



**TABLE OF CONTENTS**

**1.0 SCOPE**

**2.0 PRODUCT DESCRIPTION**

**3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS**

**4.0 TEST SEQUENCES**

**5.0 TEST RESULTS**

**6.0 SUMMARY**

|   |                                |  |  |  |  |        |  |  |  |  |                           |   |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|--------------------------------|--|--|--|--|--------|--|--|--|--|---------------------------|---|----------|--|--|--|--|-----------------|--|--|--|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| REV.  | B                              |  |  |  |  |        |  |  |  |  |                           |   |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SHEET   | ALL                            |  |  |  |  |        |  |  |  |  |                           |   |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REVISE ON PC ONLY   |                                |  |  |  |  |        |  |  |  |  | TITLE:                    |   |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REVISED   |                                |  |  |  |  |        |  |  |  |  | <b>TEST SPECIFICATION</b> |   |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B   | UCP2006-0120<br>KAM 2005/07/22 |  |  |  |  |        |  |  |  |  |                           | <b>SFP AND Z AXIS CONNECTORS<br/>PER GR 1217 UE AND CO RATING</b> |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO<br>INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION |                                |  |  |  |  |        |  |  |  |  |                           |   |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REV.  | DESCRIPTION                    |  |  |  |  |        |  |  |  |  |                           | APPROVED  |          |  |  |  |  |                 |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DESIGN CONTROL  |                                |  |  |  |  | STATUS |  |  |  |  | WRITTEN BY:               | CHECKED BY:   | APPROVED |  |  |  |  | DATE: YR/MO/DAY |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| UCP   |                                |  |  |  |  | M      |  |  |  |  | KAS                       | KAS   | BANAKIS  |  |  |  |  | 2004/04/29      |  |  |  |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DOCUMENT NUMBER   |                                |  |  |  |  |        |  |  |  |  | FILENAME                  |   |          |  |  |  |  |                 |  |  |  | SHEET   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>TS-74441-010</b>   |                                |  |  |  |  |        |  |  |  |  | TS74441                   |   |          |  |  |  |  |                 |  |  |  | 1 OF 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



# TEST SPECIFICATION



LANGUAGE

ENGLISH

## 1.0 SCOPE

This specification covers the **0.80 mm (.031 inch)** centerline Small Form-factor Pluggable (SFP) and Z Axis Pluggable connectors.

## 2.0 PRODUCT DESCRIPTION

### 2.1 PRODUCT NAME AND PART NUMBER

| Product Name   | Part Number  |
|--|--------------|
| Small Form-factor Pluggable (SFP) Connector (20 ckt) | 74441 series |
| Z Axis Pluggable Connector (30, 40 and 70 ckt)       | 74441 series |

### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate Sales Drawing (SD-74441-001) for information on dimensions, materials, platings and markings, and footprint patterns.

## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

The product was tested per Lucent/Molex **SUPPLIER QUALIFICATION TESTING STATUS REPORT** dated 02/25/2004. Please refer to that document for all testing details. The information is repeated here for reference only.

## 4.0 TEST SEQUENCES

### 4.1 TEST SPECIFICATION

Below is the test sequence that the parts were subjected to.

Mixed Flowing Gas per GR-1217-CORE (Uncontrolled Environment Rating) Cells 1-3

Mixed Flowing Gas per GR-1217-CORE (Central Office Rating) Cells 4-9

|   |                   |   |       |
|---|-------------------|---|-------|
|   | REVISE ON PC ONLY | TITLE:  |       |
| A   | SEE SHT 1         | <b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>                      |       |
|   |                   | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO<br>INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |       |
|   | REV.              | DESCRIPTION   |       |
| DOCUMENT NUMBER   |                   | FILENAME  | SHEET |
| <b>TS-74441-010</b>   |                   | PS74441   | 2     |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |                   |   |       |



# TEST SPECIFICATION



LANGUAGE

ENGLISH

## 4.2 TEST ENVIRONMENT

Gas Concentrations:

NO2 200 ppb

Cl2 20 ppb

H2S 100 ppb

SO2 200 ppb

## 4.3 TEST SEQUENCE

**Cells #1, 2 and 3:**

1. Preparation:
2. LLCR
3. 25 mating cycles
4. LLCR
5. FMG in the unmated position (10 days of exposure)
6. LLCR
7. FMG in the mated position (10 additional days of exposure)
8. LLCR
9. Disturbance (less than 0.1 mm displacement)
10. LLCR
11. Additional mating cycles (total of 50)
12. LLCR
13. Visual inspection of the parts and a FMA if needed.

|   |                   |   |            |
|---|-------------------|---|------------|
|   | REVISE ON PC ONLY | TITLE:  |            |
| A   | SEE SHT 1         | <b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>                      |            |
|   |                   | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO<br>INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |            |
| REV.  | DESCRIPTION       |   |            |
| DOCUMENT NUMBER<br><b>TS-74441-010</b>                        |                   | FILENAME<br>PS74441   | SHEET<br>3 |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |                   |   |            |



# TEST SPECIFICATION



LANGUAGE

ENGLISH

### Cells #4, 5 and 6:

1. Preparation:
2. LLCR
3. 25 mating cycles
4. LLCR
5. FMG in the unmated position (10 days of exposure)
6. LLCR
7. Disturbance (less than 0.1 mm displacement)
8. LLCR
9. Additional mating cycles (total of 50)
10. LLCR
11. Visual inspection of the parts and aFMA if needed.

|   |                   |   |            |
|---|-------------------|---|------------|
|   | REVISE ON PC ONLY | TITLE:  |            |
| A   | SEE SHT 1         | <b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>                      |            |
|   |                   | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO<br>INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |            |
|   | REV. DESCRIPTION  |   |            |
| DOCUMENT NUMBER<br><b>TS-74441-010</b>                        |                   | FILENAME<br>PS74441   | SHEET<br>4 |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |                   |   |            |



