16	18.2	0.0	0.1
3	P17	17.9	-0.1	-0.1
3	P18	17.8	-0.1	-0.1
3	P19	18.2	0.1	0.1
3	P20	19.0	-0.1	-0.1
3	P21	18.7	-0.1	-0.1
3	P22	18.2	0.0	0.0
3	P23	18.5	-0.1	0.0
3	P24	18.4	0.0	0.0
3	P25	18.4	0.1	0.1
4	P1	18.2	-0.1	0.0
4	P2	18.2	0.0	0.1
4	P3	18.0	-0.1	-0.1
4	P4	18.6	-0.1	0.0
4	P5	18.2	-0.1	-0.1
4	P6	18.2	0.0	0.0
4	P7	18.4	-0.2	-0.1
4	P8	17.1	0.2	0.8
4	P9	18.7	-0.1	0.0
4	P10	16.9	0.0	0.5
4	P11	16.5	0.1	0.1
4	P12	17.7	-0.1	0.0

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

4	P13	17.3	-0.1	0.0
4	P14	17.2	1.0	0.9
4	P15	18.2	0.0	0.0
4	P16	17.7	0.0	0.0
4	P17	17.6	-0.1	0.0
4	P18	17.3	0.5	0.4
4	P19	18.2	-0.2	-0.1
4	P20	18.9	0.0	0.0
4	P21	18.4	0.0	0.0
4	P22	18.0	0.1	0.1
4	P23	18.1	-0.1	0.1
4	P24	18.1	0.1	0.0
4	P25	18.4	0.0	0.1
5	P1	18.9	-0.1	-0.1
5	P2	18.4	-0.1	-0.1
5	P3	18.1	0.0	-0.1
5	P4	18.3	-0.2	-0.2
5	P5	18.9	-0.2	-0.2
5	P6	19.0	-0.1	-0.2
5	P7	18.7	-0.2	0.0
5	P8	17.9	0.0	0.0
5	P9	17.7	-0.1	-0.1
5	P10	18.3	-0.3	-0.2
5	P11	18.6	-0.2	-0.3
5	P12	18.4	-0.1	-0.1
5	P13	18.7	-0.1	0.0
5	P14	18.0	-0.1	-0.1
5	P15	16.7	1.0	0.9
5	P16	18.0	-0.1	-0.2
5	P17	18.5	0.0	-0.1
5	P18	18.2	0.1	0.0
5	P19	18.7	0.1	-0.2
5	P20	18.4	-0.1	-0.3
5	P21	18.5	-0.1	-0.1
5	P22	18.6	0.0	0.0
5	P23	18.2	0.0	-0.1
5	P24	18.5	-0.1	0.1
5	P25	18.8	-0.1	0.0
6	P1	18.4	0.0	0.0
6	P2	18.2	0.0	0.0
6	P3	18.3	-0.1	0.2
6	P4	17.9	0.0	0.0
6	P5	18.1	-0.1	-0.1
6	P6	18.7	0.0	-0.1
6	P7	18.5	-0.2	-0.1
6	P8	18.0	0.0	0.1
6	P9	16.7	-0.1	1.2
6	P10	16.7	-0.1	0.9
6	P11	16.9	0.1	0.4
6	P12	17.0	-0.1	0.6

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

6	P13	17.0	0.0	0.3
6	P14	17.5	-0.1	-0.2
6	P15	16.0	0.1	0.9
6	P16	17.4	0.0	0.1
6	P17	17.7	-0.2	-0.1
6	P18	17.7	-0.2	-0.1
6	P19	17.7	-0.1	0.0
6	P20	18.5	-0.2	-0.3
6	P21	18.3	-0.1	-0.2
6	P22	21.3	-3.0	-3.2
6	P23	18.0	0.0	0.1
6	P24	18.4	0.1	0.1
6	P25	18.3	-0.1	-0.1
7	P1	19.1	-0.6	-0.4
7	P2	20.7	-2.1	-1.9
7	P3	19.2	-0.8	-0.7
7	P4	19.8	-0.9	-0.8
7	P5	19.0	-0.2	-0.2
7	P6	19.2	-0.7	-0.7
7	P7	18.4	-0.2	-0.3
7	P8	17.9	0.3	0.3
7	P9	18.4	0.0	0.1
7	P10	17.5	0.4	0.4
7	P11	18.1	-0.2	-0.3
7	P12	18.1	-0.1	-0.1
7	P13	18.6	-0.2	-0.2
7	P14	18.1	-0.2	0.0
7	P15	18.0	-0.3	-0.1
7	P16	18.0	-0.1	0.0
7	P17	18.0	-0.2	-0.2
7	P18	18.0	-0.4	-0.4
7	P19	18.5	-0.3	-0.2
7	P20	20.1	-1.0	-1.0
7	P21	19.5	-0.7	-0.8
7	P22	18.7	-0.6	-0.6
7	P23	18.7	0.0	0.0
7	P24	19.9	-1.4	-1.1
7	P25	19.3	-0.4	-0.2
8	P1	18.4	-0.1	0.1
8	P2	18.0	0.0	0.0
8	P3	18.2	0.1	0.0
8	P4	17.9	0.0	0.0
8	P5	18.2	0.0	-0.1
8	P6	18.4	0.0	0.0
8	P7	18.3	0.0	0.0
8	P8	17.8	-0.1	0.0
8	P9	16.8	0.6	0.9
8	P10	16.7	0.1	0.3
8	P11	17.7	-0.1	0.0
8	P12	17.9	-0.1	-0.1

