IPC-9252A
Amendment 1
Requirements for Electrical Testing of Unpopulated Printed Boards

October 2012

A standard developed by IPC
In May 1995 the IPC’s Technical Activities Executive Committee (TAEC) adopted Principles of Standardization as a guiding principle of IPC’s standardization efforts.

**Standards Should:**
- Show relationship to Design for Manufacturability (DFM) and Design for the Environment (DFE)
- Minimize time to market
- Contain simple (simplified) language
- Just include spec information
- Focus on end product performance
- Include a feedback system on use and problems for future improvement

**Standards Should Not:**
- Inhibit innovation
- Increase time-to-market
- Keep people out
- Increase cycle time
- Tell you how to make something
- Contain anything that cannot be defended with data

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Adopted October 6, 1998

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Requirements for Electrical Testing of Unpopulated Printed Boards

Table 4-1 Requirements by Test Level

Replace the table and footnotes as follows:

<table>
<thead>
<tr>
<th>TEST LEVEL</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Class</td>
<td>1</td>
<td>2</td>
<td>3²</td>
</tr>
<tr>
<td>Source Data</td>
<td>CAM, CAD</td>
<td>CAM, CAD</td>
<td>CAD³</td>
</tr>
</tbody>
</table>

**TEST METHODS**

<table>
<thead>
<tr>
<th>TEST METHODS</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistive Continuity Testing</td>
<td>≤ 100Ω</td>
<td>≤ 50Ω</td>
<td>≤ 10Ω³</td>
</tr>
<tr>
<td>Resistive Isolation Testing</td>
<td>≥ 500kΩ</td>
<td>≥ 2MΩ</td>
<td>≥ 10MΩ</td>
</tr>
<tr>
<td>Indirect Isolation &amp; Continuity Testing by Signature Comparison</td>
<td>Yes</td>
<td>Yes</td>
<td>AABUS</td>
</tr>
<tr>
<td>Adjacency (for isolation testing)²,³</td>
<td>Yes</td>
<td>Yes</td>
<td>AABUS</td>
</tr>
<tr>
<td>Required Testing of Accessible Midpoints⁶</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note 1. See 5.1.2
Note 2. Default minimum of 1.27 mm [0.050 in] or AABUS.
Note 3. Includes horizontal and/or line of sight adjacency; vertical adjacency is not required unless specified.
Note 4. For referee purposes, 0.5 maximum for each 25.0 mm [0.984 in] of circuit length shall apply.
Note 5. For Class 3/A Performance Requirements, see IPC-6012.
Note 6. Conductors not covered with solder mask or via plug material.

4.2.1 Resistive Isolation Testing

Replace third and fourth sentences as follows:

For automated test equipment, the test voltage shall be as specified on the master drawing. If the rated voltage is listed, rather than a test voltage, the minimum test voltage shall be this rated voltage or 40 volts minimum, whichever is greater. If no test or rated voltage is listed, the test voltage shall be 40 volts minimum. The test voltage shall be applied between nets under test.