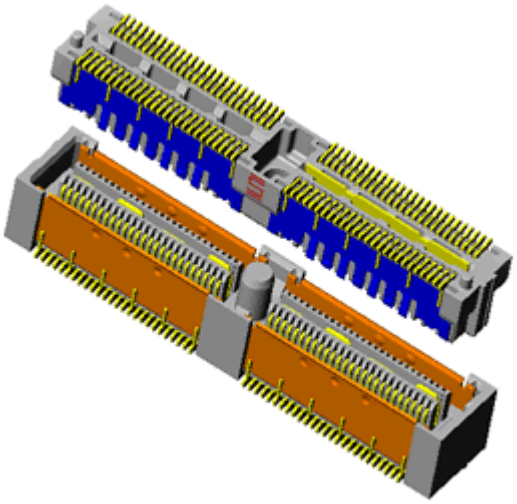
Project Number:	Tracking Code: TC0253--0068		
Requested by: Ed Messer	Date: 12/31/2002	Product Rev: 5	
Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A	Lot #: 0	Tech: GL / TC	Eng: J. Tozier
Part description: QFSS / QMSS			Qty to test: 75
Test Start: 02/03/2003	Test Completed: 4/11/2003		



DVT testing
Summary Report

PART DESCRIPTION

QMSS-104-11-L-D-A/QFSS-104-01-L-D-A

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to IS0 10012-l and ANSI/NCSL 2540-1, as applicable.

SCOPE

To perform the following tests: DVT testing.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

1) All materials were manufactured in accordance with the applicable product specification.
2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
3) After soldering, the parts to be used for LLCR testing were cleaned according to TLWI-0001:
   a) Sample test boards are to be ultrasonically cleaned after test lead attachment, preparation and/or soldering using the following process.
   b) Sample test boards are immersed into Branson 3510 cleaner containing Kyzen Ionox HC1 (or equivalent) with the following conditions:
      i) Temperature: ----------55° C+/- 5° C
      ii) Frequency:----------40 KHz
      iii) Immersion Time: ----------5 to 10 Minutes
      iv) Sample test boards are removed and placed into the Branson 3510 cleaner containing deionized water with the following conditions:
      v) Temperature: ----------55° C +/- 5° C
      vi) Frequency:----------40 KHz
      vii) Immersion Time: ----------5 to 10 Minutes
      viii) Sample test boards are removed and placed in a beaker positioned on a hot plate with a magnetic stirrer containing deionized water warmed to 55° C +/- 5° C for 1/2 to 1 minute
   c) Upon removal, the sample test boards are rinsed for 1/2 to 1 minute in room temperature free flowing deionized water.
   d) After the final rinse, the sample test boards are dried in an air-circulating oven for 10 to 15 minutes at 50° C +/- 5° C
   e) Sample test boards are then allowed to set and recover to room ambient condition prior to testing.
4) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
5) Any additional preparation will be noted in the individual test procedures.

FLOWCHARTS

TEST STEP	GROUP A 1 board min 4 Contacts in series	GROUP B 1 board min GP
01	CCC	CCC

Tabulate calculated current at RT, 80° C, 95° C and 100° C after derating 20% and based on 125° C, EIA-364-70

TEST STEP	GROUP 1a 10 Boards
	Mating / Unmating
01	Data Review
02	100 Cycles
03	Mating / Unmating

Mating/Un-Mating Forces = EIA-364-13

TEST STEP	GROUP 1 2 Boards Ambient	GROUP 2A 2 Boards Ambient	GROUP 2b 2 Boards Thermal	GROUP 2c 2 Boards Humidity
01	IR	DWV/Working Voltage	Thermal Aging	Humidity
02	Data Review		DWV/Working Voltage	DWV/Working Voltage
03	Thermal Aging			
04	IR			
05	Data Review			
06	Humidity			
07	IR			

Thermal Aging = EIA-364-17, Test Condition 4, 105 deg C;
Time Condition 'B' for 250 hours
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. Pre-condition at ambient.

FLOWCHARTS Continued

TEST STEP	GROUP A 200 Points w/ Shields 100 Cycles	GROUP B 200 Points wo/ Shields 100 Cycles
01	LLCR-1	LLCR-1
02	Data Review	Data Review
03	100 Cycles	100 Cycles
04	LLCR-2	LLCR-2
05	Data Review	Data Review
06	Thermal Age	Thermal Age
07	LLCR-3	LLCR-3
08	Data Review	Data Review
09	Cyclic Humidity	Cyclic Humidity
10	LLCR-4	LLCR-4

Thermal Aging = EIA-364-17, Test Condition 4, 105 deg C;
Time Condition 'B' for 250 hours
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. Pre-condition at ambient.
LLCR = EIA-364-23, LLCR
use Keithley 580 in the dry circuit mode, 10 mA Max
Mating/Un-Mating Forces = EIA-364-13

Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

ATTRIBUTE DEFINITIONS

Following is a brief, simplified description of attributes.

THERMAL AGING:

1) EIA-364-17, *Temperature Life with or without Electrical Load Test Procedure for Electrical Connectors.*
   a) Test Condition 4 at 105° C.
   b) Test Time Condition B for 250 hours.
2) Connectors are mated.

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 and pre-conditioned at ambient.

TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) EIA-364-70, *Temperature Rise versus Current Test Procedure for Electrical Connectors and Sockets*.
2) When current passes through a contact, the temperature of the contact increases as a result of I^2R (resistive) heating.
3) The number of contacts being investigated plays a significant part in power dissipation and therefore temperature rise.
4) The size of the temperature probe can affect the measured temperature.
5) Copper traces on PC boards will contribute to temperature rise:
   a) Self heating (resistive)
   b) Reduction in heat sink capacity affecting the heated contacts
6) A de-rating curve, usually 20%, is calculated.
7) Calculated de-rated currents at three temperature points are reported:
   a) Ambient
   b) $80\ ^{o}$ C
   c) $95\ ^{o}$ C
   d) $100\ ^{o}$ C
8) Typically, neighboring contacts (in close proximity to maximize heat build up) are energized.
9) The thermocouple (or temperature measuring probe) will be positioned at a location to sense the MAXIMUM temperature in the vicinity of the heat generation area.
10) A computer program, *TR 803.exe*, ensures accurate stability for data acquisition.
11) Hook-up wire cross section is larger than the cross section of any connector leads/PC board traces, jumpers, etc.
12) Hook-up wire length is longer than the minimum specified in the referencing standard.

ATTRIBUTE DEFINITIONS Continued

MATING/UNMATING:

1) Reference document: EIA-364-13, *Mating and Unmating Forces Test Procedure for Electrical Connectors*.
2) The full insertion position was to within 0.003" to 0.004" of the plug bottoming out in the receptacle to prevent damage to the system under test.
3) One of the mating parts is secured to a floating X-Y table to prevent damage during cycling.

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

To determine if the sockets can operate at its rated voltage and withstand momentary over potentials due to switching, surges, and other similar phenomenon. Separate samples are used to evaluate the effect of environmental stresses so not to influence the readings from arcing that occurs during the measurement process.

1) PROCEDURE:
   a) Reference document: EIA-364-20, *Withstanding Voltage Test Procedure for Electrical Connectors*.
   b) Test Conditions:
      i) Between Adjacent Contacts
      ii) Mated
      iii) Unmounted
      iv) Rate of Application 500 V/Sec
      v) Test Voltage (VAC) until breakdown occurs
2) MEASUREMENTS/CALCULATIONS
   a) The breakdown voltage shall be measured and recorded.
   b) The dielectric withstanding voltage shall be recorded as 75% of the minimum breakdown voltage.
   c) The working voltage shall be recorded as one-third (1/3) of the dielectric withstanding voltage (one-fourth of the breakdown voltage).

INSULATION RESISTANCE (IR):

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.

1) PROCEDURE:
   a) Reference document: EIA-364-21, *Insulation Resistance Test Procedure for Electrical Connectors*.
   b) Test Conditions:
      i) Between Adjacent Contacts
      ii) Mated
      iii) Unmounted
      iv) Electrification Time 2.0 minutes
      v) Test Voltage (VDC) corresponding to calibration settings for measuring resistances
2) MEASUREMENTS:
   a) When the specified test voltage is applied (VDC), the insulation resistance shall not be less than 5000 megohms.

ATTRIBUTE DEFINITIONS Continued

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) <= +5.0 mOhms: ---------- Stable
   b) +5.1 to +10.0 mOhms:---------- Minor
   c) +10.1 to +15.0 mOhms: ---------- Acceptable
   d) +15.1 to +50.0 mOhms: ---------- Marginal
   e) +50.1 to +2000 mOhms: ---------- Unstable
   f) >+2000 mOhms:---------- Open Failure

Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

RESULTS

Temperature Rise, CCC

- **Contacts at 95°C, relative to 125°C ----------3.4 A at 20% de-rated with 4 adjacent conductors powered**
- **Ground Planes----------7.8 A at 20% de-rated with 2 adjacent GP powered**

Mating – Unmating Forces

- **Initial**
  - **Mating**
    - **Min ----------16.68 lbs**
    - **Max----------22.80 lbs**
  - **Unmating**
    - **Min ----------12.40 lbs**
    - **Max----------17.98 lbs**
- **After 100 Cycles**
  - **Mating**
    - **Min ----------18.92 lbs**
    - **Max----------27.20 lbs**
  - **Unmating**
    - **Min ----------16.08 lbs**
    - **Max----------23.76 lbs**

Dielectric Withstanding Voltage minimums, DWV

- **Initial**
  - **Breakdown**
    - **Mated ---------- 1500 VAC**
    - **Unmated---------- 1450 VAC**
  - **DWV**
    - **Mated ---------- 1125 VAC**
    - **Unmated---------- 1088 VAC**
  - **Working voltage**
    - **Mated ----------375 VAC**
    - **Unmated----------363 VAC**
- **Thermal**
  - **Breakdown**
    - **Mated ---------- 1350 VAC**
    - **Unmated---------- 1450 VAC**
  - **DWV**
    - **Mated ---------- 1013 VAC**
    - **Unmated---------- 1088 VAC**
  - **Working voltage**
    - **Mated ----------338 VAC**
    - **Unmated----------363 VAC**

- **Humidity**
  - **Breakdown**
    - **Mated ---------- 1300 VAC**
    - **Unmated---------- 1350 VAC**
  - **DWV**
    - **Mated ----------975 VAC**
    - **Unmated---------- 1013 VAC**
  - **Working voltage**
    - **Mated ----------325 VAC**
    - **Unmated----------338 VAC**

Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

RESULTS Continued

Insulation Resistance minimums, IR

- **Initial**
  - **Mated ---------- 100,000 Meg Ω ---------- Pass**
  - **Unmated ---------- 50,000 Meg Ω**
- **Thermal**
  - **Mated ---------- 100,000 Meg Ω**
  - **Unmated ---------- 100,000 Meg Ω**
- **Humidity**
  - **Mated ---------- 100,000 Meg Ω**
  - **Unmated ---------- 100,000 Meg Ω**

LLCR Durability with Shields (200 LLCR test points)

- **Initial ---------- 27.9 mOhms Max**
- **Durability, 100 Cycles**
  - **<= +5.0 mOhms ---------- 200 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms ---------- 0 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ---------- 0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ---------- 0 Points ---------- Marginal**
  - **+50.1 to +2000 mOhms ---------- 0 Points ---------- Unstable**
  - **>+2000 mOhms ---------- 0 Points ---------- Open Failure**
- **Thermal**
  - **<= +5.0 mOhms ---------- 186 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms ---------- 14 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ---------- 0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ---------- 0 Points ---------- Marginal**
  - **+50.1 to +2000 mOhms ---------- 0 Points ---------- Unstable**
  - **>+2000 mOhms ---------- 0 Points ---------- Open Failure**
  -
- **Humidity**
  - **<= +5.0 mOhms ---------- 191 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms ---------- 9 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ---------- 0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ---------- 0 Points ---------- Marginal**
  - **+50.1 to +2000 mOhms ---------- 0 Points ---------- Unstable**
  - **>+2000 mOhms ---------- 0 Points ---------- Open Failure**

LLCR Durability without Shields (200 LLCR test points)

- **Initial ---------- 27.7 mOhms Max**
- **Durability, 100 Cycles**
  - **<= +5.0 mOhms ---------- 200 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms ---------- 0 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ---------- 0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ---------- 0 Points ---------- Marginal**
  - **+50.1 to +2000 mOhms ---------- 0 Points ---------- Unstable**
  - **>+2000 mOhms ---------- 0 Points ---------- Open Failure**
- **Thermal**
  - **<= +5.0 mOhms ---------- 166 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms ---------- 34 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ---------- 0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ---------- 0 Points ---------- Marginal**
  - **+50.1 to +2000 mOhms ---------- 0 Points ---------- Unstable**
  - **>+2000 mOhms ---------- 0 Points ---------- Open Failure**
  -

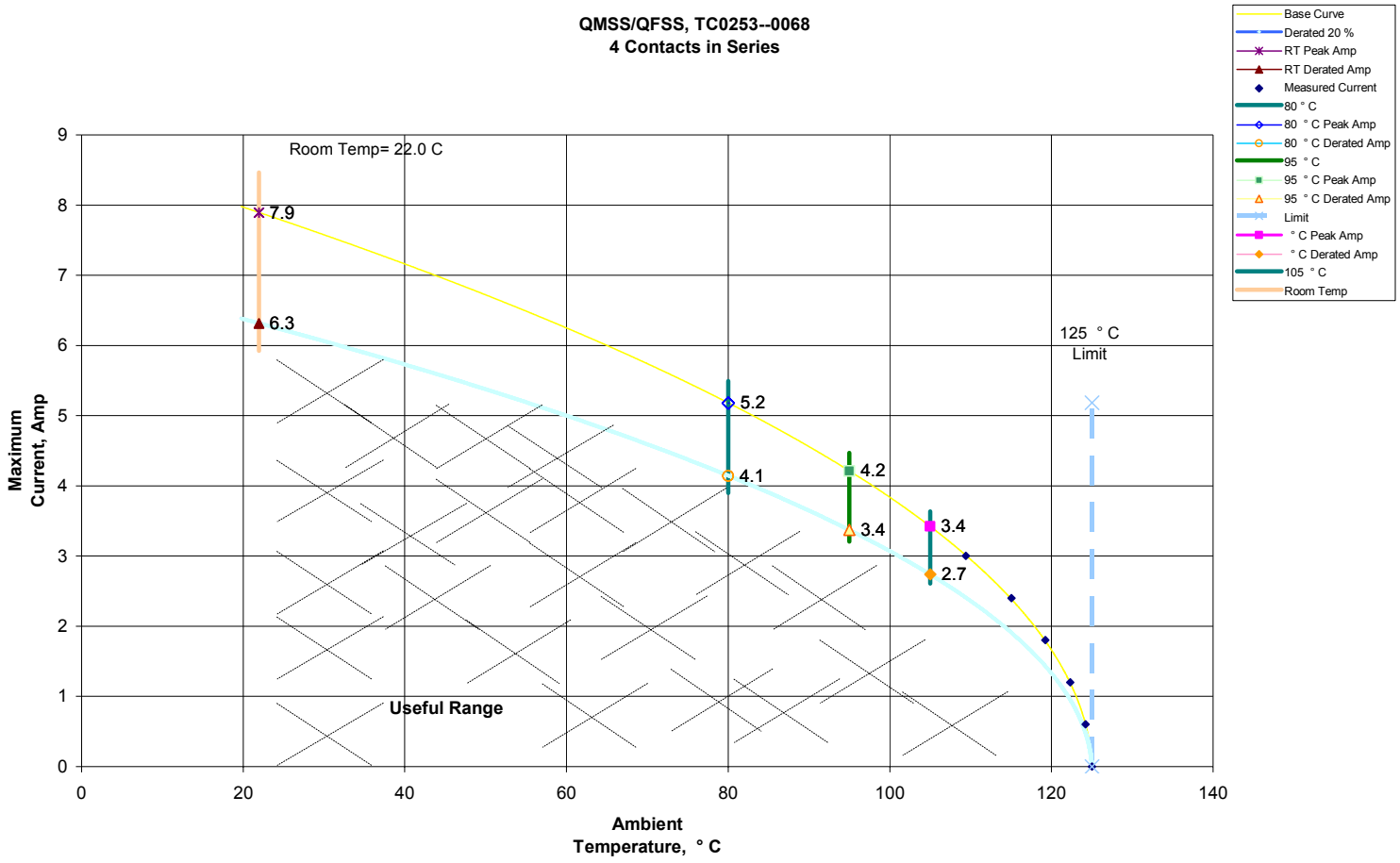
- **Humidity**
  - **<= +5.0 mOhms ---------- 182 Points ---------- Stable**
  - **+5.1 to +10.0 mOhms ---------- 18 Points ---------- Minor**
  - **+10.1 to +15.0 mOhms ---------- 0 Points ---------- Acceptable**
  - **+15.1 to +50.0 mOhms ---------- 0 Point ---------- Marginal**
  - **+50.1 to +2000 mOhms ---------- 0 Points ---------- Unstable**
  - **>+2000 mOhms ---------- 0 Points ---------- Open Failure**

Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA SUMMARIES

TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
2) The thermocouples were placed at a location to sense the MAXIMUM temperature generated during testing.
3) Temperature readings recorded are those for which three successive readings, 15 minutes apart, differ less than 1° C (computer controlled data acquisition).
4) Adjacent contacts were powered:
   a) Linear configuration in Series
      i) Four signal contacts
      ii) Two Ground Planes



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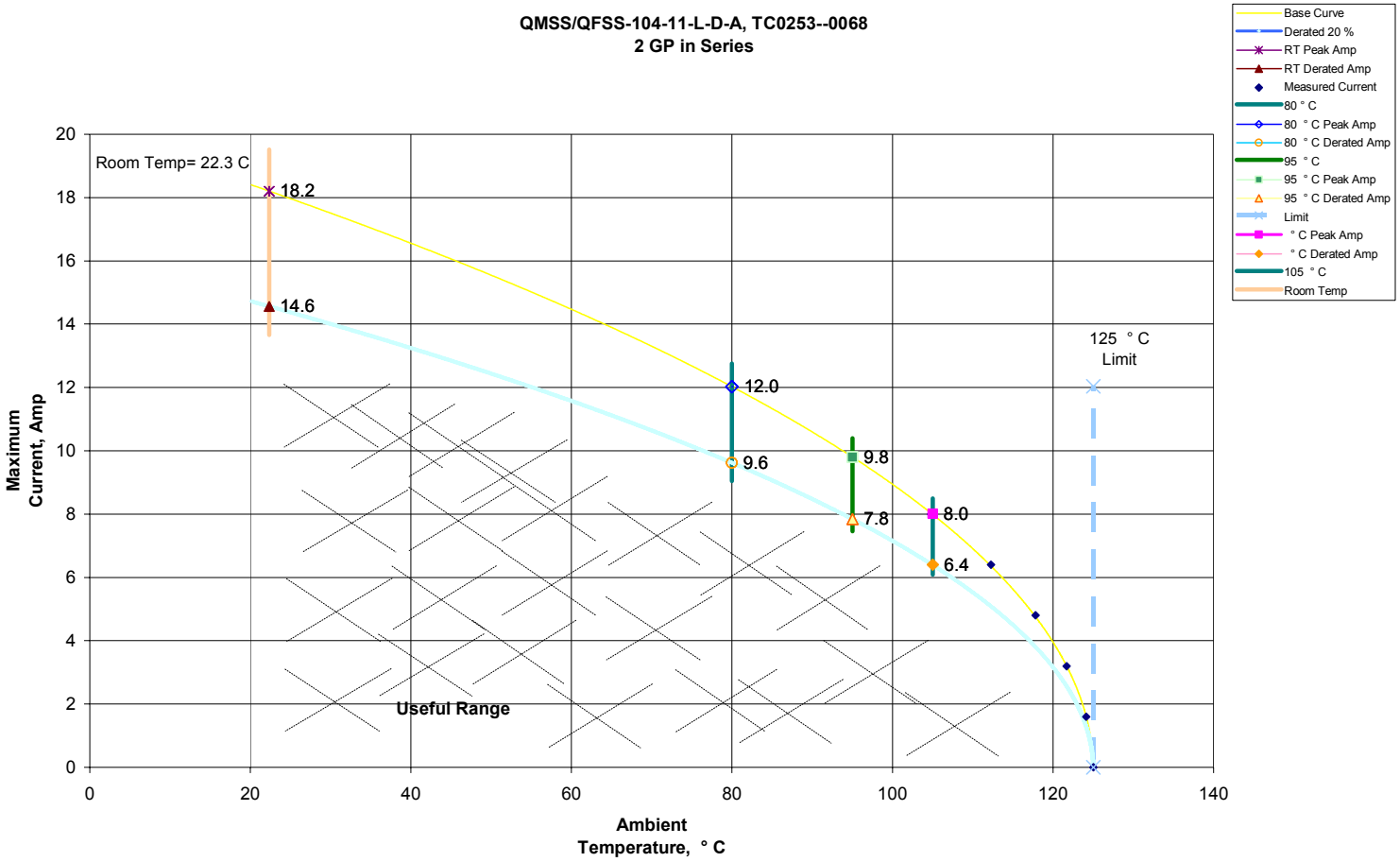
DATA SUMMARIES Continued



DATA SUMMARIES Continued

MATING/UNMATING:

	Initial				After 100 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)
Minimum	266.9	16.68	198.4	12.40	302.7	18.92	257.3	16.08
Maximum	*364.8*	*22.80*	*287.7*	*17.98*	*435.2*	*27.20*	*380.2*	*23.76*
Average	***296.0***	***18.50***	***239.8***	***14.99***	***365.5***	***22.84***	***340.4***	***21.27***

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Initial VAC

	Breakdown Voltage	**DWV**	**Working Voltage**
Average	1475	1106	369
Min	1450	1088	363
Max	1500	1125	375

After Thermal VAC

	Breakdown Voltage	**DWV**	**Working Voltage**
Average	1400	1050	350
Min	1350	1013	338
Max	1450	1088	363

After Humidity VAC

	Breakdown Voltage	**DWV**	**Working Voltage**
Average	1325	994	331
Min	1300	975	325
Max	1350	1013	338

DATA SUMMARIES Continued

INSULATION RESISTANCE (IR):

Initial

Electrification Time ***Two (2) minutes***

	Mated	*Unmated*
MegOhms	**Insulation Resistance**	**Insulation Resistance**
Average	100000	75000
Min	100000	50000
Max	100000	100000

After Thermal

Electrification, ***Two (2) minutes***

	Mated	*Unmated*
MegOhms	**Insulation Resistance**	**Insulation Resistance**
Average	100000	100000
Min	100000	100000
Max	100000	100000

INSULATION RESISTANCE (IR):

After Humidity

Electrification, ***Two (2) minutes***

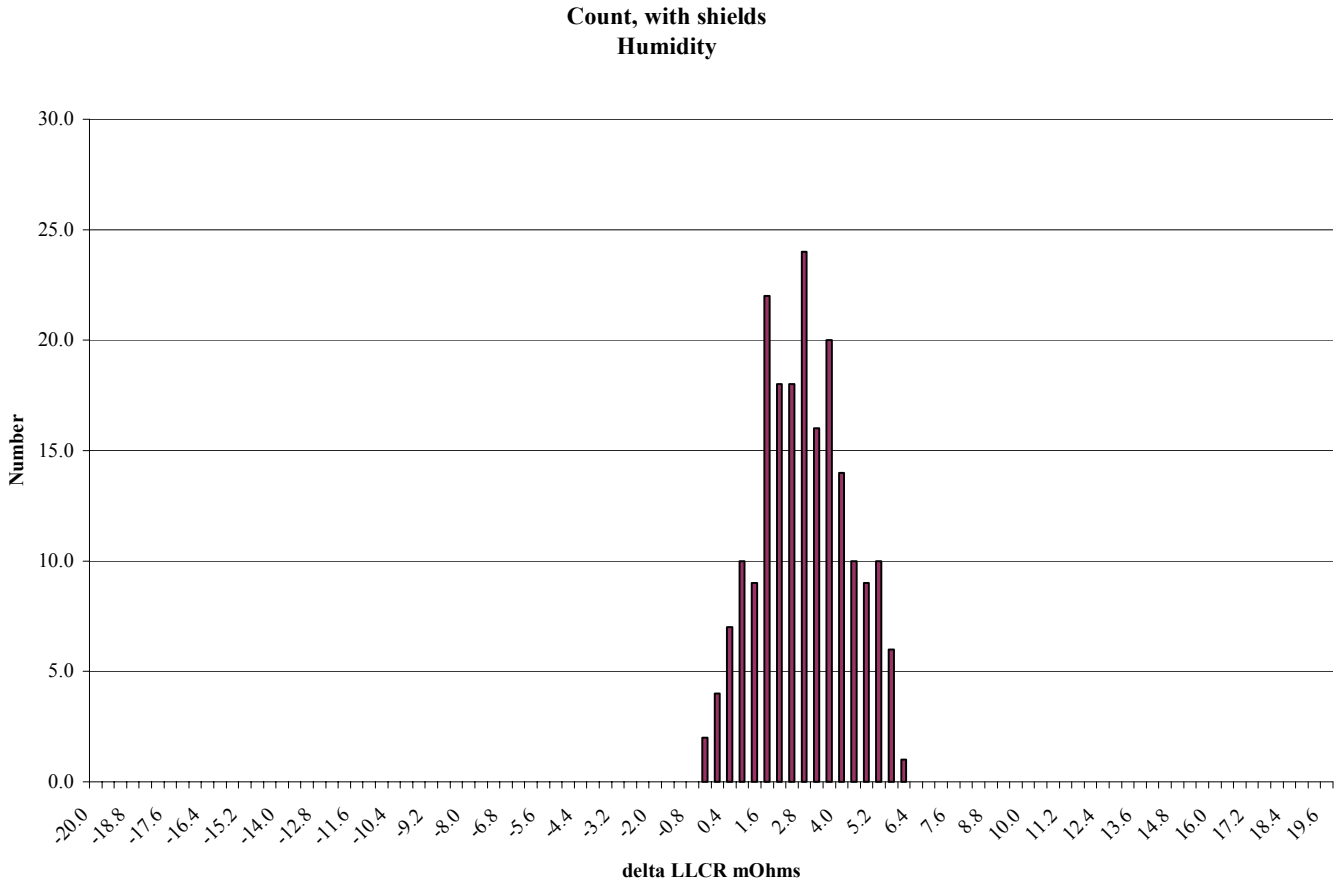
	Mated	*Unmated*
MegOhms	**Insulation Resistance**	**Insulation Resistance**
Average	100000	100000
Min	100000	100000
Max	100000	100000

DATA SUMMARIES Continued

LLCR (with shields):

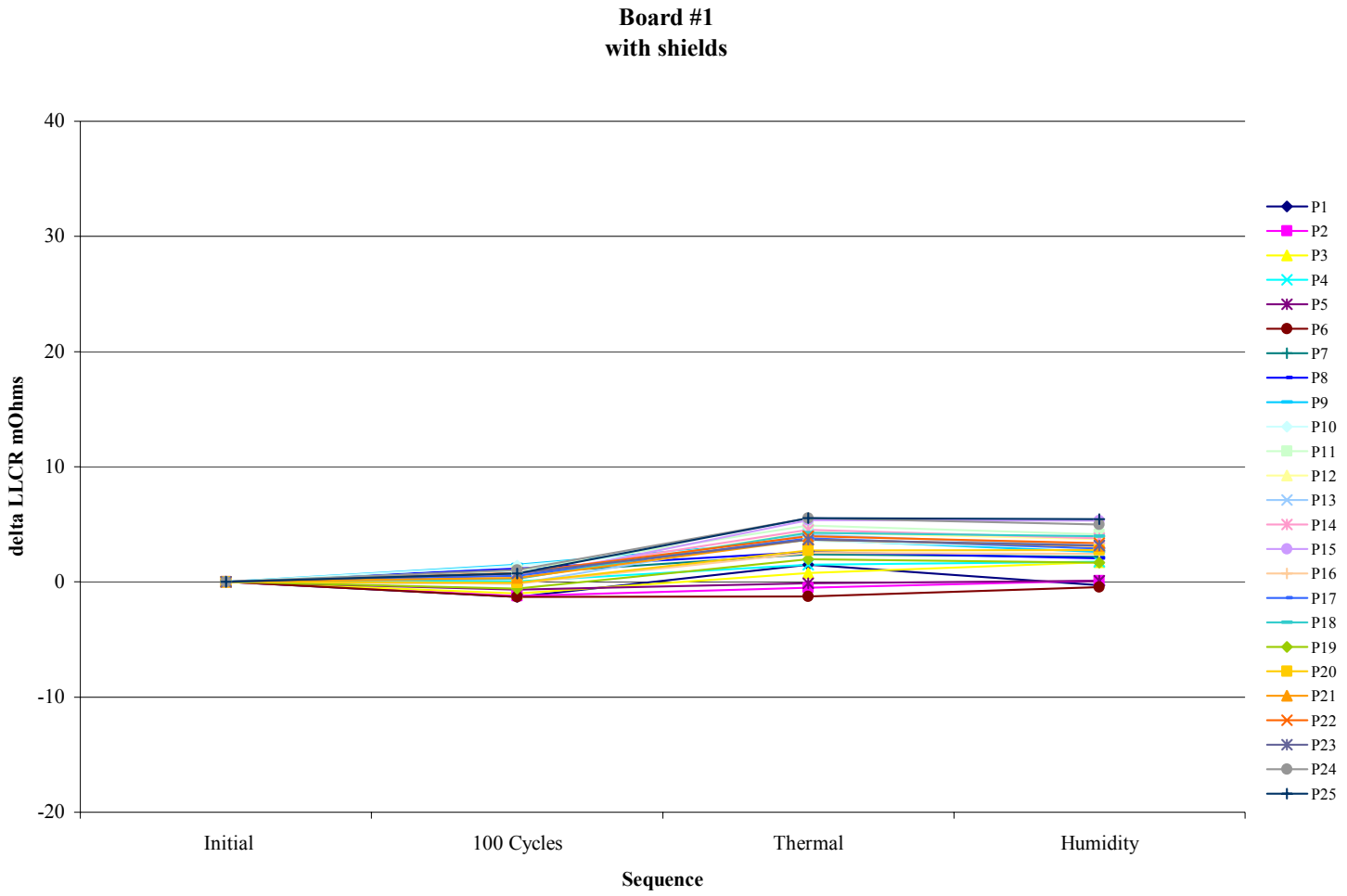
1) A total of 200 points were measured.
2) EIA-364-23, *Low Level Contact Resistance Test Procedure for Electrical Connectors and Sockets.*
3) A computer program, *LLCR 221.exe*, ensures repeatability for data acquisition.
4) The following guidelines are used to categorize the changes in LLCR as a result from stressing.
   a) <= +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	Actual Initial	Delta 100 Cycles	Delta Thermal	Delta Humidity
Average	24.9	0.1	2.9	2.6
St. Dev.	1.3	1.1	1.5	1.4
Min	21.6	-3.2	-1.3	-0.7
Max	27.9	2.4	7.0	6.0
Count	200	200	200	200



Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA SUMMARIES Continued



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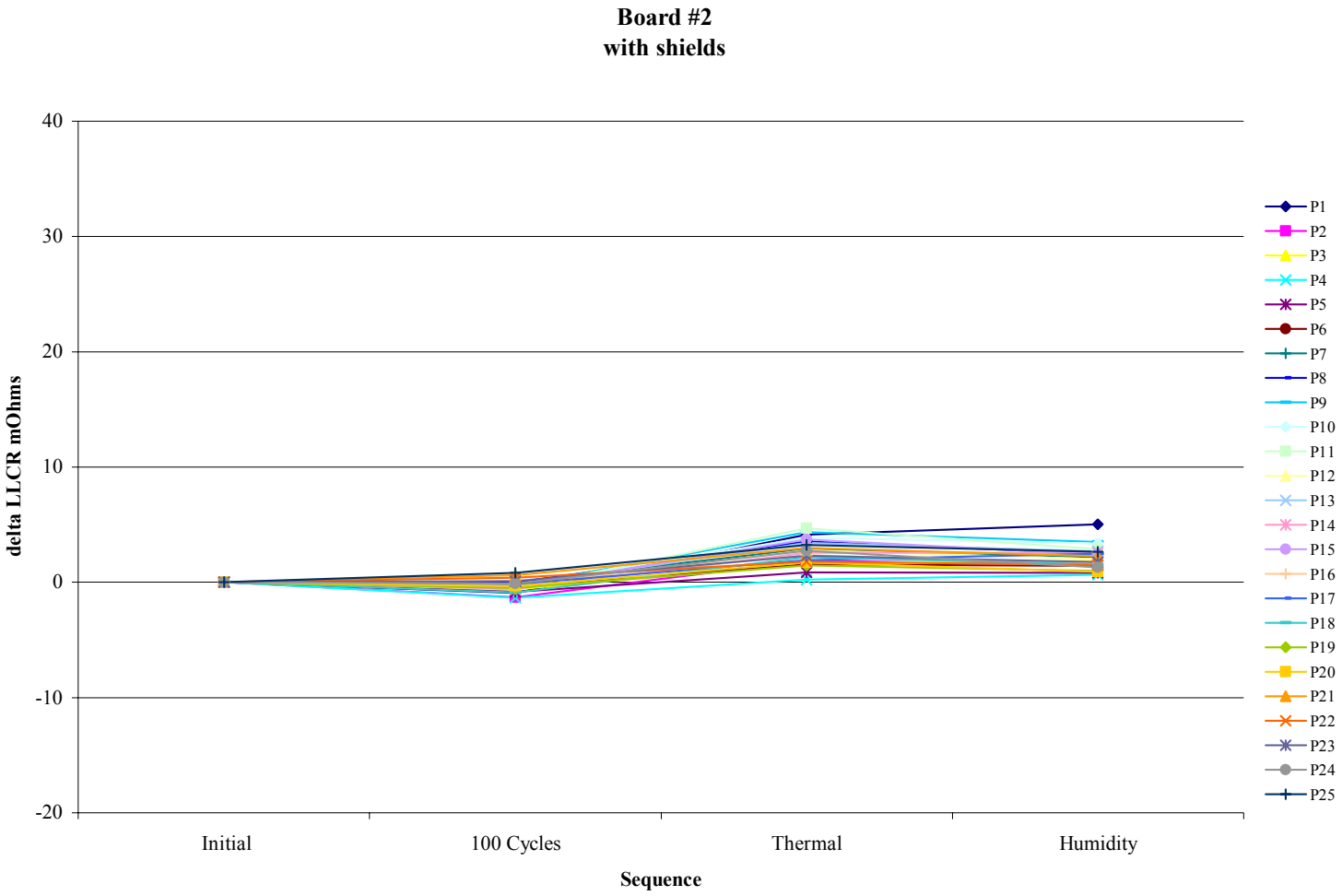
DATA SUMMARIES Continued



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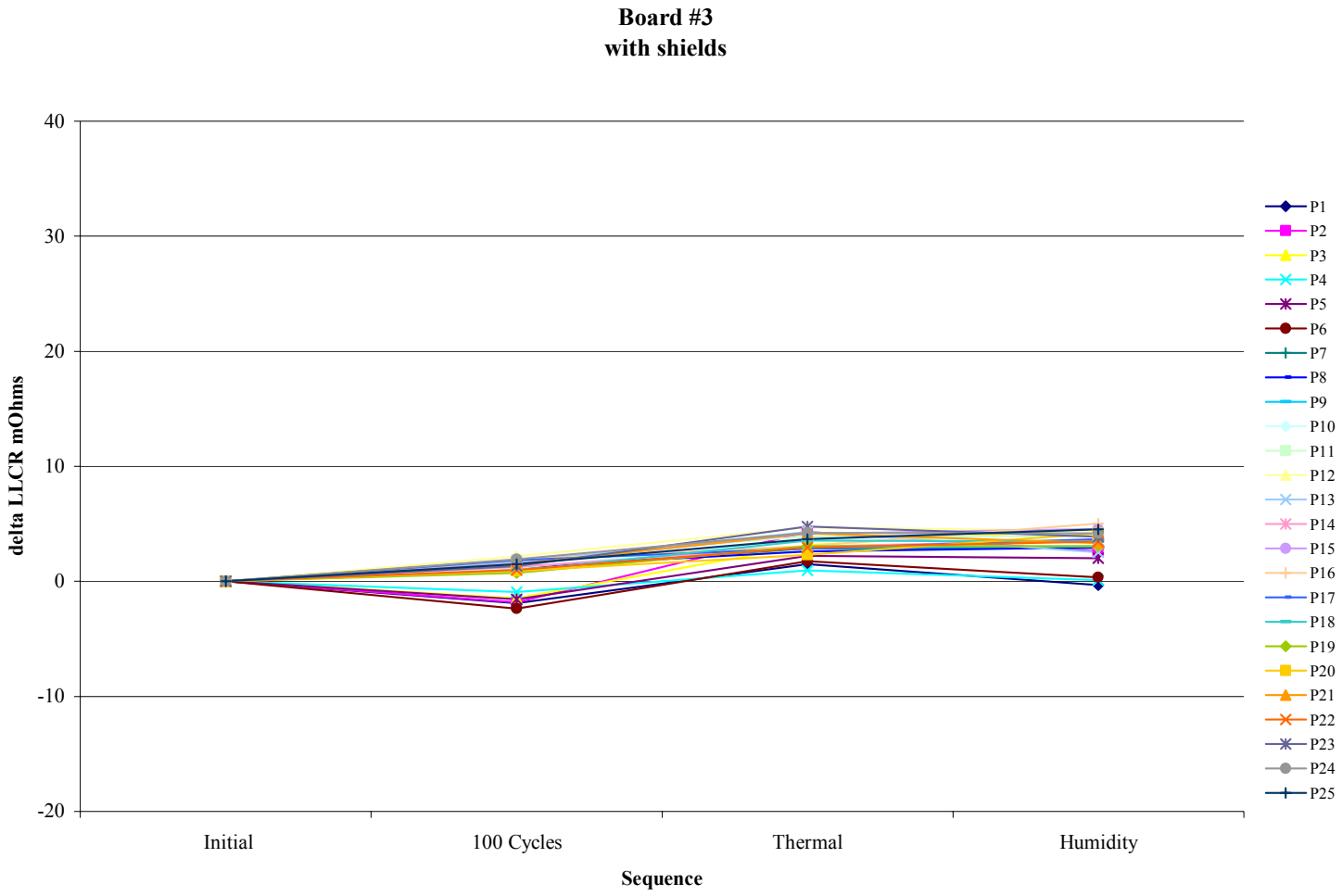
DATA SUMMARIES Continued



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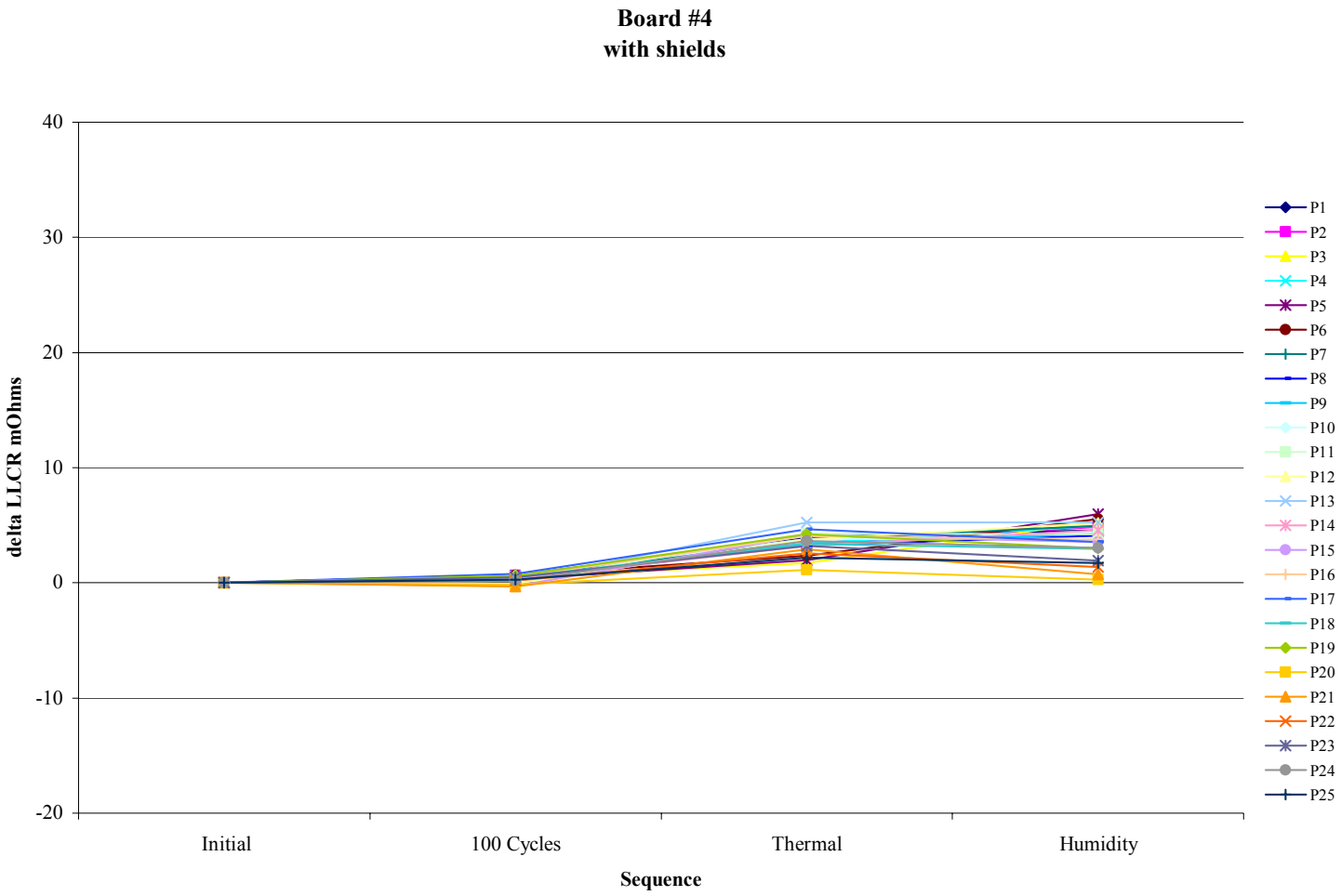
DATA SUMMARIES Continued



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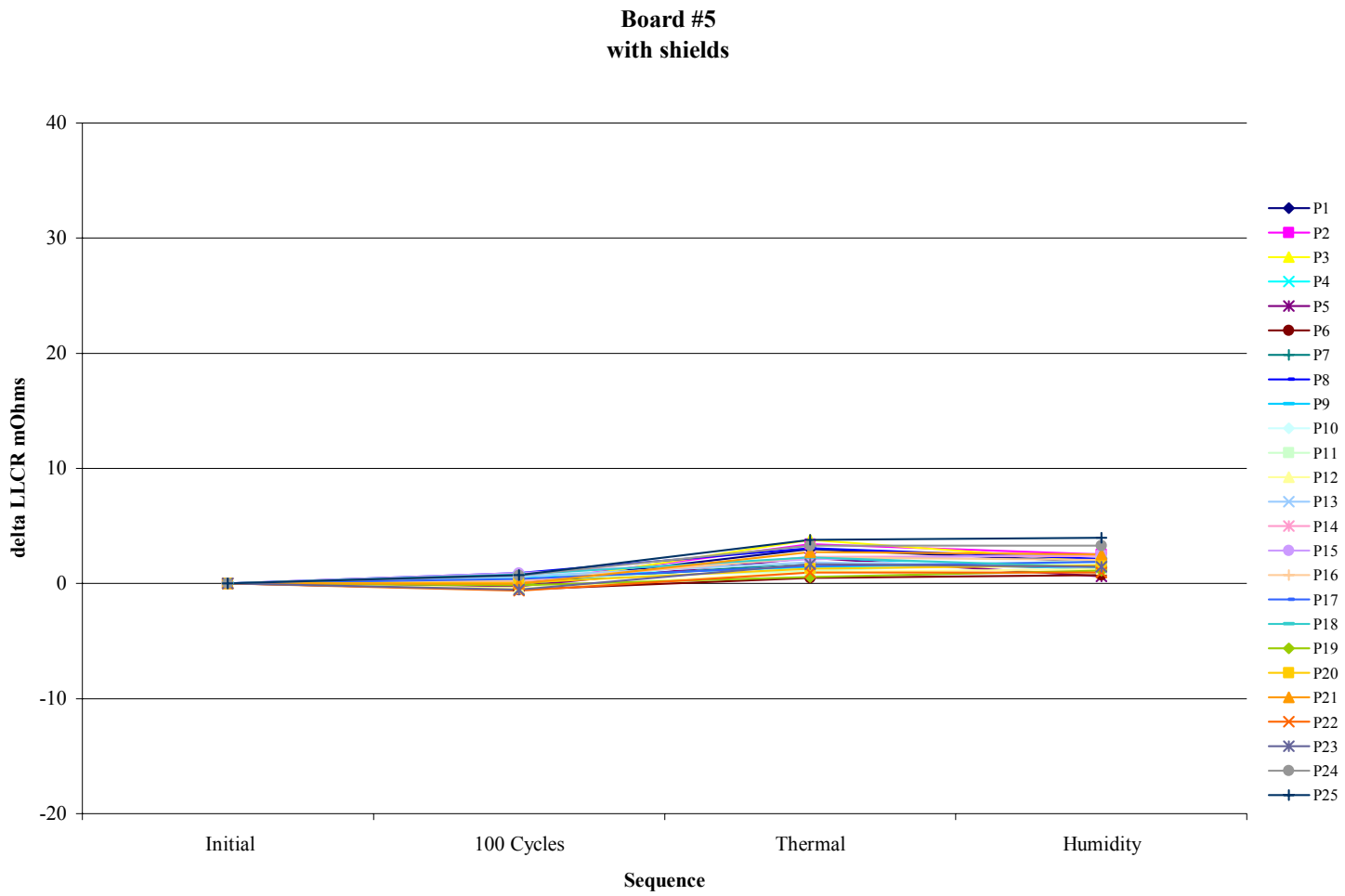
DATA SUMMARIES Continued