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

8	P13	16.7	0.2	0.4
8	P14	16.4	0.0	0.1
8	P15	16.3	1.2	1.2
8	P16	17.6	0.0	0.0
8	P17	18.3	0.0	0.0
8	P18	17.6	0.2	0.3
8	P19	18.0	-0.1	-0.1
8	P20	18.4	-0.2	0.0
8	P21	18.5	0.0	-0.1
8	P22	18.2	0.0	0.0
8	P23	17.9	0.0	0.0
8	P24	18.8	0.0	0.1
8	P25	18.2	0.1	0.1

DATA Continued**LLCR, Nitrogen Processed:**

	Date	Jul. 18 2003	Aug. 05 2003	Aug. 20 2003
Room Temp C		21	22	22
RH		49%	58%	62%

mOhm values		Actual	Delta	Delta
Board	Position	Initial	Humidity- 240 Hours	Humidity- 480 Hours
1	P1	18.4	0.2	0.3
1	P2	17.7	0.2	0.4
1	P3	18.0	0.0	0.2
1	P4	17.8	0.1	0.2
1	P5	18.0	0.2	0.2
1	P6	18.5	0.2	0.0
1	P7	18.5	0.1	0.1
1	P8	17.8	0.2	0.3
1	P9	16.8	0.7	1.3
1	P10	17.3	0.1	0.7
1	P11	16.8	0.2	0.8
1	P12	18.2	0.2	0.1
1	P13	17.0	0.3	0.1
1	P14	17.7	0.1	0.2
1	P15	17.6	0.2	0.2
1	P16	18.3	0.2	0.3
1	P17	18.3	0.0	0.2
1	P18	18.2	0.2	0.3
1	P19	18.3	0.1	0.4
1	P20	18.1	0.0	0.2
1	P21	18.3	0.1	0.0
1	P22	18.2	0.1	0.1
1	P23	17.8	0.2	0.1
1	P24	18.4	0.2	0.3
1	P25	17.9	0.3	0.3
2	P1	18.6	-0.1	0.2
2	P2	18.6	0.0	0.2
2	P3	18.4	0.1	0.1
2	P4	18.7	-0.1	-0.1
2	P5	18.7	0.0	0.1
2	P6	18.6	0.0	-0.1
2	P7	18.5	0.0	0.0
2	P8	17.1	0.5	0.9
2	P9	17.3	0.0	0.6
2	P10	16.9	0.3	0.7
2	P11	17.8	0.0	0.0
2	P12	17.4	0.4	0.5

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

2	P13	17.5	0.8	0.9
2	P14	18.0	-0.1	-0.1
2	P15	18.1	0.0	0.1
2	P16	18.5	-0.1	0.0
2	P17	18.0	0.0	0.2
2	P18	18.1	0.1	0.2
2	P19	18.3	0.1	0.0
2	P20	19.2	0.0	-0.1
2	P21	18.5	0.0	0.1
2	P22	18.6	0.0	0.1
2	P23	18.9	-0.1	0.0
2	P24	18.9	0.0	0.1
2	P25	19.1	0.1	0.3
3	P1	18.4	0.1	0.1
3	P2	18.6	0.1	0.3
3	P3	18.3	0.0	0.1
3	P4	18.5	0.1	0.1
3	P5	18.5	0.1	0.0
3	P6	18.6	0.1	0.2
3	P7	18.4	0.1	0.3
3	P8	17.3	0.4	0.8
3	P9	17.6	0.2	0.3
3	P10	17.1	0.4	0.5
3	P11	17.7	-0.5	0.0
3	P12	17.4	-0.3	-0.1
3	P13	17.5	0.1	0.2
3	P14	17.5	0.9	1.0
3	P15	17.2	0.7	0.7
3	P16	17.6	0.7	0.7
3	P17	18.0	0.1	0.1
3	P18	17.9	0.2	0.3
3	P19	18.8	0.2	0.3
3	P20	19.0	0.1	0.0
3	P21	18.7	0.2	0.1
3	P22	18.5	0.0	0.1
3	P23	18.8	0.0	0.0
3	P24	18.7	0.1	0.2
3	P25	19.1	0.2	0.2
4	P1	18.0	0.0	0.2
4	P2	18.0	0.0	0.1
4	P3	17.8	0.0	0.1
4	P4	18.0	-0.1	0.1
4	P5	19.1	1.1	7.7
4	P6	18.1	0.0	0.0
4	P7	17.9	0.0	0.1
4	P8	16.7	1.0	1.3
4	P9	18.2	0.0	0.0
4	P10	17.6	0.1	0.1
4	P11	17.4	0.0	0.2
4	P12	17.5	0.1	0.1

