



IPC-9252B

Requirements for Electrical Testing of Unpopulated Printed Boards

Developed by the Electrical Continuity Testing Task Group (7-32c)
of the Product Assurance Committee (7-30) of IPC

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Users of this publication are encouraged to participate in the
development of future revisions.

Contact:

IPC

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Requirements for Electrical Testing of Unpopulated Printed Boards

1 SCOPE

This document is intended to assist in selecting the test analyzer, test parameters, test data, and fixturing required to perform electrical test(s) on all unpopulated printed boards.

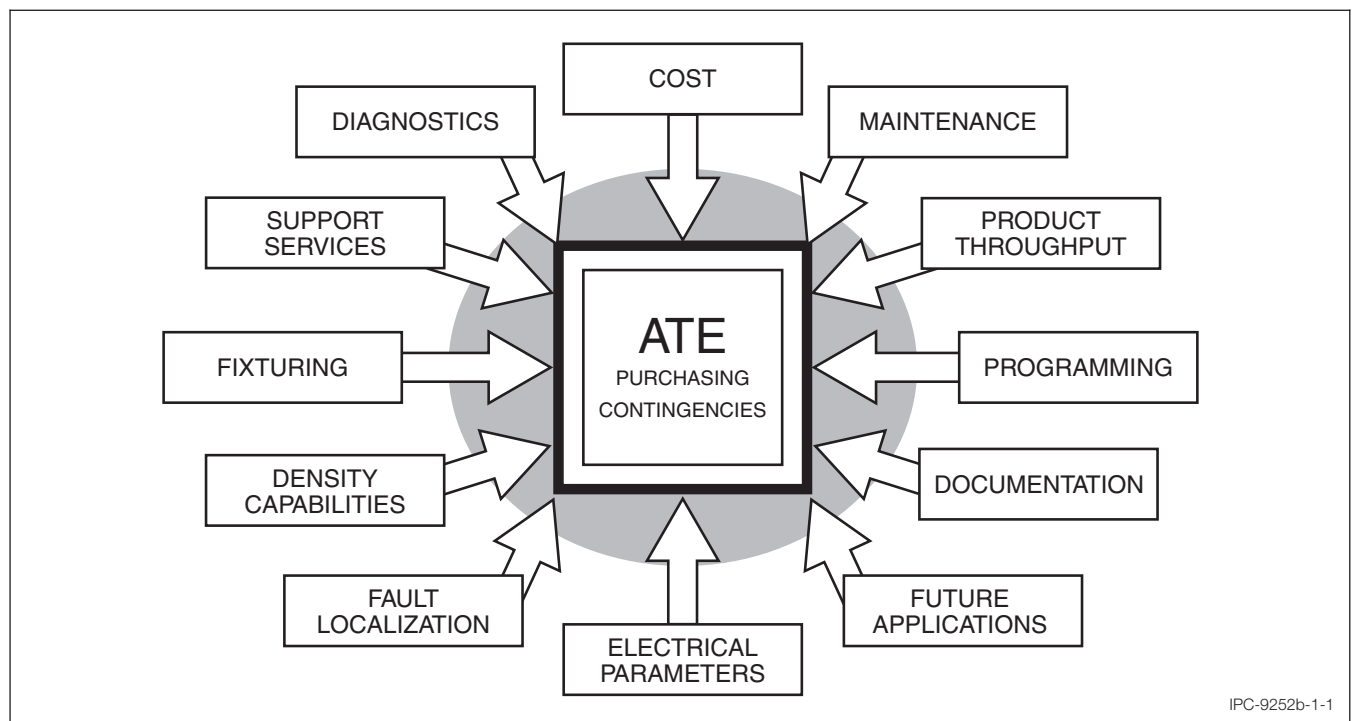
The testing of printed boards with embedded components (e.g., resistors, capacitors, etc.) is not addressed in this document revision.

1.1 Purpose Electrical testing verifies that the conductive networks on the printed boards are interconnected according to the design requirements.

Electrical test does not ensure that the printed board can be assembled or that the printed board meets all of the customer's requirements. Many physical characteristics of the conductors (dimensional accuracy, solder mask, conductor geometry and nomenclature registration, presence of holes, etc.) can't be determined by electrical test. Other checks should be employed to confirm these characteristics.

1.2 Introduction Electrical testing of printed boards ensures that the printed board conforms to the electrical design requirements. This document defines different levels of testing available in order to achieve this purpose. In selecting the appropriate test level, technology, equipment, and associated fixturing, a suitable compromise between productivity, features, and costs can be found.

The costs associated with electrical testing can vary dramatically. Costs alone, however, should never be the only criteria for selecting the appropriate test level and equipment. As shown in Figure 1-1, many other important areas require consideration. For example, spacing and density of a printed board design may be of paramount importance to one user, while another may be concerned with testing parameters and service reliability. A careful examination of all areas of concern and how they may affect each other, not just how they perform individually, is therefore significant. Whatever the selection criteria may be, qualifying "benchmarks" should be performed on known product.



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Figure 1-1 Automatic Test Equipment (ATE) Selection Criteria