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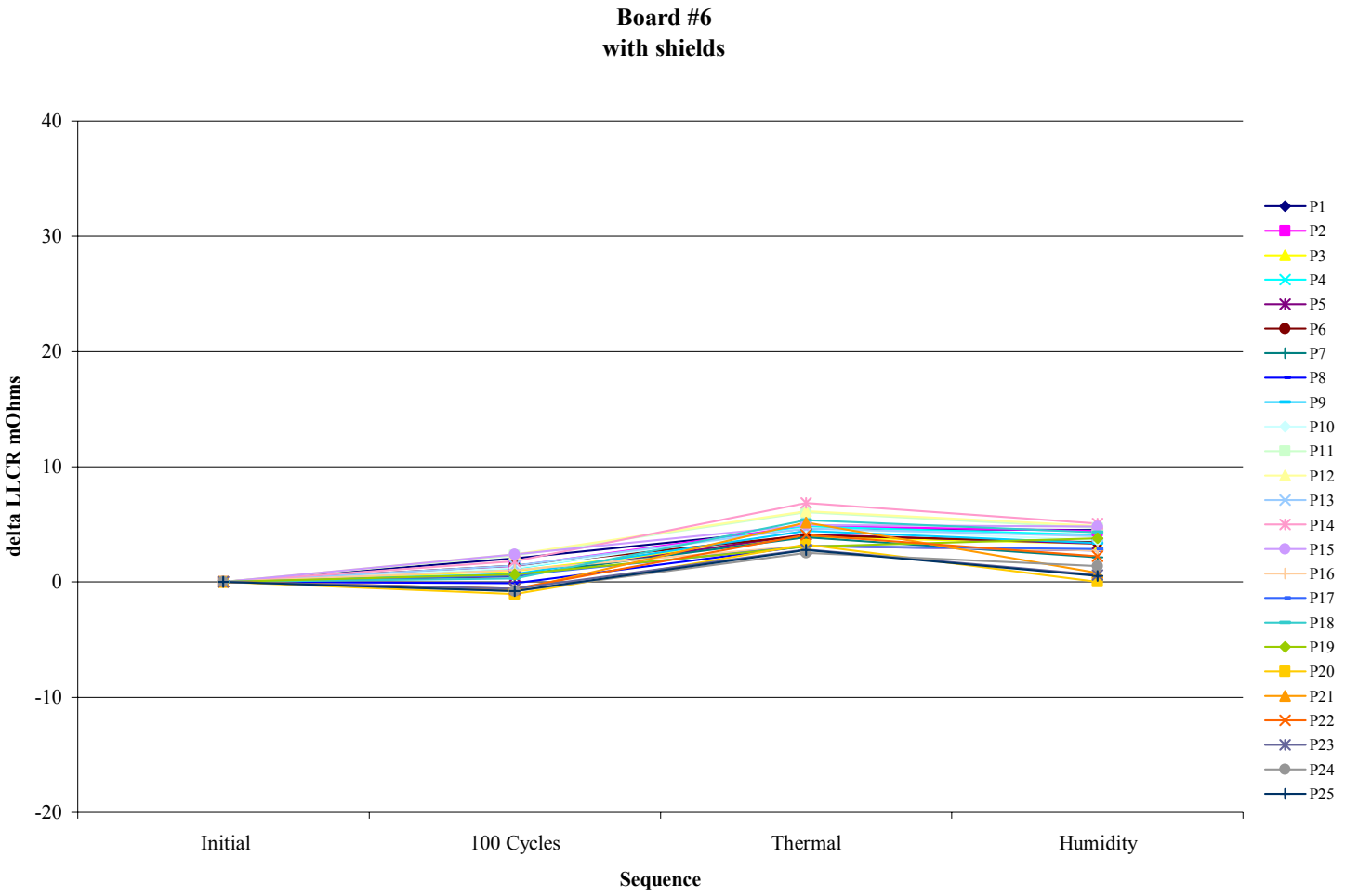
DATA SUMMARIES Continued



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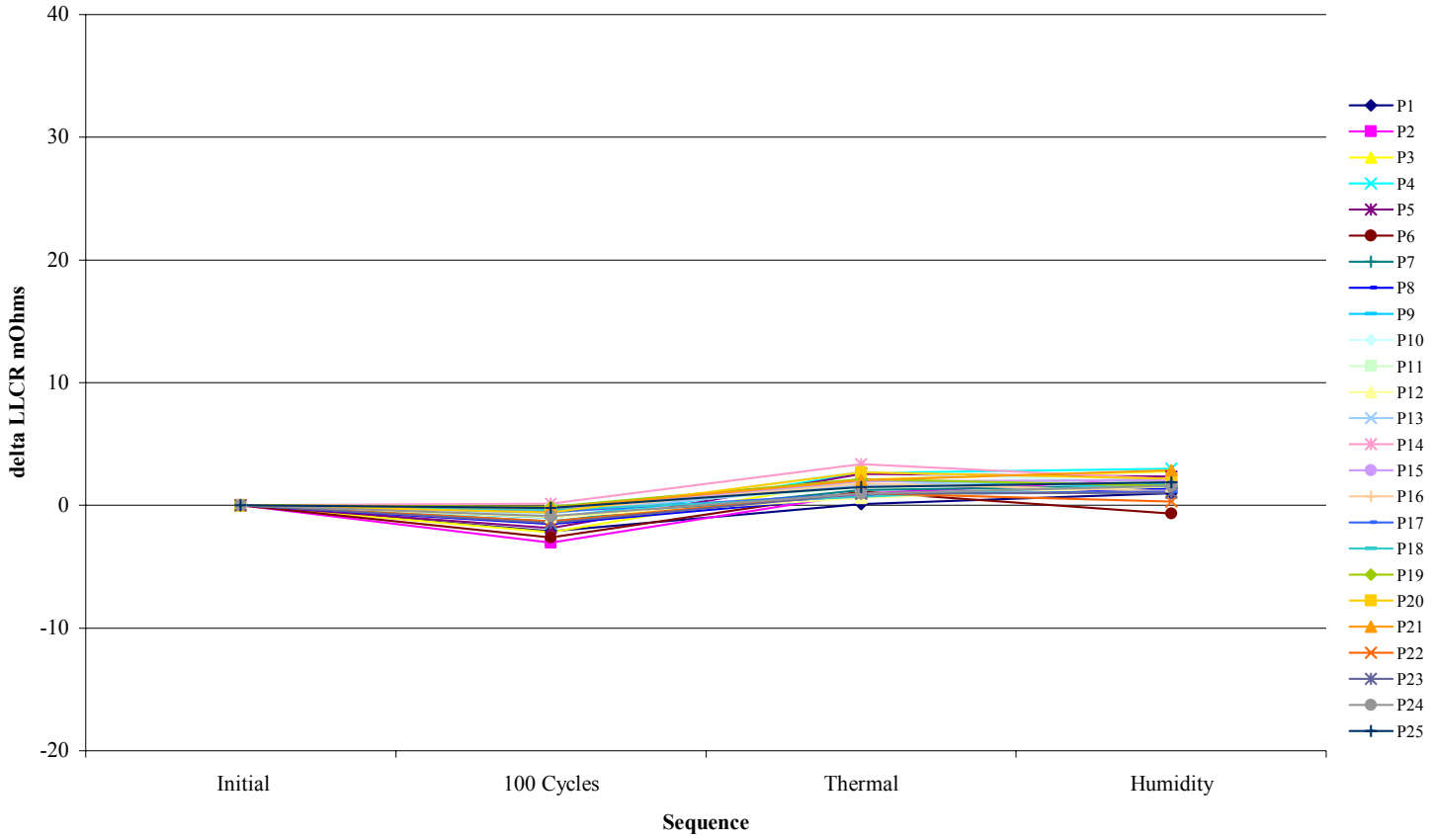
Part description: QFSS / QMSS	

DATA SUMMARIES Continued

Board #7
with shields



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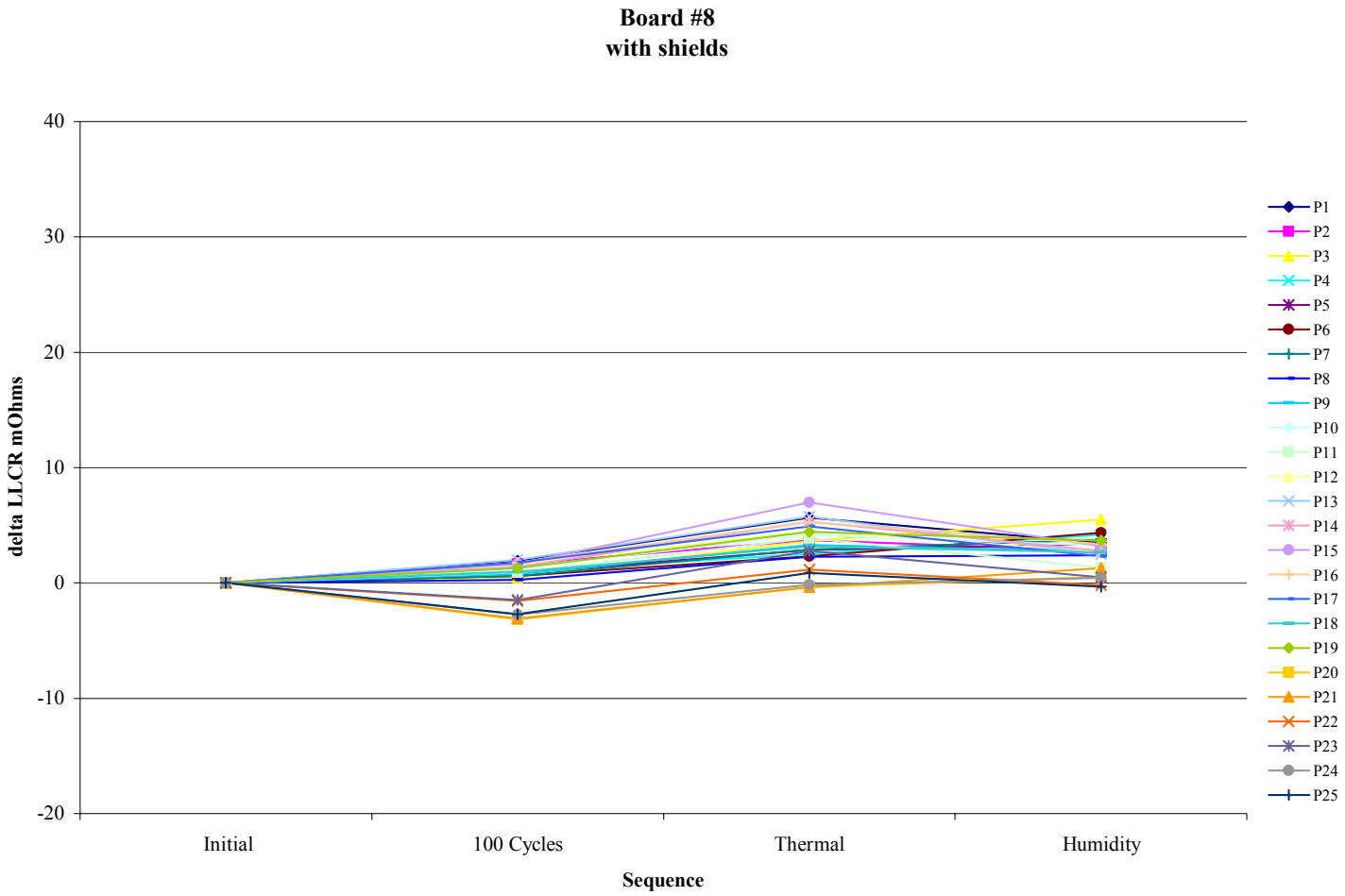
DATA SUMMARIES Continued



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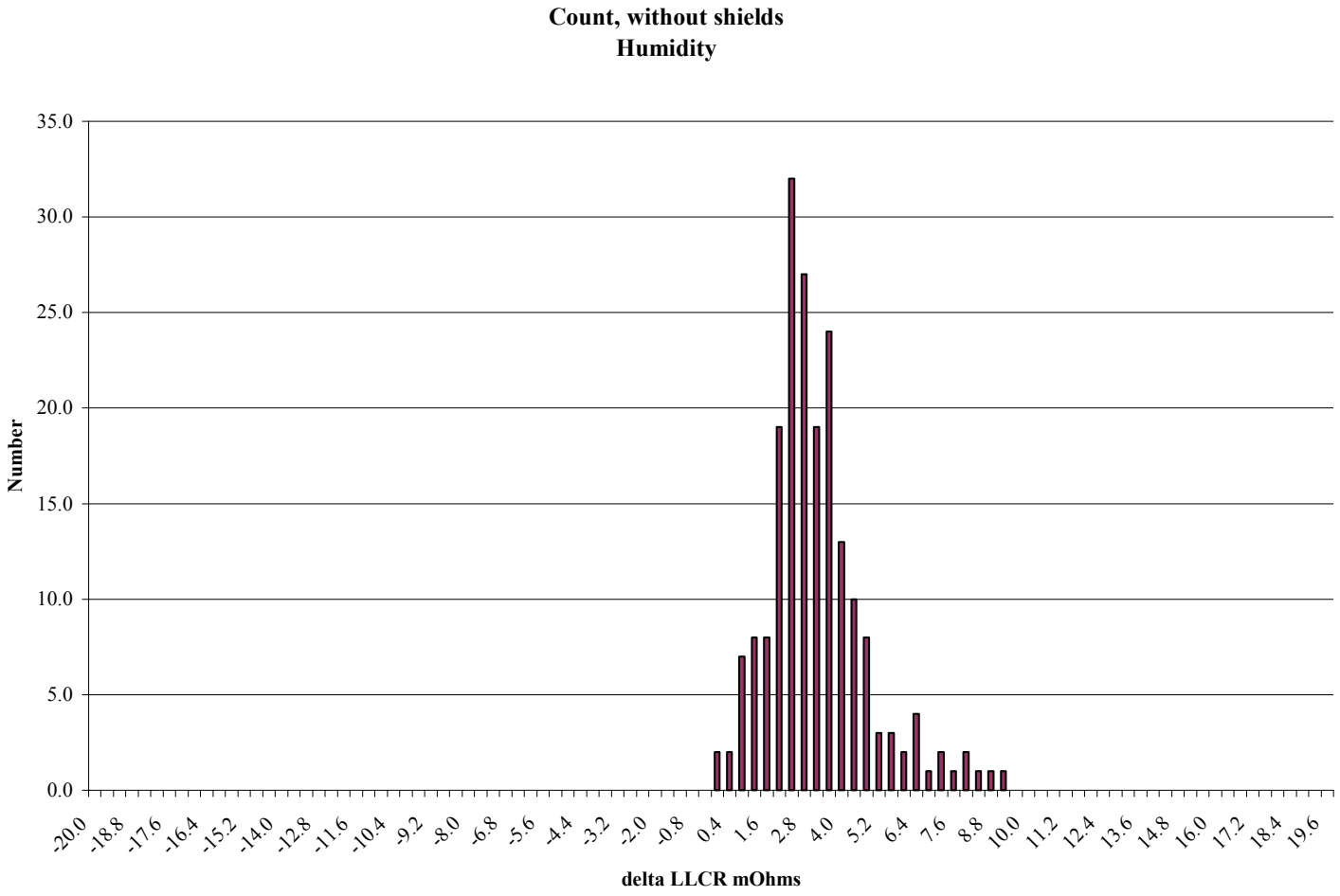
Part description: QFSS / QMSS	