# TEST SPECIFICATION



LANGUAGE

ENGLISH

### Cells #7, 8 and 9:

1. Preparation
2. LLCR
3. 25 mating cycles
4. LLCR
5. FMG in the mated position (10 days of exposure)
6. LLCR
7. Disturbance (less than 0.1 mm displacement)
8. LLCR
9. Additional mating cycles (total of 50)
10. LLCR
11. Visual inspection of the parts and aFMA if needed.

|   |                   |   |            |
|---|-------------------|---|------------|
|   | REVISE ON PC ONLY | TITLE:  |            |
| A   | SEE SHT 1         | <b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>                      |            |
|   |                   | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO<br>INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |            |
|   | REV. DESCRIPTION  |   |            |
| DOCUMENT NUMBER<br><b>TS-74441-010</b>                        |                   | FILENAME<br>PS74441   | SHEET<br>5 |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |                   |   |            |



# TEST SPECIFICATION



LANGUAGE

ENGLISH

## 4.3 TEST COMPONENTS

|  | Cell # 1   | Cell # 2   | Cell # 3   | Cell #4  | Cell #5  | Cell #6  | Cell #7  | Cell #8  | Cell #9  |
|--|------------|------------|------------|----------|----------|----------|----------|----------|----------|
| 74441-0031<br>Unlubricated<br>connector                    | X          | -          | -          | X        | -        | -        | X        | -        | -        |
| 74441-0021<br>Lubricated<br>connector                      | -          | X          | -          | -        | X        | -        | -        | X        | -        |
| Lubricated<br>board (EB-1)<br>and connector<br>74441-0021  | -          | -          | X          | -        | -        | X        | -        | -        | X        |
| Uncontrolled<br>Environment to<br>obtain CO data<br>points | -          | -          | -          | X        | X        | X        | X        | X        | X        |
| Uncontrolled<br>environment                                | X          | X          | X          | -        | -        | -        | -        | -        | -        |
| # of pre-wear<br>cycles                                    | 25         | 25         | 25         | 25       | 25       | 25       | 25       | 25       | 25       |
| # of days in<br>unmated<br>position                        | 10         | 10         | 10         | 10       | 10       | 10       | -        | -        | -        |
| # of post-wear<br>cycles                                   | 25         | 25         | 25         | 25       | 25       | 25       | 25       | 25       | 25       |
| # of days in<br>mated position                             | 10         | 10         | 10         | -        | -        | -        | 10       | 10       | 10       |
| *Exposure<br>sequence                                      | Sequential | Sequential | Sequential | Parallel | Parallel | Parallel | Parallel | Parallel | Parallel |

REVISE ON PC ONLY

A

SEE SHT 1

TITLE:

**TEST SPECIFICATION FOR  
SFP AND Z AXIS CONNECTORS  
PER GR-1217 UE AND CO RATING**

REV.

DESCRIPTION

THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO  
INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION

DOCUMENT NUMBER

**TS-74441-010**

FILENAME

PS74441

SHEET

6



# TEST SPECIFICATION



LANGUAGE

ENGLISH

## 5.0 TEST RESULTS

### 5.1 SUMMARY DATA (CELLS 1-3)

|  | Delta R<br>after<br>25 Durability<br>Cycles | Delta R<br>after<br>10 Days<br>Unmated | Delta R<br>after<br>10 Days<br>Mated | Delta R<br>after<br>Distrbance | Delta R<br>after<br>50 Durability<br>Cycles |
|--|---|--|--------------------------------------|--------------------------------|---|
|--|---|--|--------------------------------------|--------------------------------|---|

#### CELL 1 UNLUBRICATED P/N 74441-0031

|            |       |       |       |       |       |
|------------|-------|-------|-------|-------|-------|
| <b>MAX</b> | 1.50  | 1.48  | 1.40  | 24.93 | 5.48  |
| <b>MIN</b> | -1.02 | -0.81 | -0.88 | -0.59 | -0.38 |
| <b>AVG</b> | -0.11 | 0.16  | 0.12  | 0.76  | 0.37  |
| <b>STD</b> | 0.41  | 0.37  | 0.42  | 3.24  | 0.76  |

Note: One data point over 10 milliOhms

#### CELL 2 LUBRICATED P/N 74441-0021

|            |       |       |       |       |       |
|------------|-------|-------|-------|-------|-------|
| <b>MAX</b> | 0.63  | 0.36  | 0.27  | 0.51  | 0.31  |
| <b>MIN</b> | -1.36 | -1.19 | -1.50 | -1.12 | -1.50 |
| <b>AVG</b> | -0.33 | -0.24 | -0.44 | -0.13 | -0.28 |
| <b>STD</b> | 0.40  | 0.35  | 0.38  | 0.38  | 0.42  |

Note: Test PASSED

#### CELL 3 LUBRICATED P/N 74441-0021 (BOARD LUBRICATED)

|            |       |       |       |       |       |
|------------|-------|-------|-------|-------|-------|
| <b>MAX</b> | 0.36  | 0.39  | 0.36  | 0.47  | 0.48  |
| <b>MIN</b> | -1.06 | -1.23 | -1.29 | -0.88 | -1.06 |
| <b>AVG</b> | -0.43 | -0.38 | -0.44 | -0.21 | -0.23 |
| <b>STD</b> | 0.27  | 0.35  | 0.34  | 0.28  | 0.32  |

Note: Test PASSED

REVISE ON PC ONLY

A

SEE SHT 1

TITLE:

**TEST SPECIFICATION FOR  
SFP AND Z AXIS CONNECTORS  
PER GR-1217 UE AND CO RATING**

REV.

