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*THE INSTITUTE FOR  
INTERCONNECTING  
AND PACKAGING  
ELECTRONIC CIRCUITS*

# IPC-QL-653A

**Certification of Facilities that  
Inspect/Test Printed Boards,  
Components and Materials**

## **IPC-QL-653A**

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A standard developed by the Institute for Interconnecting  
and Packaging Electronic Circuits

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# Certification of Facilities that Inspect/Test Printed Boards, Components, and Materials

## 1.0 SCOPE

**1.1 Scope** This specification establishes the certification requirements for facilities that inspect/test printed boards, components and materials. This specification is intended to provide a minimum standardized basis for evaluating or auditing a technically oriented inspection/testing facility.

Any location that performs inspection or testing for end-product acceptance to a specific specification shall be considered part of the facility.

**1.2 Purpose** The purpose of this document is to establish the requirements for certifying that inspection/test facilities are capable and are performing inspection/testing functions to IPC or other specifications. In addition, this specification defines the auditing procedures and auditing functions.

## 2.0 APPLICABLE DOCUMENTS

The following documents of the issue currently in effect form a part of this specification to the extent specified herein. Copies of the specification and standards required by contractor in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.

### 2.1 Institute for Interconnecting and Packaging Electronic Circuits (IPC)<sup>1</sup>

#### IPC-T-50 Terms and Definitions

#### IPC-TM-650 Test Methods Manual

##### 1.4 Reporting, General

##### 1.5 Reporting, Format

##### 1.6 Reporting, Numerical

##### 1.7 Reporting, Invalid Results Discarding

### 2.2 National Conference of Standards Laboratories<sup>2</sup>

#### 2.2.1 ANSI/NCSL 540-1-1994<sup>3</sup>

**2.3 Order Of Precedence** In the event of a conflict, the following shall be the order of precedence:

- a) the applicable specification
- b) this document
- c) any references in this document

Nothing in this specification, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

## 3.0 REQUIREMENTS

**3.1 Terms and Definitions** The definition of terms shall be in accordance with IPC-T-50.

**3.1.1 Inspection/Test Personnel** Inspection or test personnel are those individuals who perform inspection or testing of products for the purpose of certifying to the conformance requirements of applicable specifications.

**3.1.2 Inspection/Test Facility** A combination of resources consisting of equipment, personnel and procedures that perform inspection, testing, measurements and evaluations on electronic components or materials in accordance with the applicable specifications.

**3.1.3 Certifying Agency** The certifying agency or organization (internal or external) used to perform the documentation review and audits of the inspection/test facility. In the case of military specification approvals, this organization may be comprised of the appropriate government organization(s) (i.e., DSCC, DCMO, etc.) or their delegate(s) as applicable. In the case of commercial specification approvals, this organization may be comprised of internal, customer, or third party designated auditors as applicable.

**3.2 Certification** The inspection and/or test facility shall be certified by the Certifying Agency for each test method to be performed at that facility, to the applicable specification(s).

**3.3 Inspection/Test Program** A system shall be established and maintained, to integrate training, inspection, evaluation, testing, and calibration functions related to the inspection/test facility.

The inspection/test facility shall document quality procedures in a manner adequate to demonstrate compliance with this specification and the applicable test methods. The system shall include the inspection and/or test facility's interpretation of how each requirement of this specification shall be implemented. The system, after acceptance by the Certifying Agency, shall constitute the requirements to be met by the inspection and/or test facility as they relate to

1. Institute for Interconnecting and Packaging Electronic Circuits, 2215 Sanders Road, Northbrook, IL 60062-6135.

2. National Conference of Standards Laboratories, 1800 30th Street, Suite 305B, Boulder, CO 80301.

3. American National Standard for Calibration, Calibration Laboratories and Measuring and Test Equipment - General Requirements.