DATA SUMMARIES Continued

LLCR (without shields):

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) <= +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

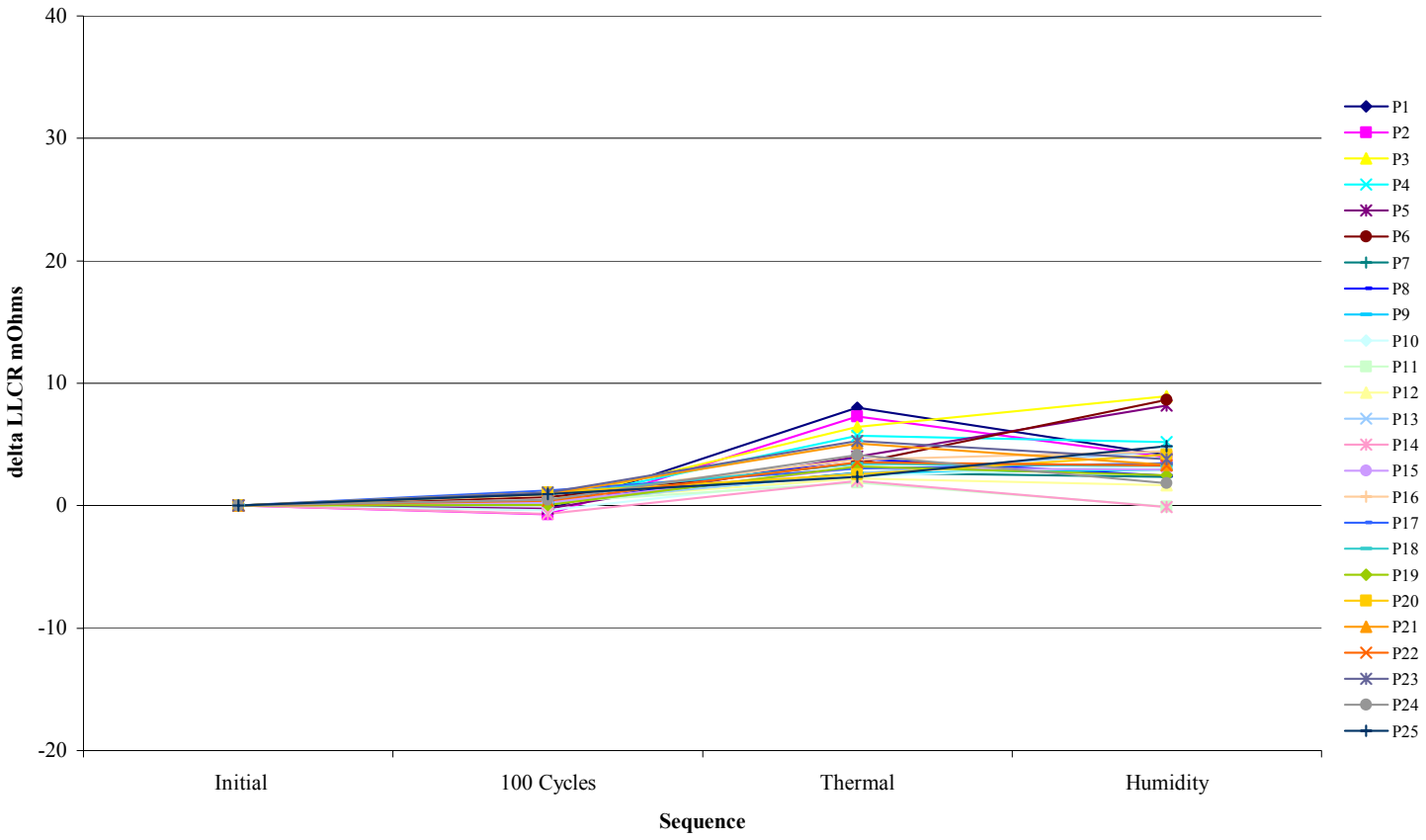
mOhm values	Actual Initial	Delta 100 Cycles	Delta Thermal	Delta Humidity
Average	25.3	0.1	3.6	3.1
St. Dev.	1.5	1.0	1.5	1.9
Min	12.0	-2.5	-0.7	-0.1
Max	27.7	3.2	8.6	18.0
Count	200	200	200	200



Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

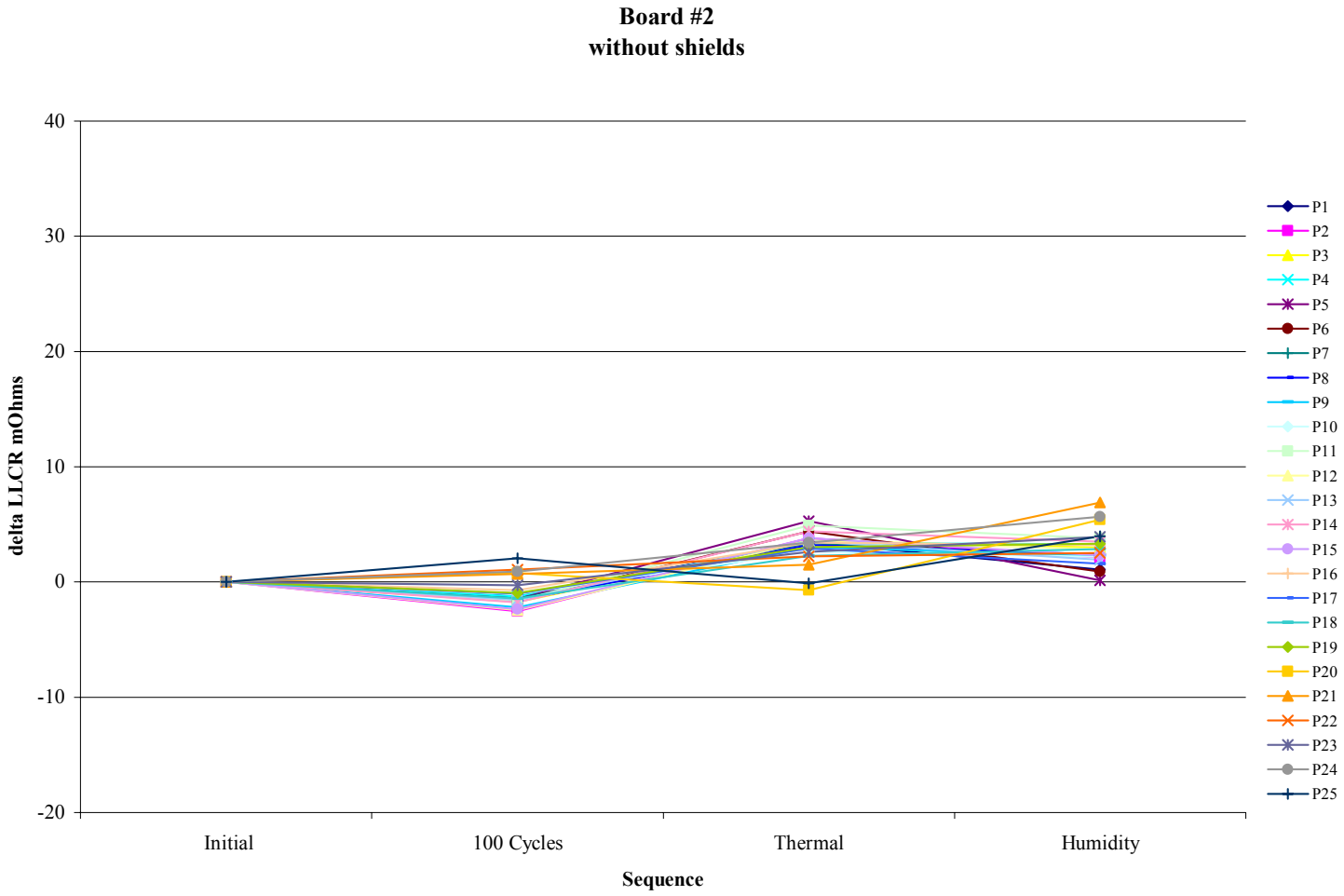
DATA SUMMARIES Continued

Board #1
without shields



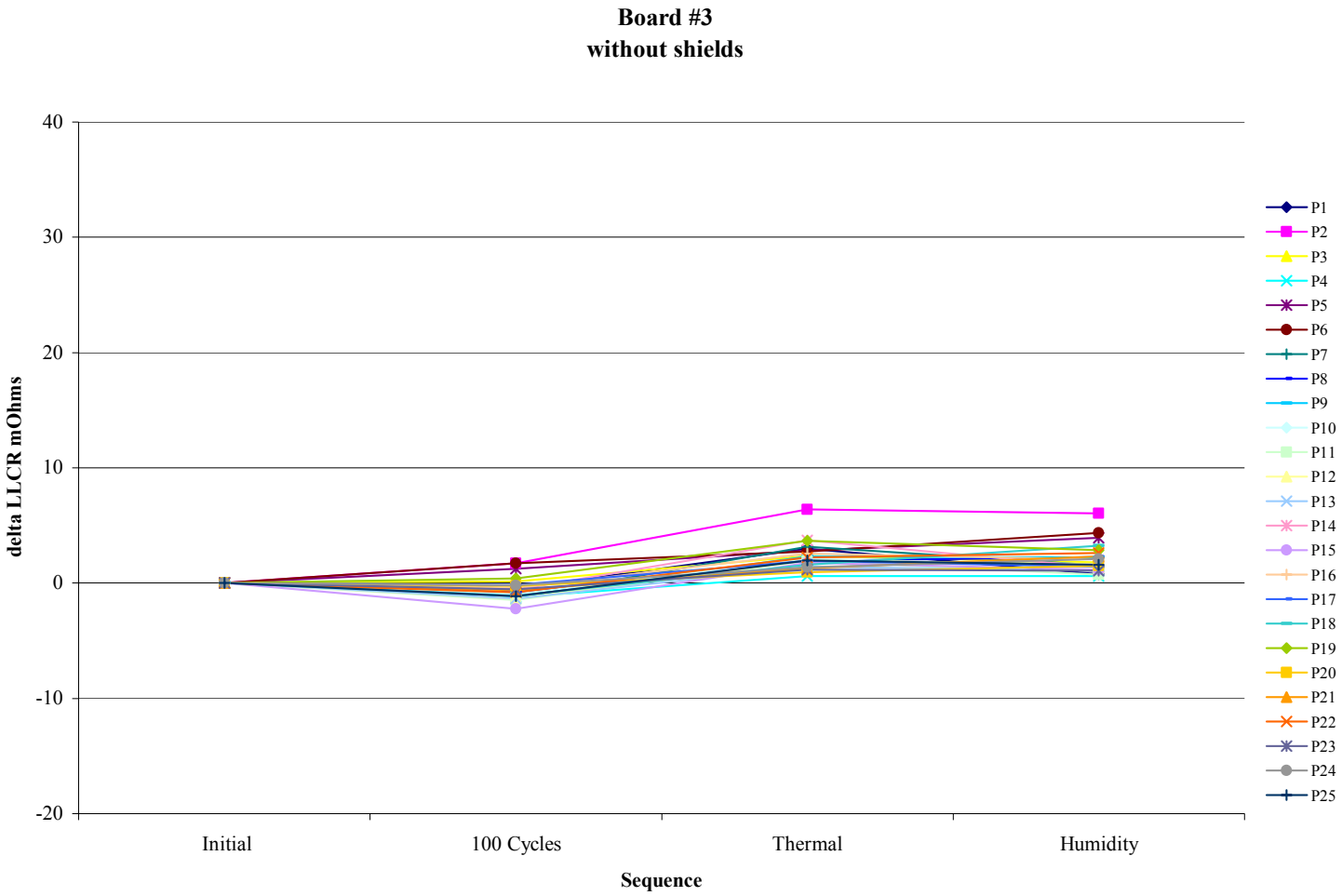
Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA SUMMARIES Continued



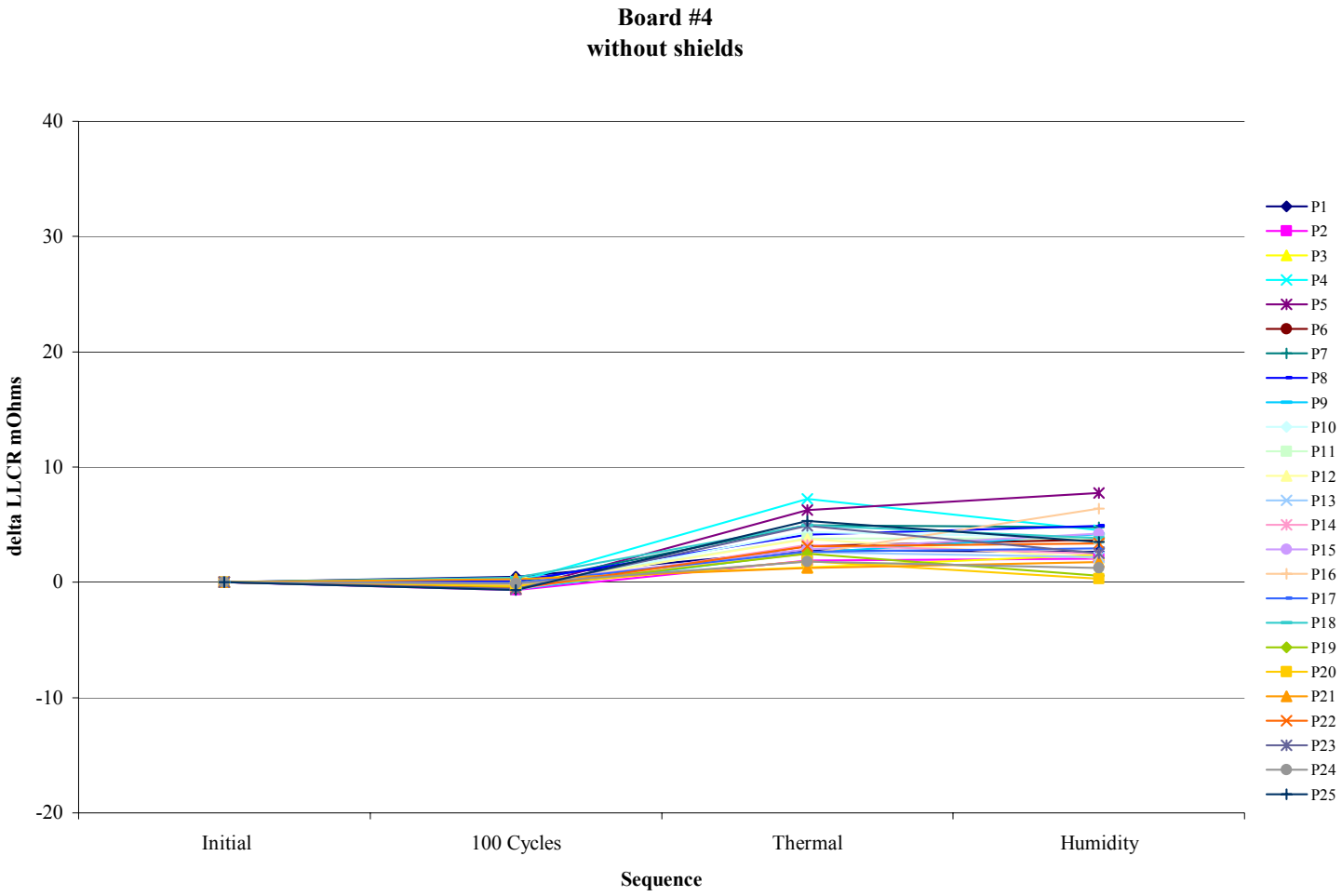
Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA SUMMARIES Continued



Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

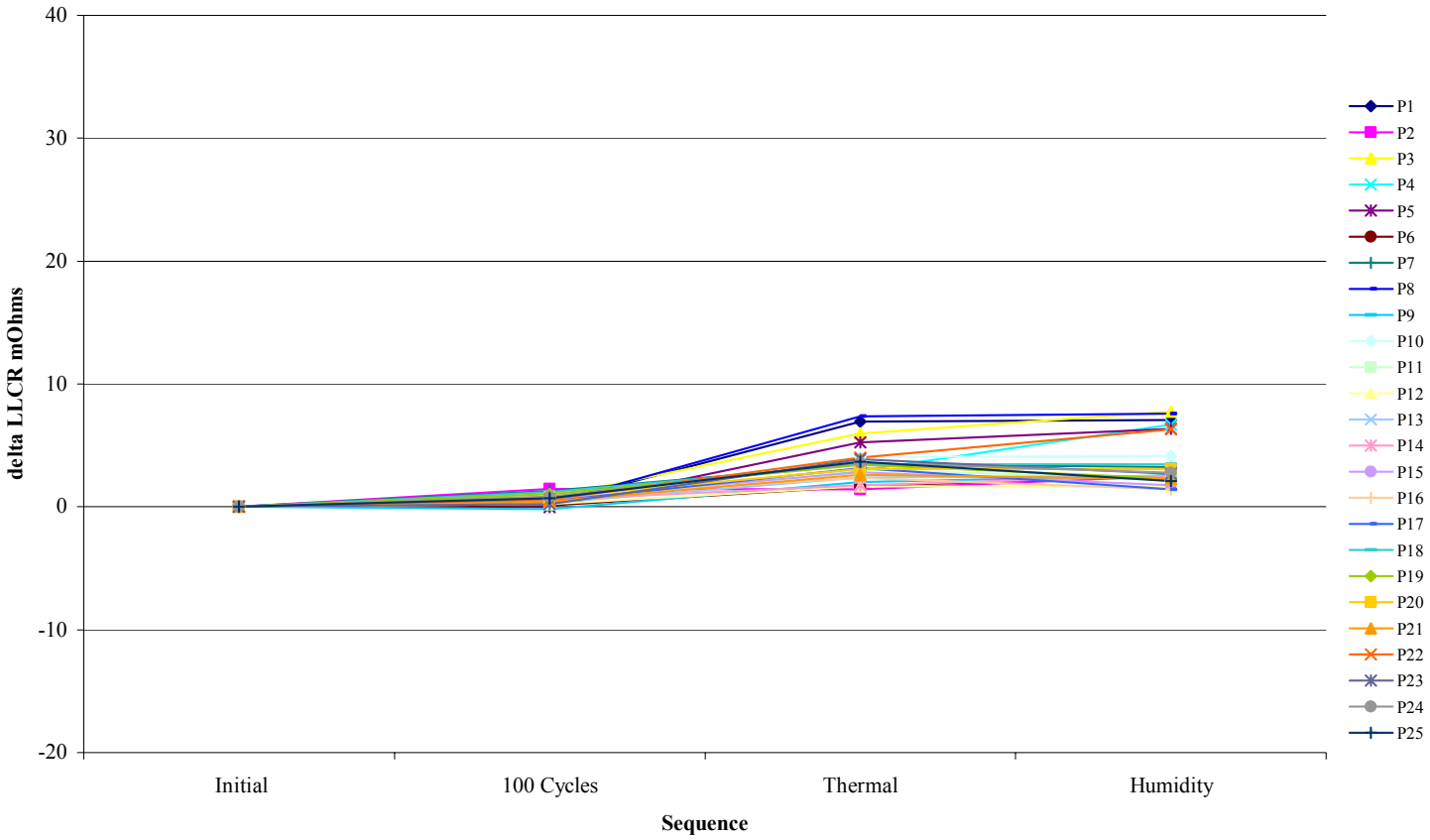
DATA SUMMARIES Continued



Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

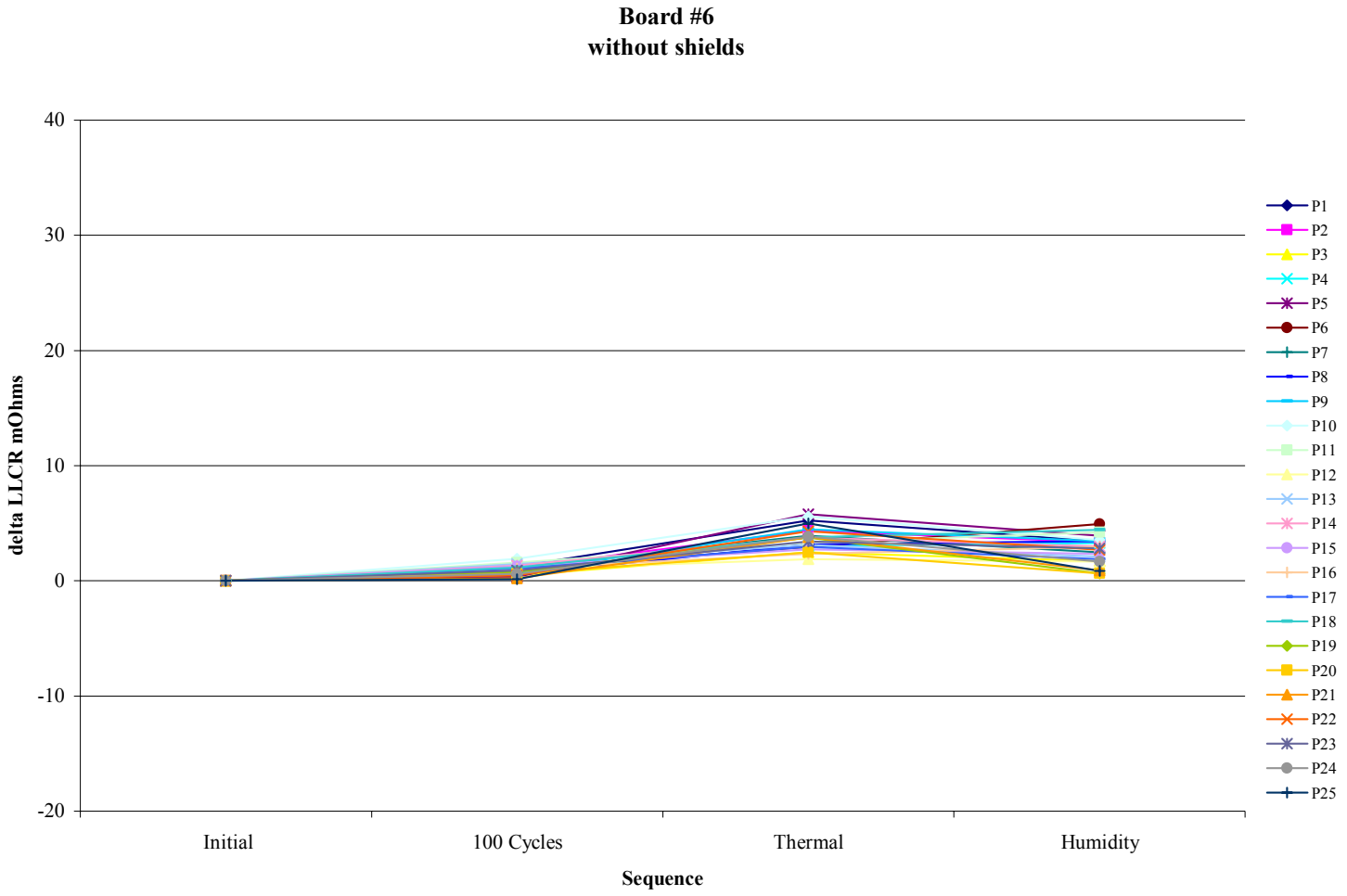
DATA SUMMARIES Continued

Board #5
without shields



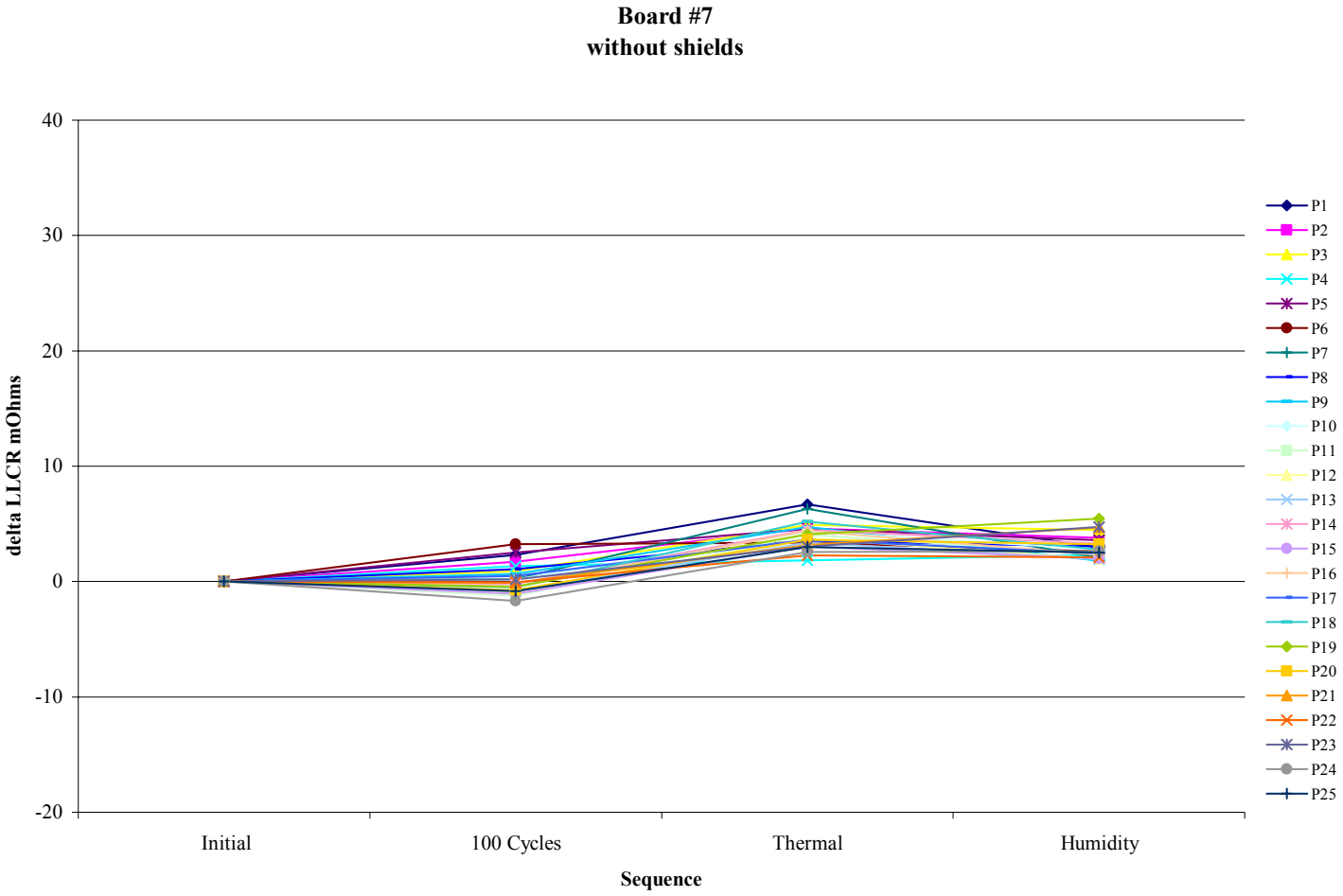
Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA SUMMARIES Continued



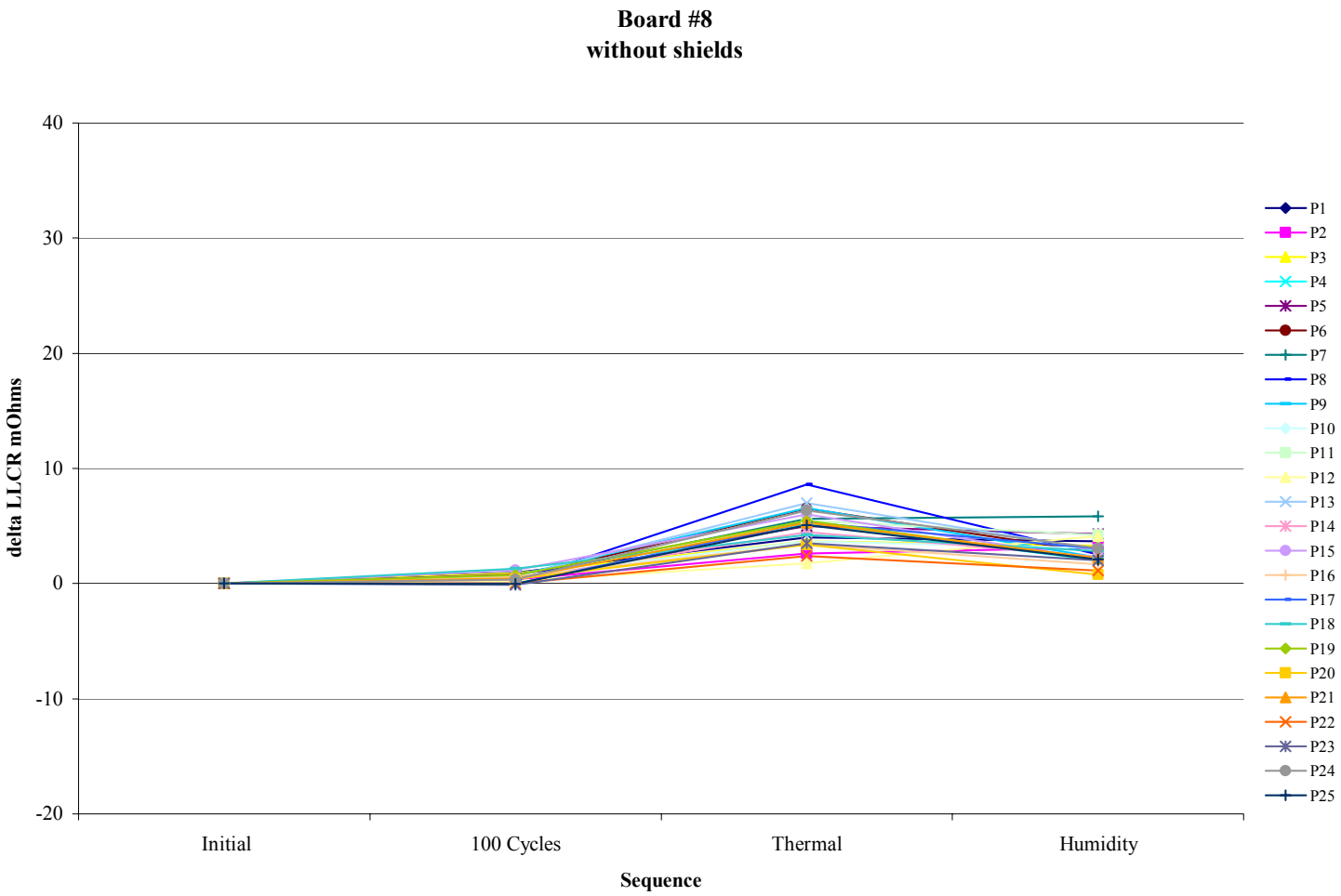
Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA SUMMARIES Continued



Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA SUMMARIES Continued



Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA

MATING/UNMATING:

Test Date:	2/4/2003
Operator:	Troy Cook
Temperature (C):	22
Humidity (RH):	33%
Equipment ID:	TCT-01
Load Cell ID:	LC-50
Part #	QMSS

	Initial				After 100 Cycles			
	Mating		**Unmating**		**Mating**		**Unmating**	
Sample#	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	Force (Lbs)	Force (Oz)	
1	350.4	21.90	287.7	17.98	302.7	18.92	295.4	18.46
2	266.9	16.68	198.4	12.40	310.1	19.38	257.3	16.08
3	296.0	18.50	213.1	13.32	342.4	21.40	337.0	21.06
4	267.2	16.70	237.1	14.82	357.4	22.34	352.6	22.04
5	272.6	17.04	234.2	14.64	328.0	20.50	340.2	21.26
6	309.8	19.36	261.4	16.34	435.2	27.20	380.2	23.76
7	276.2	17.26	244.2	15.26	406.4	25.40	353.0	22.06
8	364.8	22.80	232.6	14.54	419.2	26.20	362.6	22.66
9	278.7	17.42	241.3	15.08	396.8	24.80	368.6	23.04
10	277.4	17.34	248.3	15.52	356.5	22.28	356.8	22.30

DATA Continued

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Test Date:	2/4/2003
Operator:	Troy Cook
Temperature (C):	22
Humidity (RH):	26%
Pressure (In. Hg):	29.62
Equipment ID:	STG-01

Voltage Rate ***500 V Per Sec.***
Test Voltage ***Until Breakdown Occurs***
Initial VAC

Sample #	Breakdown Voltage	DWV	Working Voltage	
1	1450	1088	363	***Unmated Condition***
2	1500	1125	375	***Mated Condition***

Test Date:	2/17/2003
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	27%
Pressure (In. Hg):	29.35
Equipment ID:	STG-01

Voltage Rate ***500 V Per Sec.***
Test Voltage ***Until Breakdown Occurs***
After Thermal VAC

Sample #	Breakdown Voltage	DWV	Working Voltage	
1	1450	1088	363	***Unmated Condition***
2	1350	1013	338	***Mated Condition***

Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA Continued

DIELECTRIC WITHSTANDING VOLTAGE (DWV):

Test Date:	3/3/2003
Operator:	Troy Cook
Temperature (C):	22
Humidity (RH):	25%
Pressure (In. Hg):	29.38
Equipment ID:	STG-01

Voltage Rate ***500 V Per Sec.***
Test Voltage ***Until Breakdown Occurs***
After Humidity

VAC

Sample #	Breakdown Voltage	DWV	Working Voltage	
1	1350	1013	338	***Unmated Condition***
2	1300	975	325	***Mated Condition***

INSULATION RESISTANCE (IR):

Test Date:	2/4/2003
Operator:	Troy Cook
Temperature (C):	22
Humidity (RH):	26%
Pressure (In. Hg):	29.62
Equipment ID:	STG-01

Initial
Electrification, ***Two (2) minutes***

MegOhms

Sample #	*Mated* Insulation Resistance	*Unmated* Insulation Resistance
1	100000	50000
2	100000	100000

Test Date:	2/17/2003
Operator:	Troy Cook
Temperature (C):	23
Humidity (RH):	27%
Pressure (In. Hg):	29.35
Equipment ID:	STG-01

Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA Continued

After Thermal

Electrification Time *Two (2) minutes*

MegOhms

	Mated	*Unmated*
Sample #	**Insulation Resistance**	**Insulation Resistance**
1	100000	100000
2	100000	100000

Test Date:	3/3/2003
Operator:	Troy Cook
Temperature (C):	22
Humidity (RH):	25%
Pressure (In. Hg):	29.38
Equipment ID:	STG-01

After Humidity

Electrification Time *Two (2) minutes*

MegOhms

	Mated	*Unmated*
Sample #	**Insulation Resistance**	**Insulation Resistance**
1	100000	100000
2	100000	100000

Tracking Code: TC0253--0068	Part #: QMSS-104-11-L-D-A/QFSS-104-01-L-D-A
Part description: QFSS / QMSS	

DATA Continued

LLCR (with shields):

Date	Feb. 03 2003	Feb. 17 2003	Feb. 17 2003	Mar. 03 2003
Room Temp C	20	21	22	23
RH	44%	32%	21%	24%
Name	Troy Cook	Troy Cook	Troy Cook	Troy Cook

mOhm values		Actual	Delta	Delta	Delta
Board	Position	Initial	100 Cycles	Thermal	Humidity
1	P1	24.4	-1.3	1.5	-0.3
1	P2	24.7	-1.2	-0.5	0.1
1	P3	25.6	-1.0	0.8	1.7
1	P4	25.5	0.1	1.5	1.8
1	P5	25.1	-0.7	-0.1	0.1
1	P6	25.3	-1.3	-1.3	-0.5
1	P7	24.9	0.7	2.4	2.2
1	P8	24.1	1.2	2.6	2.1
1	P9	24.7	1.5	3.7	2.6
1	P10	23.8	1.4	3.6	2.9
1	P11	22.7	1.0	4.9	4.2
1	P12	22.6	0.3	4.3	3.7
1	P13	23.2	-0.1	4.1	3.2
1	P14	23.0	0.6	4.5	3.8
1	P15	22.8	0.3	5.4	5.3
1	P16	24.9	-0.2	2.5	2.4
1	P17	24.7	0.5	3.8	2.9
1	P18	24.4	0.3	4.2	4.0
1	P19	25.7	-0.6	2.0	1.7
1	P20	25.3	-0.1	2.7	2.8
1	P21	25.3	0.4	3.7	3.1
1	P22	24.4	0.8	4.0	3.4
1	P23	23.9	0.7	3.7	3.1
1	P24	22.8	1.0	5.6	5.0
1	P25	22.5	0.7	5.5	5.4
2	P1	25.1	-0.9	4.1	5.0
2	P2	25.2	-1.3	1.9	1.5
2	P3	26.1	-0.6	1.7	1.8
2	P4	26.8	-1.4	0.2	0.6
2	P5	26.6	-0.8	0.9	0.8
2	P6	26.4	-0.3	1.5	1.4
2	P7	26.4	0.0	2.9	2.2
2	P8	26.4	0.0	3.5	2.5
2	P9	25.2	-0.3	4.3	3.5
2	P10	25.5	-0.3	3.9	3.4
2	P11	24.5	-0.5	4.7	2.9
2	P12	24.5	-0.3	2.8	2.0

2	P13	25.8	-0.3	3.4	2.7
2	P14	24.6	-0.6	2.5	2.6
2	P15	24.5	-0.4	3.7	2.4
2	P16	25.6	-0.1	2.4	1.6
2	P17	26.9	-0.1	1.9	2.5
2	P18	27.0	-0.9	2.2	1.6
2	P19	27.3	-0.5	1.4	1.0
2	P20	23.8	-0.3	1.7	0.9
2	P21	23.0	0.6	3.0	2.3
2	P22	25.0	0.4	1.8	1.5
2	P23	25.8	0.1	2.3	1.8
2	P24	24.0	-0.1	2.7	1.3
2	P25	22.9	0.8	3.3	2.6
3	P1	23.6	-1.9	1.5	-0.3
3	P2	23.8	-1.8	4.3	2.6
3	P3	25.4	-1.5	3.1	4.6
3	P4	25.6	-0.9	0.9	0.1
3	P5	24.5	-1.6	2.2	2.0
3	P6	24.1	-2.4	1.7	0.3
3	P7	25.4	1.1	2.9	2.9
3	P8	26.2	1.2	2.6	2.9
3	P9	25.3	1.8	3.0	3.0
3	P10	25.5	1.2	3.6	3.6
3	P11	23.4	1.9	3.9	3.9
3	P12	23.4	2.2	4.7	4.4
3	P13	23.4	1.7	4.3	2.5
3	P14	24.0	1.2	3.0	3.6
3	P15	23.5	1.5	4.2	4.6
3	P16	24.9	1.9	3.1	5.0
3	P17	24.4	1.9	2.9	3.7
3	P18	25.4	0.9	3.5	3.4
3	P19	25.5	0.7	3.1	3.1
3	P20	26.3	0.9	2.3	4.2
3	P21	25.1	1.5	4.2	3.3
3	P22	25.0	1.0	2.9	3.4
3	P23	24.6	1.3	4.8	3.9
3	P24	23.9	1.9	4.2	4.2
3	P25	23.7	1.5	3.7	4.5
4	P1	24.5	0.7	4.0	4.6
4	P2	24.1	0.7	3.4	4.9
4	P3	26.2	0.5	1.7	5.3
4	P4	25.7	0.6	3.4	4.9
4	P5	26.3	0.3	2.0	6.0
4	P6	25.7	0.6	2.3	5.5
4	P7	25.8	0.4	3.8	4.9
4	P8	25.3	0.6	3.2	4.1
4	P9	25.4	0.2	3.4	4.3
4	P10	25.4	0.6	3.8	3.9
4	P11	24.9	0.2	4.3	4.2
4	P12	24.8	-0.1	3.8	5.2

4	P13	24.5	0.2	5.2	5.2
4	P14	24.3	0.4	3.2	4.5
4	P15	24.6	-0.3	4.1	3.5
4	P16	25.8	0.5	4.1	3.8
4	P17	26.2	0.8	4.6	3.5
4	P18	26.6	0.5	3.4	3.0
4	P19	26.3	0.6	4.2	3.0
4	P20	23.4	-0.2	1.1	0.3
4	P21	23.1	-0.3	2.9	0.7
4	P22	25.2	0.2	2.6	1.4
4	P23	24.2	0.5	3.2	1.9
4	P24	23.0	0.2	3.6	3.0
4	P25	23.4	0.3	2.2	1.7
5	P1	21.6	0.1	3.0	1.9
5	P2	22.4	0.1	3.4	2.5
5	P3	23.6	-0.2	3.8	1.9
5	P4	24.2	0.5	1.4	1.8
5	P5	23.7	-0.2	2.2	0.6
5	P6	23.6	-0.6	0.5	0.7
5	P7	25.4	0.0	1.8	1.3
5	P8	24.7	0.9	3.1	2.2
5	P9	25.0	0.2	2.3	1.2
5	P10	24.4	0.6	1.8	1.8
5	P11	24.3	0.4	1.1	2.0
5	P12	24.3	-0.4	1.0	1.3
5	P13	24.6	0.6	1.8	1.4
5	P14	24.6	0.2	2.3	2.4
5	P15	24.1	0.9	2.1	2.6
5	P16	25.0	0.3	2.3	2.1
5	P17	25.7	0.4	1.5	1.9
5	P18	25.3	0.8	2.3	1.4
5	P19	25.9	-0.2	0.6	1.1
5	P20	25.9	0.0	1.3	1.6
5	P21	25.1	0.0	2.7	2.5
5	P22	25.7	-0.6	0.9	1.0
5	P23	25.3	-0.5	1.7	1.4
5	P24	23.5	0.7	3.3	3.3
5	P25	23.5	0.8	3.8	4.0
6	P1	22.4	2.0	4.7	4.5
6	P2	22.4	1.4	4.8	4.4
6	P3	23.8	1.0	3.9	3.3
6	P4	24.0	1.2	4.8	4.1
6	P5	25.0	0.5	4.1	3.3
6	P6	24.2	1.4	4.1	3.5
6	P7	25.4	0.6	3.9	2.1
6	P8	25.4	-0.1	3.1	2.7
6	P9	23.7	0.7	4.4	3.4
6	P10	24.0	1.2	4.7	3.6
6	P11	22.1	2.3	6.0	4.7
6	P12	22.2	2.4	6.2	4.8

6	P13	22.9	1.4	4.6	4.0
6	P14	22.1	1.8	6.9	5.1
6	P15	22.5	2.4	5.0	4.8
6	P16	24.6	1.0	3.2	2.7
6	P17	25.2	0.6	3.1	2.8
6	P18	25.5	0.3	5.4	4.3
6	P19	24.8	0.7	3.1	3.8
6	P20	24.0	-1.1	3.2	0.0
6	P21	23.3	-0.7	5.2	0.8
6	P22	24.8	-0.6	4.1	2.2
6	P23	24.6	-0.6	2.8	0.6
6	P24	23.3	-0.8	2.5	1.4
6	P25	23.8	-0.8	2.8	0.5
7	P1	24.8	-2.1	0.1	1.0
7	P2	26.1	-3.0	0.9	2.2
7	P3	26.7	-2.2	2.1	2.8
7	P4	26.4	-1.5	2.7	3.0
7	P5	25.1	-1.8	2.5	2.4
7	P6	25.2	-2.6	1.1	-0.7
7	P7	27.9	-1.3	1.2	1.6
7	P8	27.7	-1.5	0.7	1.4
7	P9	27.1	-1.0	2.1	1.5
7	P10	26.7	-0.7	2.8	1.8
7	P11	25.8	-0.4	1.5	1.9
7	P12	25.8	-1.0	0.6	1.5
7	P13	25.5	-0.6	1.7	2.2
7	P14	25.7	0.1	3.4	2.2
7	P15	25.6	-0.4	2.0	2.0
7	P16	26.4	-0.4	1.8	1.2
7	P17	27.3	-0.5	0.9	1.1
7	P18	26.6	-0.4	0.7	1.8
7	P19	27.2	-0.1	2.1	1.6
7	P20	26.4	-0.6	2.7	2.2
7	P21	27.4	-0.2	2.0	2.9
7	P22	27.9	-1.3	1.0	0.3
7	P23	27.3	-1.4	0.9	1.1
7	P24	26.3	-0.9	0.9	1.6
7	P25	26.0	-0.2	1.5	1.9
8	P1	23.5	1.9	5.7	3.5
8	P2	23.9	1.6	3.7	2.8
8	P3	25.4	0.5	3.6	5.5
8	P4	25.2	1.0	2.5	4.2
8	P5	26.4	0.9	2.9	3.4
8	P6	26.2	0.6	2.3	4.4
8	P7	26.2	0.6	2.9	3.7
8	P8	25.6	0.3	2.2	2.4
8	P9	25.1	0.8	3.3	2.7
8	P10	24.5	1.3	4.2	3.2
8	P11	23.7	0.9	3.9	1.3
8	P12	23.3	1.6	4.5	2.7