DESCRIPTION

THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO  
INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION

DOCUMENT NUMBER

**TS-74441-010**

FILENAME

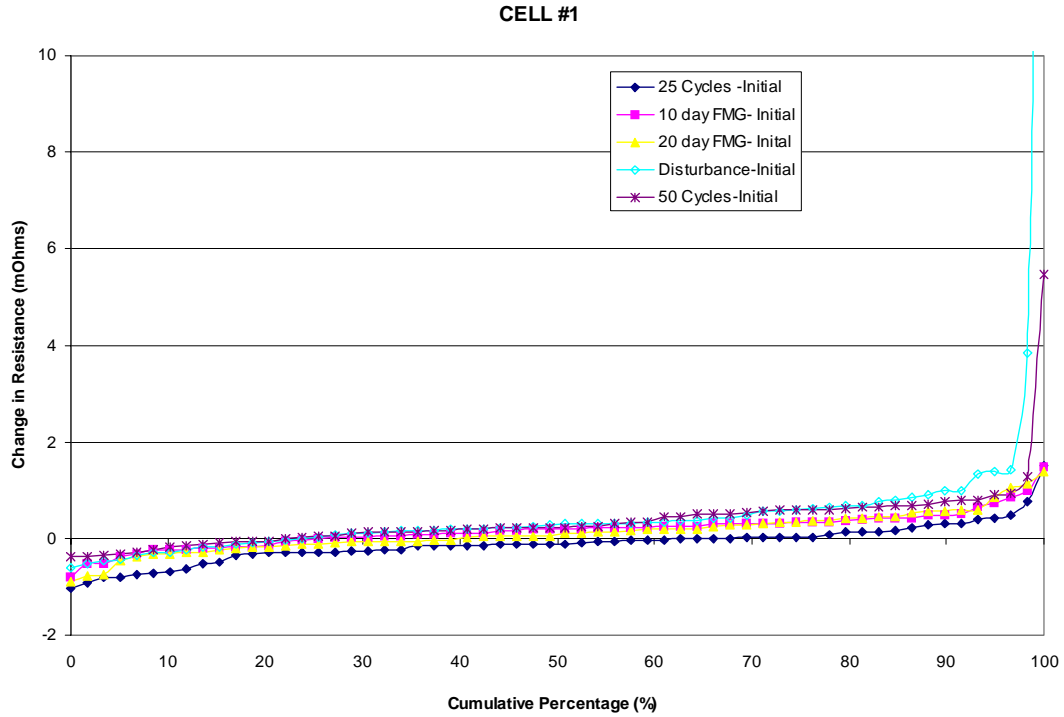
PS74441

SHEET

7



5.2 CUMULATIVE PLOTS (CELLS 1-3)



|   |           |  |
|---|-----------|--|
| REVISE ON PC ONLY   |           | TITLE:<br><br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>     |
| A   | SEE SHT 1 |  |
| REV. DESCRIPTION  |           | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER   | FILENAME  | SHEET  |
| <b>TS-74441-010</b>   | PS74441   | 8  |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |           |  |





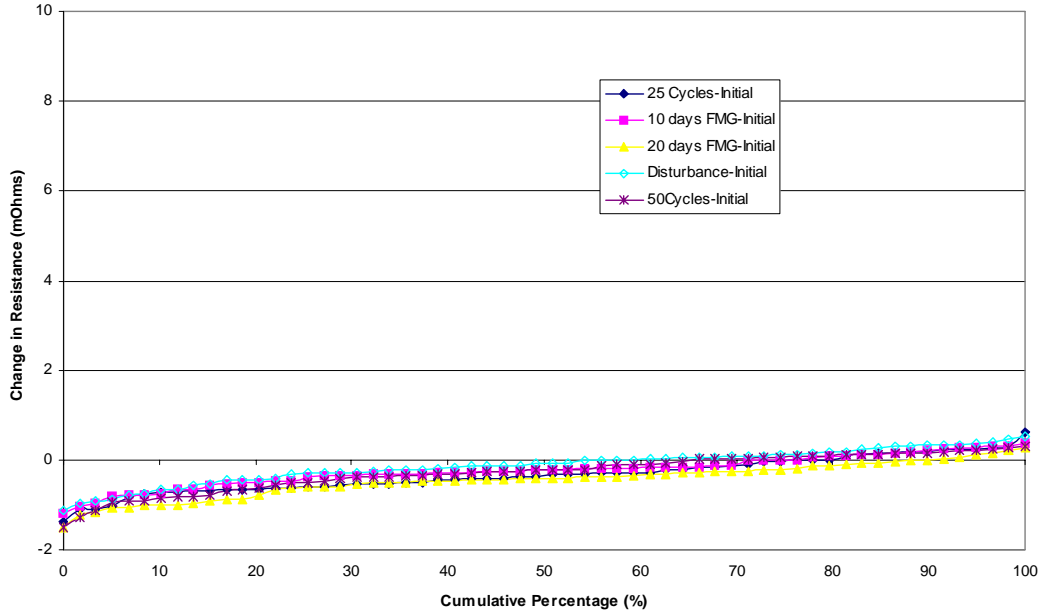
# TEST SPECIFICATION



LANGUAGE

ENGLISH

CELL #2



|   |           |  |
|---|-----------|--|
| REVISE ON PC ONLY   |           | TITLE:<br><br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>     |
| A   | SEE SHT 1 |  |
| REV. DESCRIPTION  |           | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER   | FILENAME  | SHEET  |
| <b>TS-74441-010</b>   | PS74441   | 9  |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |           |  |



