



IPC-9252A

Amendment 1

Requirements for Electrical Testing of Unpopulated Printed Boards

October 2012

A standard developed by IPC

Association Connecting Electronics Industries



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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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Requirements for Electrical Testing of Unpopulated Printed Boards

Table 4-1 Requirements by Test Level

Replace the table and footnotes as follows:

TEST LEVEL	A	B	C
Performance Class	1	2	3 ⁵
Source Data	CAM, CAD	CAM, CAD	CAD ¹
TEST METHODS			
Resistive Continuity Testing	$\leq 100\Omega$	$\leq 50\Omega$	$\leq 10\Omega^4$
Resistive Isolation Testing	$\geq 500k\Omega$	$\geq 2M\Omega$	$\geq 10M\Omega$
Indirect Isolation & Continuity Testing by Signature Comparison	Yes	Yes	AABUS
Adjacency (for isolation testing) ^{2,3}	Yes	Yes	AABUS
Required Testing of Accessible Midpoints ⁶	No	No	Yes

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.