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

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Form-factor Pluggable (SFP) Connector (20 ckt)</td>
<td>74441 series</td>
</tr>
<tr>
<td>Z Axis Pluggable Connector (30, 40 and 70 cpts)</td>
<td>74441 series</td>
</tr>
</tbody>
</table>

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
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 aFMA if needed.
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 a FMA if needed.
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.
### 4.3 TEST COMPONENTS

<table>
<thead>
<tr>
<th>Cell # 1</th>
<th>Cell # 2</th>
<th>Cell # 3</th>
<th>Cell # 4</th>
<th>Cell # 5</th>
<th>Cell # 6</th>
<th>Cell # 7</th>
<th>Cell # 8</th>
<th>Cell # 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>74441-0031</td>
<td>Un lubricated connector</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
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<tr>
<td>74441-0021</td>
<td>Lubricated connector</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
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<tr>
<td>Lubricated board (EB-1) and connector</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Un controlled environment to obtain CO data points</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Un controlled environment</td>
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<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td># of days in unmated position</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td># of days in mated position</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>*Exposure sequence</td>
<td>Sequential</td>
<td>Sequential</td>
<td>Sequential</td>
<td>Parallel</td>
<td>Parallel</td>
<td>Parallel</td>
<td>Parallel</td>
<td>Parallel</td>
</tr>
</tbody>
</table>

---

**TEST SPECIFICATION FOR SFP AND Z AXIS CONNECTORS**

**PER GR-1217 UE AND CO RATING**

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A

**SEE SHT 1**

**DESCRIPTION**

This document contains information that is proprietary to INC. and must not be used without written permission.
### 5.0 TEST RESULTS

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

<table>
<thead>
<tr>
<th></th>
<th>Delta R after 25 Durability Cycles</th>
<th>Delta R after 10 Days Unmated</th>
<th>Delta R after 10 Days Mated</th>
<th>Delta R after Distrbance</th>
<th>Delta R after 50 Durability Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CELL 1</strong> UNLUBRICATED P/N 74441-0031</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>MAX</td>
<td>1.50</td>
<td>1.48</td>
<td>1.40</td>
<td>24.93</td>
<td>5.48</td>
</tr>
<tr>
<td>MIN</td>
<td>-1.02</td>
<td>-0.81</td>
<td>-0.88</td>
<td>-0.59</td>
<td>-0.38</td>
</tr>
<tr>
<td>AVG</td>
<td>-0.11</td>
<td>0.16</td>
<td>0.12</td>
<td>0.76</td>
<td>0.37</td>
</tr>
<tr>
<td>STD</td>
<td>0.41</td>
<td>0.37</td>
<td>0.42</td>
<td>3.24</td>
<td>0.76</td>
</tr>
</tbody>
</table>

Note: One data point over 10 milliOhms

| **CELL 2** LUBRICATED P/N 74441-0021 |                                  |                               |                           |                          |                                  |
| MAX            | 0.63                             | 0.36                          | 0.27                       | 0.51                     | 0.31                             |
| MIN            | -1.36                            | -1.19                         | -1.50                      | -1.12                    | -1.50                            |
| AVG            | -0.33                            | -0.24                         | -0.44                      | -0.13                    | -0.28                            |
| STD            | 0.40                             | 0.35                          | 0.38                       | 0.38                     | 0.42                             |

Note: Test PASSED

| **CELL 3** LUBRICATED P/N 74441-0021 (BOARD LUBRICATED) |                                  |                               |                           |                          |                                  |
| MAX            | 0.36                             | 0.39                          | 0.36                       | 0.47                     | 0.48                             |
| MIN            | -1.06                            | -1.23                         | -1.29                      | -0.88                    | -1.06                            |
| AVG            | -0.43                            | -0.38                         | -0.44                      | -0.21                    | -0.23                            |
| STD            | 0.27                             | 0.35                          | 0.34                       | 0.28                     | 0.32                             |

Note: Test PASSED
5.2  CUMULATIVE PLOTS (CELLS 1-3)

**CELL #1**

- 25 Cycles - Initial
- 10 day FMG - Initial
- 20 day FMG - Initial
- Disturbance - Initial
- 50 Cycles - Initial
5.3 CUMULATIVE PLOTS AND SUMMARY DATA (CELLS 4-9)