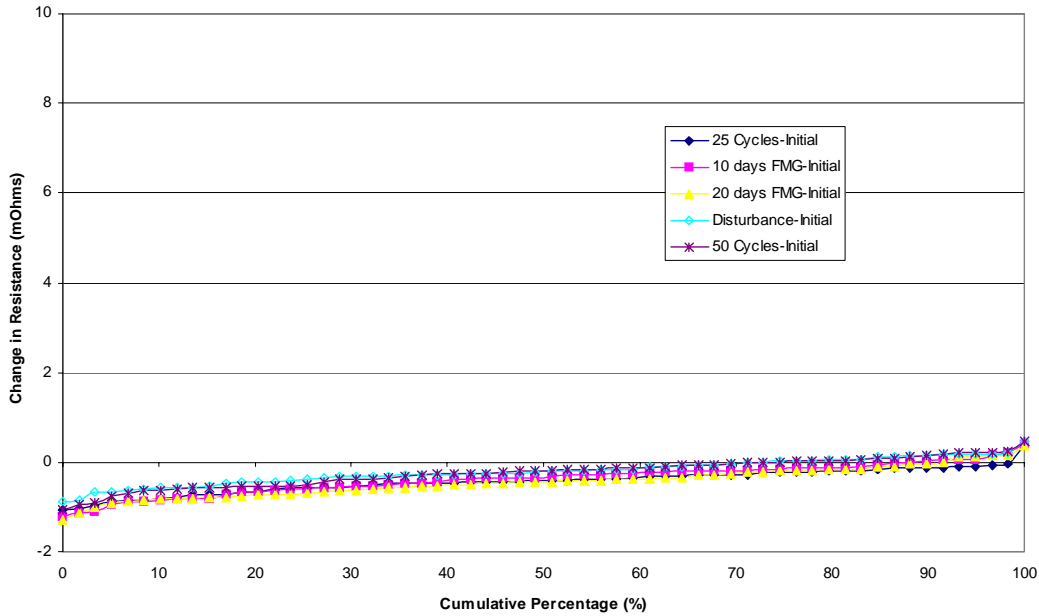
# TEST SPECIFICATION



LANGUAGE

ENGLISH

CELL #3



|   |           |  |
|---|-----------|--|
| REVISE ON PC ONLY   |           | TITLE:<br><br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>     |
| A   | SEE SHT 1 |  |
| REV. DESCRIPTION  |           | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER   | FILENAME  | SHEET  |
| <b>TS-74441-010</b>   | PS74441   | 10   |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |           |  |



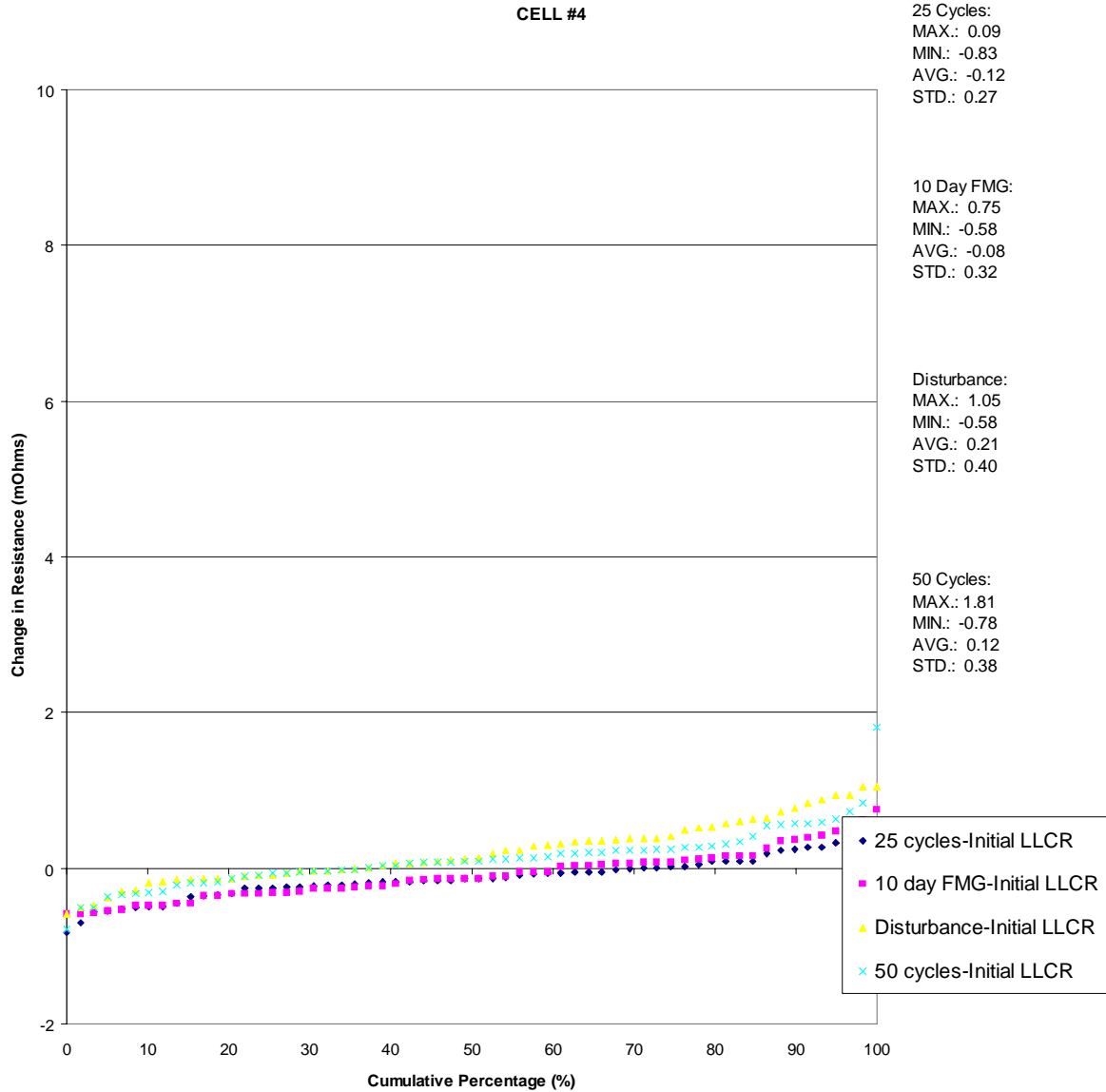
# TEST SPECIFICATION



LANGUAGE

ENGLISH

## 5.3 CUMULATIVE PLOTS AND SUMMARY DATA (CELLS 4-9)



|   |           |  |
|---|-----------|--|
| REVISE ON PC ONLY   |           | TITLE:<br><br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>     |
| A   | SEE SHT 1 |  |
| REV. DESCRIPTION  |           | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER   | FILENAME  | SHEET  |
| <b>TS-74441-010</b>   | PS74441   | 11   |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |           |  |