8	P13	23.3	2.0	5.8	2.5
8	P14	23.7	1.4	5.3	2.8
8	P15	23.8	1.6	7.0	3.2
8	P16	24.5	1.8	5.3	3.4
8	P17	25.0	1.7	4.9	2.3
8	P18	26.6	0.9	3.2	2.7
8	P19	25.8	1.3	4.4	3.7
8	P20	25.8	-3.2	-0.4	0.5
8	P21	25.6	-3.1	-0.4	1.3
8	P22	26.5	-1.5	1.1	-0.2
8	P23	26.2	-1.5	2.8	0.5
8	P24	25.9	-2.8	-0.2	0.4
8	P25	25.4	-2.7	0.9	-0.3

LLCR (without shields):

Date	Feb. 04 2003	Feb. 17 2003	Feb. 17 2003	Mar. 03 2003
Room Temp C	20	21	23	21
RH	34%	31%	21%	27%
Name	Troy Cook	Troy Cook	Troy Cook	Troy Cook

mOhm values		Actual	Delta	Delta	Delta
Board	Position	Initial	100 Cycles	Thermal	Humidity
1	P1	22.4	-0.3	8.0	4.1
1	P2	23.4	-0.7	7.3	4.0
1	P3	24.2	0.4	6.4	8.9
1	P4	24.9	0.4	5.7	5.2
1	P5	23.0	-0.3	4.0	8.2
1	P6	21.9	0.7	3.4	8.6
1	P7	26.6	0.3	2.7	2.4
1	P8	26.4	0.1	3.9	2.5
1	P9	26.2	0.2	2.7	3.0
1	P10	26.2	-0.4	2.4	3.3
1	P11	25.6	0.3	1.9	-0.1
1	P12	24.7	0.4	2.2	1.7
1	P13	24.8	0.2	2.7	4.5
1	P14	25.0	-0.7	2.0	-0.1
1	P15	24.9	0.3	3.1	2.9
1	P16	25.5	0.9	3.8	4.4
1	P17	25.7	1.2	3.0	3.4
1	P18	25.6	1.0	3.4	3.2
1	P19	26.4	0.0	3.2	2.5
1	P20	25.6	1.1	2.6	4.2
1	P21	25.4	1.0	5.1	3.3
1	P22	26.0	0.4	3.5	3.3
1	P23	25.5	1.1	5.3	3.8
1	P24	25.1	0.5	4.1	1.8

1	P25	24.4	1.0	2.4	4.9
2	P1	24.6	-1.3	3.5	1.1
2	P2	24.8	-2.5	3.8	2.2
2	P3	25.5	-1.7	3.6	3.0
2	P4	25.7	-1.3	3.4	3.3
2	P5	26.6	-1.5	5.3	0.1
2	P6	26.5	-1.7	4.4	0.9
2	P7	26.6	-1.4	3.4	2.3
2	P8	26.3	-1.6	3.2	2.4
2	P9	26.4	-2.2	3.0	2.3
2	P10	25.9	-1.0	2.6	2.2
2	P11	24.2	-1.7	4.9	3.8
2	P12	24.8	-2.5	3.6	2.9
2	P13	24.2	-1.6	3.5	1.9
2	P14	24.1	-1.8	4.4	3.5
2	P15	24.9	-2.4	3.8	2.3
2	P16	26.2	-0.7	3.4	3.2
2	P17	27.1	-1.0	2.9	1.6
2	P18	27.0	-1.4	2.3	2.9
2	P19	26.9	-1.0	3.0	3.3
2	P20	25.4	0.8	-0.7	5.4
2	P21	24.5	0.7	1.5	6.9
2	P22	25.7	1.1	2.2	2.5
2	P23	25.7	-0.3	2.6	3.9
2	P24	24.2	0.9	3.4	5.6
2	P25	23.9	2.1	-0.1	4.0
3	P1	23.4	-0.5	3.0	0.8
3	P2	22.4	1.7	6.4	6.0
3	P3	24.9	0.1	2.4	1.8
3	P4	26.7	-1.2	0.6	0.6
3	P5	23.0	1.3	2.8	3.9
3	P6	22.1	1.7	2.8	4.3
3	P7	26.7	-1.2	3.2	1.6
3	P8	26.4	-0.8	1.9	2.2
3	P9	26.3	-1.2	2.3	2.2
3	P10	25.7	-0.9	2.1	1.5
3	P11	25.5	-1.5	1.9	0.7
3	P12	24.9	-1.3	1.9	1.7
3	P13	24.8	-1.3	1.4	1.1
3	P14	25.5	-0.6	3.7	1.4
3	P15	25.3	-2.2	1.8	1.2
3	P16	25.3	-0.4	2.6	2.0
3	P17	25.3	-0.2	1.9	1.4
3	P18	25.5	-1.1	1.6	3.2
3	P19	26.1	0.4	3.7	2.9
3	P20	25.8	-0.3	0.9	1.5
3	P21	25.8	-0.6	1.3	2.3
3	P22	26.5	-0.8	2.2	2.6
3	P23	25.2	-0.5	1.1	1.1
3	P24	25.4	-0.2	1.4	2.1

3	P25	25.2	-1.1	2.0	1.6
4	P1	24.6	0.5	2.8	2.6
4	P2	25.0	-0.7	1.9	2.0
4	P3	25.6	0.3	1.3	2.4
4	P4	26.6	0.1	7.2	4.5
4	P5	27.5	-0.6	6.2	7.7
4	P6	27.1	-0.5	3.1	3.7
4	P7	27.2	-0.1	5.0	4.8
4	P8	26.5	0.1	4.2	4.9
4	P9	26.7	-0.6	2.6	4.2
4	P10	25.6	-0.5	4.4	3.9
4	P11	25.3	-0.3	3.8	3.8
4	P12	25.0	-0.3	3.7	2.1
4	P13	24.4	-0.3	2.6	2.2
4	P14	25.0	-0.6	3.2	2.5
4	P15	25.5	-0.1	2.9	4.2
4	P16	26.6	-0.2	2.5	6.4
4	P17	26.1	-0.1	2.7	3.0
4	P18	26.0	0.4	4.9	3.8
4	P19	27.0	-0.4	2.5	0.6
4	P20	24.1	-0.3	1.9	0.3
4	P21	23.4	0.3	1.2	1.8
4	P22	25.4	-0.6	3.1	3.4
4	P23	25.5	-0.6	4.9	2.5
4	P24	23.5	-0.1	1.8	1.2
4	P25	22.8	-0.7	5.3	3.5
5	P1	21.6	0.3	7.0	7.1
5	P2	25.8	1.4	1.4	2.5
5	P3	23.9	0.8	6.0	7.7
5	P4	25.8	0.7	3.0	6.7
5	P5	24.2	0.0	5.2	6.4
5	P6	12.0	0.1	1.7	2.6
5	P7	26.1	1.3	3.5	3.2
5	P8	25.4	0.3	7.4	7.6
5	P9	27.2	-0.2	2.0	2.6
5	P10	24.5	0.5	4.1	4.1
5	P11	25.8	0.3	3.0	2.2
5	P12	25.4	0.2	1.7	1.6
5	P13	24.3	0.3	2.4	2.5
5	P14	25.6	0.6	1.8	2.5
5	P15	24.9	0.6	2.8	1.8
5	P16	25.7	0.9	2.3	1.4
5	P17	26.3	0.4	3.2	1.4
5	P18	25.9	1.2	3.4	3.4
5	P19	26.7	1.0	3.4	2.3
5	P20	26.1	0.8	3.1	3.1
5	P21	27.0	0.4	2.6	2.3
5	P22	26.3	0.6	4.0	6.3
5	P23	26.6	0.2	3.9	2.7
5	P24	26.1	0.8	3.6	2.8

5	P25	24.7	0.7	3.6	2.1
6	P1	24.6	1.3	5.2	3.5
6	P2	25.2	1.2	4.4	3.4
6	P3	26.2	0.5	2.5	1.7
6	P4	25.6	0.8	3.0	3.3
6	P5	26.7	0.4	5.8	3.9
6	P6	26.0	1.0	3.0	5.0
6	P7	26.5	1.2	3.9	2.5
6	P8	26.1	0.6	3.2	3.5
6	P9	26.6	0.7	4.5	3.5
6	P10	26.1	1.9	5.6	3.6
6	P11	25.1	1.6	3.3	4.2
6	P12	25.3	1.0	1.9	1.7
6	P13	25.1	1.5	3.1	2.1
6	P14	25.2	1.3	3.8	3.0
6	P15	25.6	1.2	2.7	2.3
6	P16	26.6	1.1	2.4	2.9
6	P17	26.6	1.1	3.0	1.9
6	P18	27.0	1.2	3.8	4.4
6	P19	27.3	0.8	3.8	0.6
6	P20	23.3	0.6	2.5	0.7
6	P21	23.3	0.2	3.8	0.9
6	P22	25.5	0.5	4.3	2.7
6	P23	24.9	0.9	3.4	2.8
6	P24	23.5	0.6	3.9	1.7
6	P25	22.4	0.2	5.0	0.9
7	P1	22.8	2.3	6.7	3.0
7	P2	23.1	1.7	4.6	3.8
7	P3	24.7	0.9	4.9	4.5
7	P4	25.8	1.3	1.8	2.3
7	P5	23.4	2.5	4.5	3.6
7	P6	22.1	3.2	3.4	2.6
7	P7	26.0	0.2	6.3	2.1
7	P8	26.3	1.1	3.5	3.0
7	P9	26.2	0.6	4.7	1.8
7	P10	26.1	0.2	4.3	2.8
7	P11	25.4	-1.2	4.1	2.4
7	P12	25.0	-0.9	3.7	2.0
7	P13	24.7	-0.8	3.4	1.9
7	P14	24.6	-0.2	4.5	3.3
7	P15	25.2	-1.0	3.0	2.0
7	P16	26.1	-0.4	4.4	2.3
7	P17	25.3	0.5	3.6	2.4
7	P18	25.9	-0.5	5.2	2.8
7	P19	26.2	-0.5	4.1	5.4
7	P20	26.2	-0.7	3.6	3.2
7	P21	26.1	-0.1	3.2	4.7
7	P22	26.9	-0.1	2.3	2.1
7	P23	26.1	0.2	3.0	4.7
7	P24	26.1	-1.7	2.6	2.7

7	P25	25.0	-0.8	3.0	2.5
8	P1	24.8	0.9	4.0	3.7
8	P2	26.0	0.4	2.6	3.1
8	P3	26.2	0.9	3.7	3.3
8	P4	27.2	0.7	5.2	2.0
8	P5	26.5	0.8	5.0	4.3
8	P6	27.0	0.5	6.5	2.7
8	P7	27.0	0.5	5.6	5.8
8	P8	26.8	0.2	8.6	2.5
8	P9	26.4	0.7	6.6	2.3
8	P10	26.4	0.6	3.7	3.1
8	P11	25.4	0.4	5.4	4.2
8	P12	25.3	0.2	1.7	4.1
8	P13	25.5	0.6	7.0	2.9
8	P14	25.9	0.4	4.5	2.3
8	P15	25.2	1.2	6.0	2.1
8	P16	26.5	0.6	3.4	1.7
8	P17	27.7	0.0	5.3	3.0
8	P18	27.3	1.3	4.2	2.8
8	P19	26.7	0.7	5.5	2.1
8	P20	23.7	0.4	3.4	0.8
8	P21	23.5	0.4	5.3	2.2
8	P22	26.1	0.0	2.4	1.1
8	P23	26.2	-0.1	3.5	2.0
8	P24	23.3	0.4	6.4	3.1
8	P25	22.8	0.0	5.1	2.1

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 #: PS-01
Description: System Power Supply
Manufacturer: Hewlett Packard
Model: HP 6033A
Serial #: (HP) 3329A-07330
Accuracy: See Manual 10/16/02- Had a fuse replaced and equipment was re-calibrated.
… Last Cal10/16/02, Next Cal: 10/31/03

Equipment #: MO-02
Description: Multimeter /Data Acquisition System
Manufacturer: Keithley
Model: 2700
Serial #: 0780546
Accuracy: See Manual
… Last Cal: 6/25/02, Next Cal: 6/25/03

Equipment #: MO-04
Description: Multimeter /Data Acquisition System
Manufacturer: Keithley
Model: 2700
Serial #: 0798688
Accuracy: See Manual
… Last Cal: 6/25/02, Next Cal: 6/25/03

Equipment #: MO-01
Description: Micro-Ohmeter
Manufacturer: Keithley
Model: 580
Serial #: 0772740
Accuracy: See Manual
… Last Cal: 6/25/02, Next Cal: 6/25/03

Equipment #: MO-03
Description: Multimeter /Data Acquisition System
Manufacturer: Keithley
Model: 2700
Serial #: 0791975
Accuracy: See Manual
… Last Cal: 6/25/02, Next Cal: 6/25/03

Equipment #: TC090601-103/105
Description: IC Thermocouple-103/105
Manufacturer: Samtec
Model:
Serial #: TC090601-103/105
Accuracy: +/- 1 degree C +/- 1 degree C
… Last Cal: , Next Cal:

Equipment #: OGP-01
Description: 6"X 6" Video Measuring Machine
Manufacturer: Optical Gauging Products
Model: Smartscope 200 CFOV
Serial #: SF2001956
Accuracy: See Manual
… Last Cal: 3/12/2003, Next Cal: 9/12/2003

Equipment #: OV-03
Description: Cascade Tek Forced Air Oven
Manufacturer: Cascade Tek
Model: TFO-5
Serial #: 0500100
Accuracy: Temp. Stability: +/-.1C/C change in ambient
… Last Cal: 6/25/02, Next Cal: 6/25/03

Equipment #: TCT-01
Description: Test Stand
Manufacturer: Chatillon
Model: TCD-1000
Serial #: 05 23 00 02
Accuracy: Speed Accuracy: +/-5% of max speed; Displacement: +/-.5% or +/-.005, whichever is greater.
… Last Cal: 6/07/02, Next Cal: 6/07/03

Equipment #: TCT-02
Description: Dillon Quantrol TC2 Test Stand
Manufacturer: Dillon
Model: PCM
Serial #: 9316255
Accuracy: Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.
… Last Cal: 8/15/01, Next Cal: 8/31/03

Equipment #: LC-5N
Description: 5 N Load Cell
Manufacturer: Dillon
Model: TC2 Load Cell
Serial #: 5370
Accuracy: +/- 0.2% of Full Scale +/- 1 LSC
… Last Cal: 5/6/02, Next Cal: 5/6/03

Equipment #: LC-50

Description: Chatillon 50 Lb. Remote Load Cell
Manufacturer: Chatillon
Model: Remote Load Cell
Serial #: F31963
Accuracy: +/- .01 Lb.
… Last Cal: 6/10/02, Next Cal: 6/10/03

Equipment #: DFGRS-R-ND-02
Description: Chatillon Remote Load Gage
Manufacturer: Chatillon
Model: DFGRS-R-ND
Serial #: A38240
Accuracy: +/- 0.3% of Full Scale +/- 1 LSC
… Last Cal: 6/10/02, Next Cal: 6/10/03

Equipment #: HPM-01
Description: Hipot Megommeter
Manufacturer: Hipotronics
Model: H306B-A
Serial #: M9905004
Accuracy: 2 % Full Scale Accuracy
… Last Cal: 6/25/02, Next Cal: 6/25/02

Equipment #: THC-01
Description: Temperature/Humidity Chamber
Manufacturer: Thermotron
Model: SM-8-7800
Serial #: 30676
Accuracy: See Manual
… Last Cal: 5/13/02, Next Cal: 5/13/03