CELL #4

25 Cycles:
MAX.: 0.09
MIN.: -0.83
AVG.: -0.12
STD.: 0.27

10 Day FMG:
MAX.: 0.75
MIN.: -0.58
AVG.: -0.08
STD.: 0.32

Disturbance:
MAX.: 1.05
MIN.: -0.58
AVG.: 0.21
STD.: 0.40

50 Cycles:
MAX.: 1.81
MIN.: -0.78
AVG.: 0.12
STD.: 0.38
CELL #5

25 Cycles:
MAX.: 2.06
MIN.: -0.61
AVG.: 0.16
STD.: 0.50

10 Day FMG:
MAX.: 0.68
MIN.: -0.78
AVG.: -0.12
STD.: 0.31

Disturbance:
MAX.: 0.76
MIN.: -0.41
AVG.: 0.06
STD.: 0.29

50 Cycles:
MAX.: 1.31
MIN.: -0.68
AVG.: -0.05
STD.: 0.41

Cumulative Percentage (%)

Change in Resistance (mOhms)
CELL #6

Cumulative Percentage (%)

-4 -2 0 2 4 6 8 10

Change in Resistance (mOhms)

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.: 0.44
MIN.: -1.13
AVG.: -0.31
STD.: 0.28
<table>
<thead>
<tr>
<th>Change in Resistance (mOhms)</th>
<th>Cumulative Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Cycles:</td>
<td></td>
</tr>
<tr>
<td>MAX.: 1.33</td>
<td></td>
</tr>
<tr>
<td>MIN.: -0.55</td>
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</tr>
<tr>
<td>AVG.: 0.12</td>
<td></td>
</tr>
<tr>
<td>STD.: 0.35</td>
<td></td>
</tr>
<tr>
<td>10 Day FMG:</td>
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</tr>
<tr>
<td>MAX.: 1.11</td>
<td></td>
</tr>
<tr>
<td>MIN.: -0.61</td>
<td></td>
</tr>
<tr>
<td>AVG.: 0.08</td>
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</tr>
<tr>
<td>STD.: 0.32</td>
<td></td>
</tr>
<tr>
<td>Disturbance:</td>
<td></td>
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<tr>
<td>MAX.: 1.38</td>
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</tr>
<tr>
<td>MIN.: -0.51</td>
<td></td>
</tr>
<tr>
<td>AVG.: 0.34</td>
<td></td>
</tr>
<tr>
<td>STD.: 0.40</td>
<td></td>
</tr>
<tr>
<td>50 Cycles:</td>
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</tr>
<tr>
<td>MAX.: 0.97</td>
<td></td>
</tr>
<tr>
<td>MIN.: -0.73</td>
<td></td>
</tr>
<tr>
<td>AVG.: 0.19</td>
<td></td>
</tr>
<tr>
<td>STD.: 0.41</td>
<td></td>
</tr>
</tbody>
</table>
CELL #8

25 Cycles:
MAX.:  0.67
MN.: -1.10
AVG.: -0.14
STD.:  0.38

10 Day FMG:
MAX.:  0.43
MN.:  -0.89
AVG.: -0.23
STD.:  0.32

Disturbance:
MAX.:  0.93
MN.:  -0.68
AVG.:  0.06
STD.:  0.33

50 Cycles:
MAX.:  0.69
MN.: -1.10
AVG.: -0.18
STD.:  0.31

CHANGE IN RESISTANCE (mOhms) vs. CUMULATIVE PERCENTAGE (%)

25 cycles-Initial LLCR
10 Day FMG-Initial LLCR
Disturbance-Initial LLCR
50 cycles-Initial LLCR

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REV. DESCRIPTION

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

DOCUMENT NUMBER  FILENAME  SHEET
TS-74441-010  PS74441  15

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CELL #9

25 Cycles:
MAX.: 0.20
MIN.: -0.94
AVG.: -0.36
STD.: 0.20

10 Day FMG:
MAX.: 0.25
MIN.: -1.02
AVG.: -0.44
STD.: 0.24

Disturbance:
MAX.: 0.31
MIN.: -0.72
AVG.: -0.13
STD.: 0.23

50 Cycles:
MAX.: 0.60
MIN.: -0.74
AVG.: -0.26
STD.: 0.27

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

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A
SEE SHT 1

REV.
DESCRIPTION

DOCUMENT NUMBER
TS-74441-010

FILENAME
PS74441

SHEET
16

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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.