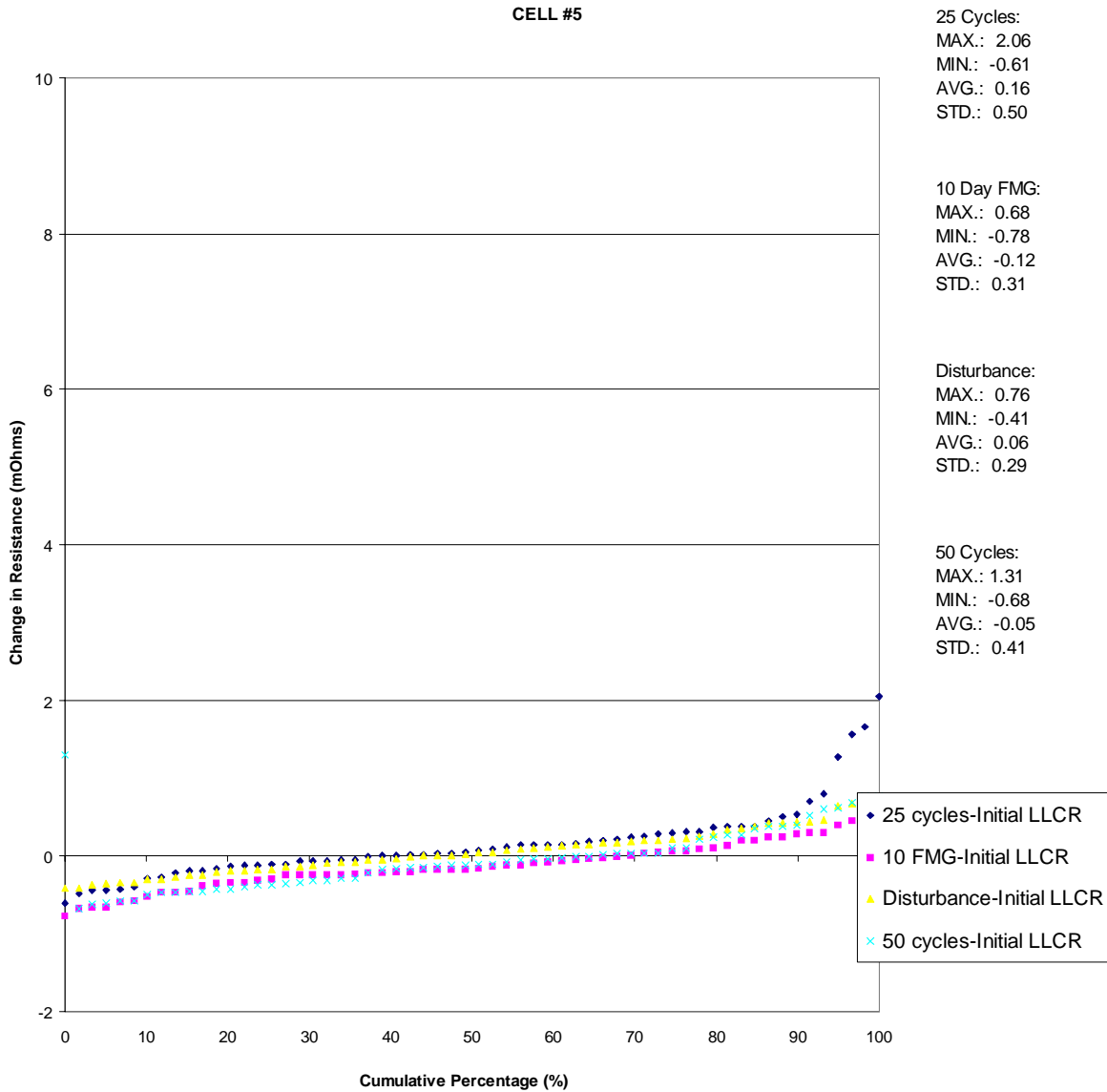


# TEST SPECIFICATION



LANGUAGE

ENGLISH



|   |           |  |
|---|-----------|--|
| REVISE ON PC ONLY   |           | TITLE:<br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>         |
| A   | SEE SHT 1 |  |
| REV. DESCRIPTION  |           | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER   | FILENAME  | SHEET  |
| <b>TS-74441-010</b>   | PS74441   | 12   |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |           |  |