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

4	P13	18.1	0.0	0.1
4	P14	18.0	0.0	0.1
4	P15	17.7	0.1	0.2
4	P16	17.7	0.1	0.3
4	P17	17.3	0.1	0.4
4	P18	17.5	0.1	0.4
4	P19	18.0	0.0	0.1
4	P20	18.5	0.0	0.1
4	P21	17.9	0.0	0.2
4	P22	17.9	0.0	0.1
4	P23	18.2	0.2	0.3
4	P24	18.3	0.1	0.4
4	P25	18.1	0.1	0.5
5	P1	18.8	0.0	0.2
5	P2	18.3	-0.1	0.0
5	P3	18.4	0.0	0.0
5	P4	18.2	0.0	0.1
5	P5	18.1	-0.1	0.0
5	P6	18.9	-0.1	0.0
5	P7	18.6	0.0	0.1
5	P8	17.0	0.7	1.1
5	P9	16.7	0.1	0.1
5	P10	17.3	0.0	0.1
5	P11	18.0	0.0	0.3
5	P12	18.1	0.0	-0.1
5	P13	17.3	0.0	0.0
5	P14	17.7	0.0	0.0
5	P15	17.4	0.0	0.0
5	P16	17.6	0.0	0.2
5	P17	18.4	0.0	0.0
5	P18	17.9	0.1	0.2
5	P19	18.1	0.0	0.2
5	P20	18.3	-0.1	0.2
5	P21	18.4	-0.1	0.1
5	P22	19.3	0.0	0.2
5	P23	18.2	0.2	0.2
5	P24	18.4	-0.1	0.2
5	P25	18.3	0.1	0.3
6	P1	18.6	-0.1	0.0
6	P2	18.4	0.0	0.0
6	P3	18.4	0.0	0.1
6	P4	18.1	-0.1	0.0
6	P5	18.7	0.0	0.0
6	P6	18.6	0.0	0.1
6	P7	18.6	0.0	0.1
6	P8	17.1	1.0	1.2
6	P9	16.7	0.1	0.1
6	P10	17.4	0.0	0.0
6	P11	18.5	0.1	0.1
6	P12	18.3	0.0	-0.1

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

6	P13	18.6	0.0	-0.1
6	P14	17.9	0.0	0.1
6	P15	17.8	0.0	0.1
6	P16	18.0	0.0	0.1
6	P17	18.8	0.0	0.2
6	P18	18.3	0.1	0.4
6	P19	18.5	0.0	0.3
6	P20	18.4	0.0	0.0
6	P21	18.5	0.0	0.1
6	P22	18.4	0.1	0.1
6	P23	18.1	0.0	0.1
6	P24	18.6	0.0	0.2
6	P25	18.2	0.0	0.1
7	P1	17.9	0.0	0.2
7	P2	18.3	0.0	0.0
7	P3	17.9	-0.1	0.1
7	P4	18.2	-0.2	0.0
7	P5	18.2	0.0	-0.1
7	P6	18.5	0.0	0.0
7	P7	17.9	-0.2	0.0
7	P8	17.1	0.8	1.0
7	P9	17.2	0.4	1.0
7	P10	16.7	0.0	0.0
7	P11	17.4	0.0	0.0
7	P12	17.6	0.0	0.1
7	P13	17.8	0.2	0.6
7	P14	18.0	0.0	0.0
7	P15	17.8	0.0	0.0
7	P16	17.7	0.0	0.0
7	P17	17.5	-0.1	0.0
7	P18	17.5	0.1	0.2
7	P19	18.4	0.0	0.1
7	P20	20.8	0.5	1.2
7	P21	17.9	0.0	0.0
7	P22	17.7	0.2	0.2
7	P23	18.2	-0.2	0.1
7	P24	18.1	0.1	0.1
7	P25	18.4	0.0	0.1
8	P1	18.6	-0.1	0.1
8	P2	18.7	-0.1	0.0
8	P3	18.3	-0.1	0.0
8	P4	18.6	-0.1	-0.1
8	P5	18.9	-0.1	-0.2
8	P6	18.7	0.0	0.1
8	P7	18.6	-0.1	0.3
8	P8	17.5	0.9	1.0
8	P9	17.5	0.1	0.7
8	P10	17.3	0.4	0.6
8	P11	18.0	-0.1	0.0
8	P12	18.0	-0.1	0.0

Tracking Code: TC0327-N/A-0226

Part #: FC1-25-01-T-LC

Part description: FC1

8	P13	18.5	0.0	0.1
8	P14	18.3	-0.1	-0.1
8	P15	18.2	-0.1	0.0
8	P16	18.3	-0.1	-0.1
8	P17	17.8	0.0	0.1
8	P18	17.8	0.0	0.3
8	P19	18.7	-0.1	0.1
8	P20	19.1	-0.2	-0.1
8	P21	18.6	-0.1	0.0
8	P22	18.3	-0.2	-0.2
8	P23	18.8	-0.2	-0.1
8	P24	18.3	-0.1	0.1
8	P25	18.8	0.0	0.3

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