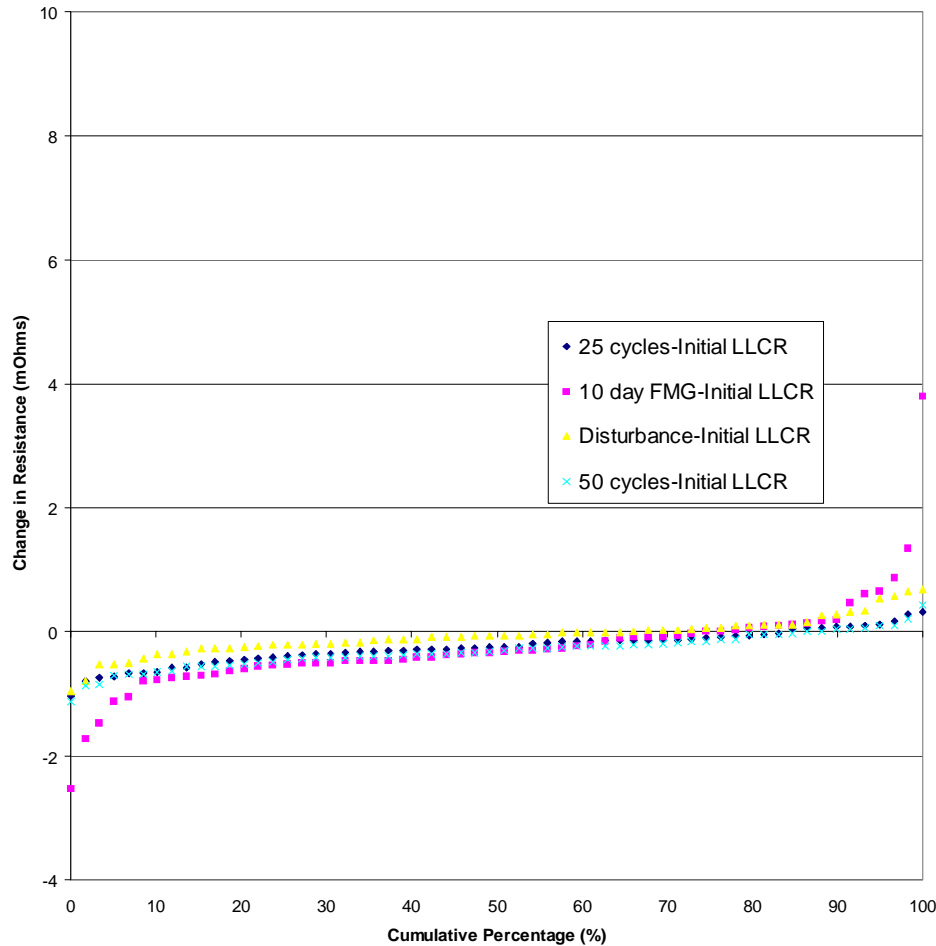
# TEST SPECIFICATION



LANGUAGE

ENGLISH

CELL #6



25 Cycles:  
 MAX.: 0.32  
 MIN.: -1.03  
 AVG.: -0.25  
 STD.: 0.27

10 Day FMG:  
 MAX.: 3.80  
 MIN.: -2.53  
 AVG.: -0.25  
 STD.: 0.79

Disturbance:  
 MAX.: 0.69  
 MIN.: -0.96  
 AVG.: -0.07  
 STD.: 0.30

50 Cycles:  
 MAX.: .44  
 MIN.: -1.13  
 AVG.: -0.31  
 STD.: 0.28

|   |           |  |
|---|-----------|--|
| REVISE ON PC ONLY   |           | TITLE:<br><br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>     |
| A   | SEE SHT 1 |  |
| REV. DESCRIPTION  |           | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER   | FILENAME  | SHEET  |
| <b>TS-74441-010</b>   | PS74441   | 13   |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |           |  |



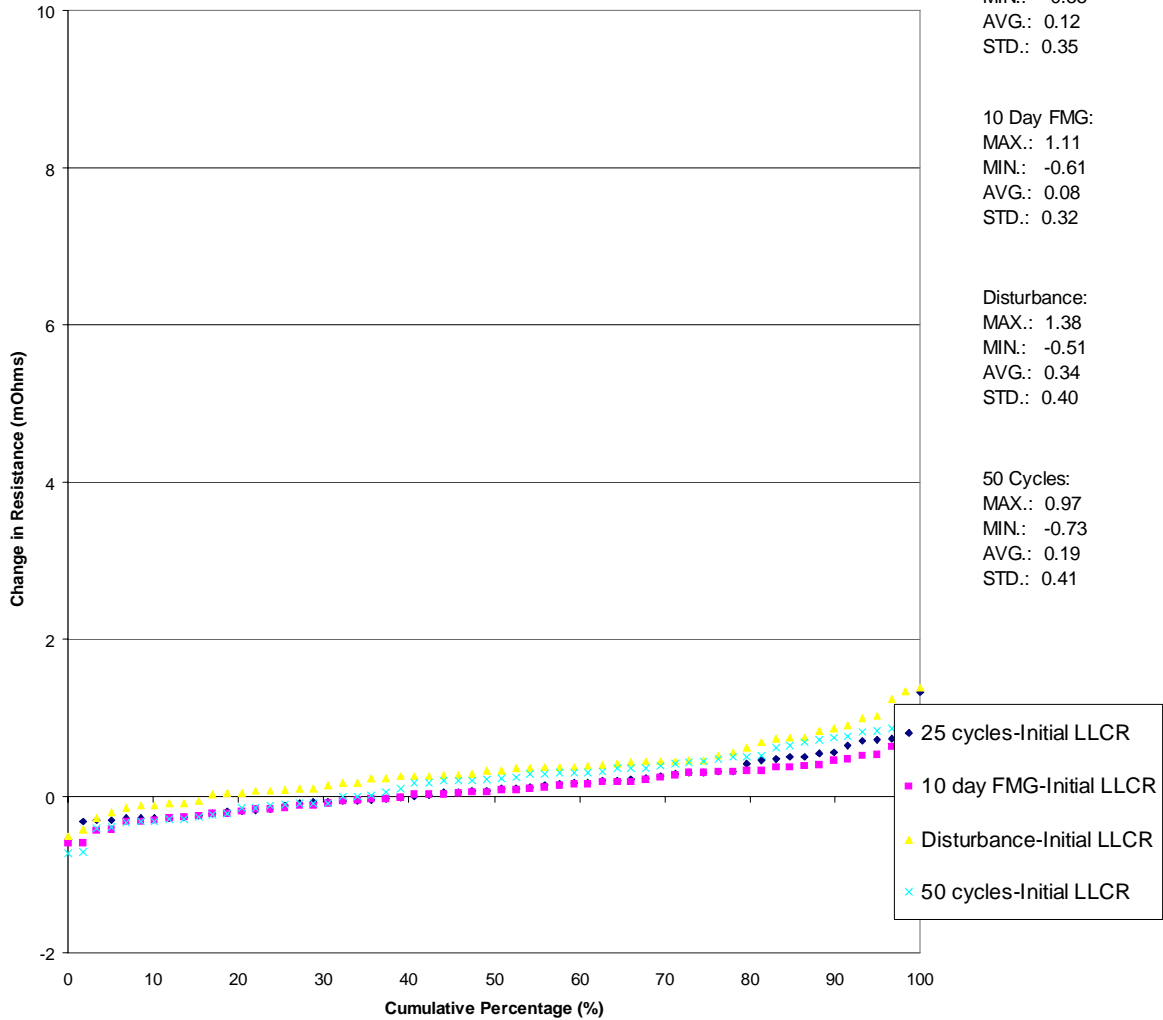
# TEST SPECIFICATION



LANGUAGE

ENGLISH

CELL #7



|   |                     |  |
|---|---------------------|--|
| REVISE ON PC ONLY   |                     | TITLE:<br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>         |
| A   | SEE SHT 1           |  |
| REV. DESCRIPTION  |                     | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER<br><b>TS-74441-010</b>                        | FILENAME<br>PS74441 | SHEET<br>14  |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |                     |  |

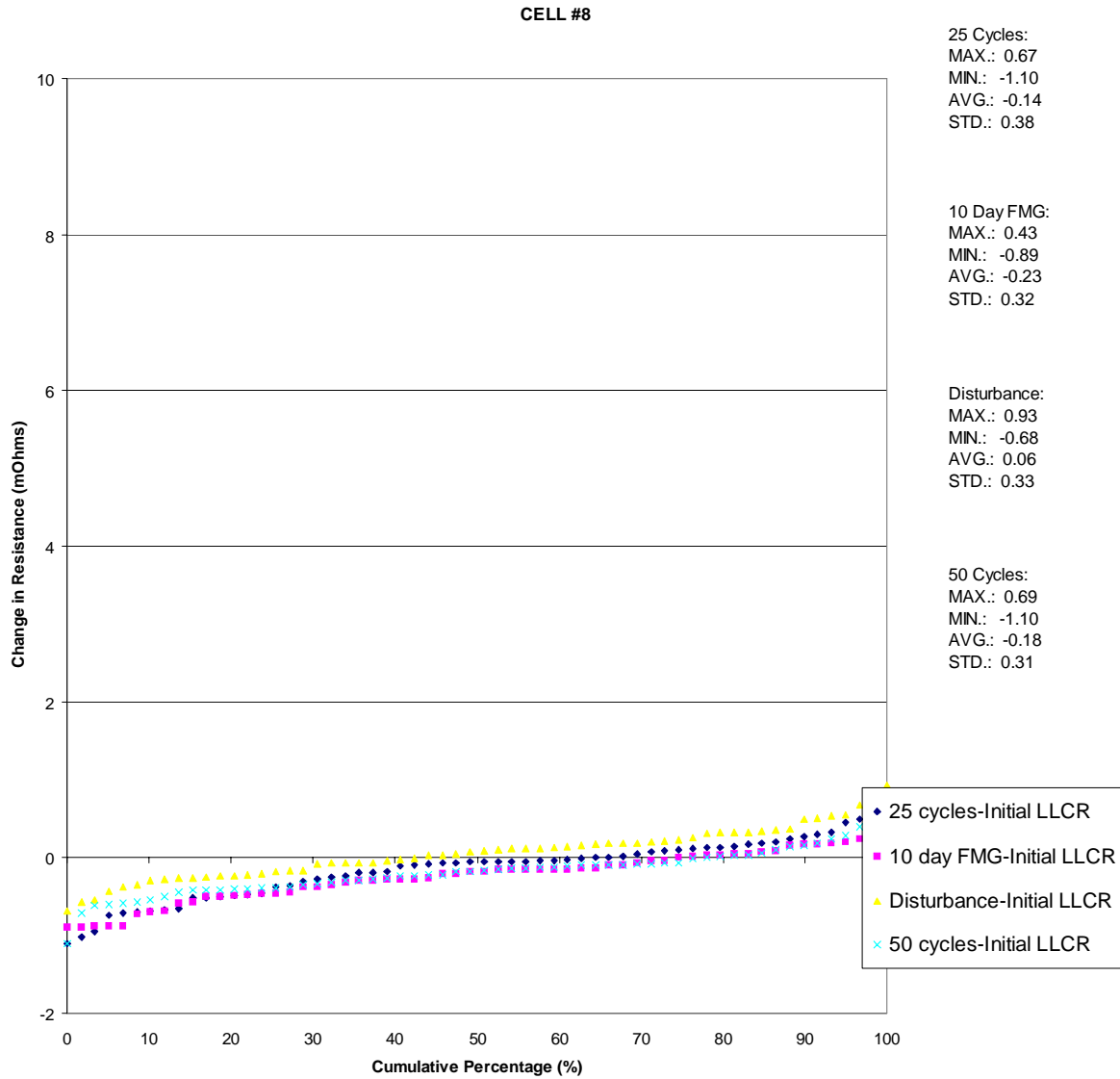


# TEST SPECIFICATION



LANGUAGE

ENGLISH



|   |                     |  |
|---|---------------------|--|
| REVISE ON PC ONLY   |                     | TITLE:<br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>         |
| A   | SEE SHT 1           |  |
| REV. DESCRIPTION  |                     | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER<br><b>TS-74441-010</b>                        | FILENAME<br>PS74441 | SHEET<br>15  |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |                     |  |

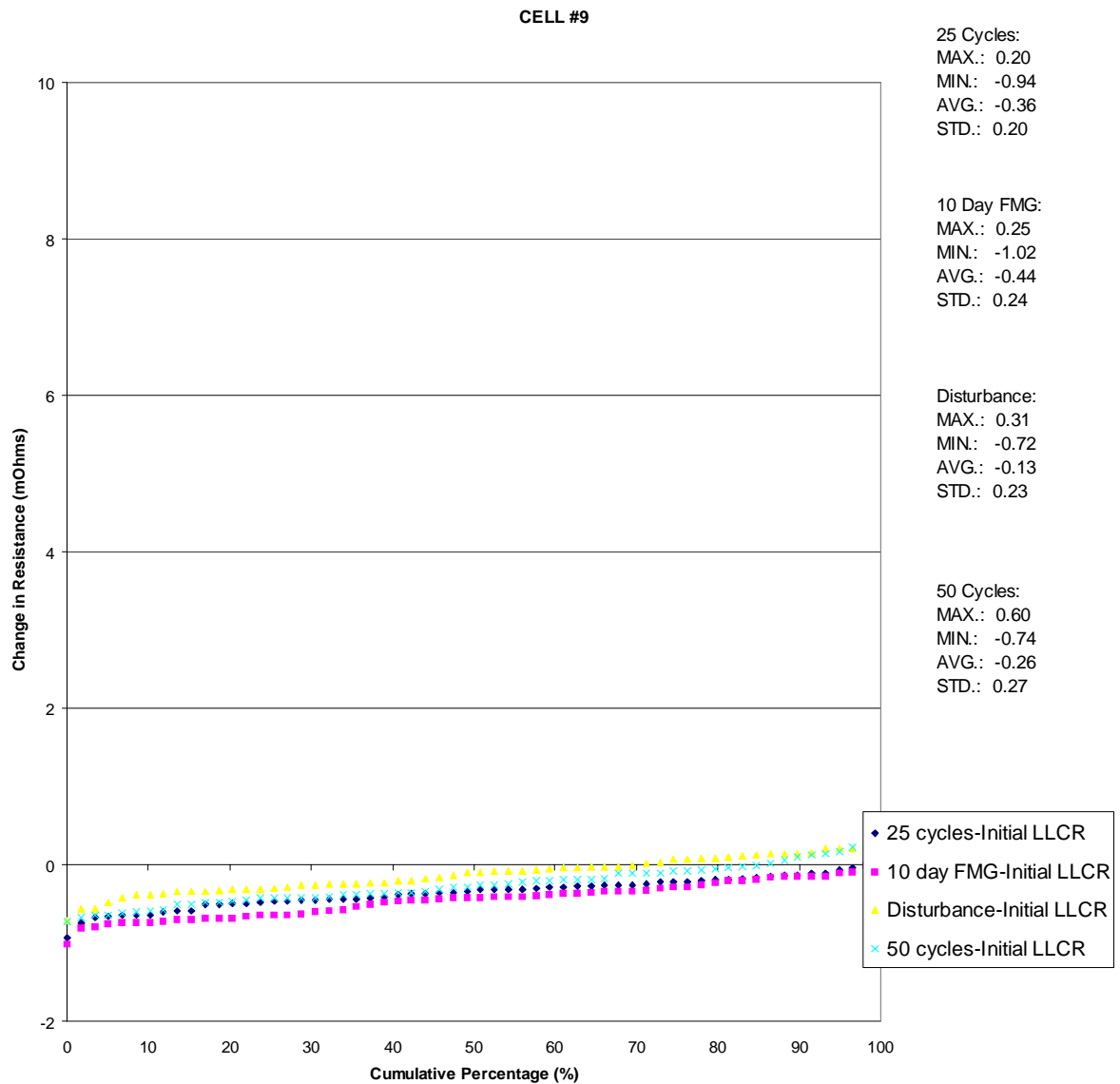


# TEST SPECIFICATION



LANGUAGE

ENGLISH



|   |           |  |
|---|-----------|--|
| REVISE ON PC ONLY   |           | TITLE:<br><br><b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>     |
| A   | SEE SHT 1 |  |
| REV. DESCRIPTION  |           | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |
| DOCUMENT NUMBER   | FILENAME  | SHEET  |
| <b>TS-74441-010</b>   | PS74441   | 16   |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |           |  |





# TEST SPECIFICATION



LANGUAGE

ENGLISH

## 6.0 SUMMARY

### UNCONTROLLED ENVIRONMENT

The lubricated connector tested in this specification met the testing requirement. Based on this testing, the 74441-0021 product has been rated to pass the Uncontrolled Environment sequence of the Mixed Flowing Gas testing per GR-1217-CORE.

### CENTRAL OFFICE

Both the lubricated and unlubricated connectors tested in this specification met the testing requirements. Based on this testing, the 74441-0021 and the 74441-0031 product have been rated to pass the Central Office sequence of the Mixed Flowing Gas testing per GR-1217-CORE.

|   |                   |   |             |
|---|-------------------|---|-------------|
|   | REVISE ON PC ONLY | TITLE:  |             |
| A   | SEE SHT 1         | <b>TEST SPECIFICATION FOR<br/>SFP AND Z AXIS CONNECTORS<br/>PER GR-1217 UE AND CO RATING</b>                      |             |
|   |                   | THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO<br>INC. AND MUST NOT BE USED WITHOUT WRITTEN PERMISSION |             |
|   | REV. DESCRIPTION  |   |             |
| DOCUMENT NUMBER<br><b>TS-74441-010</b>                        |                   | FILENAME<br>PS74441   | SHEET<br>17 |
| ES-40000-3996 REV. A SHEET 4 95/MAR/10 EC U5-0926 DCBRD03.LWP |                   |   |             |