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Requirements for Electrical Testing of Flexible Printed Electronics

Developed by the Printed Electronics Performance Specification Test Methods Task Group (D-65a) of the Printed Electronics Committee (D-60) of IPC

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

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1 SCOPE

This document is intended to assist in selecting the test equipment, test parameters, test data and fixturing required to perform electrical test(s) on flexible printed electronics.

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

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

1.1.1 Introduction Electrical testing of flexible printed electronics ensures conformance to the electrical design requirements. This document defines different levels of testing available 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.

1.1.2 Costs 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 electronic design may be of paramount importance to one user, while another may be concerned with testing parameters and service reliability. Therefore, a careful examination of all areas of concern and how they may affect each other, not just how they perform individually, is significant. Whatever the selection criteria may be, qualifying benchmarks should be performed on known product.

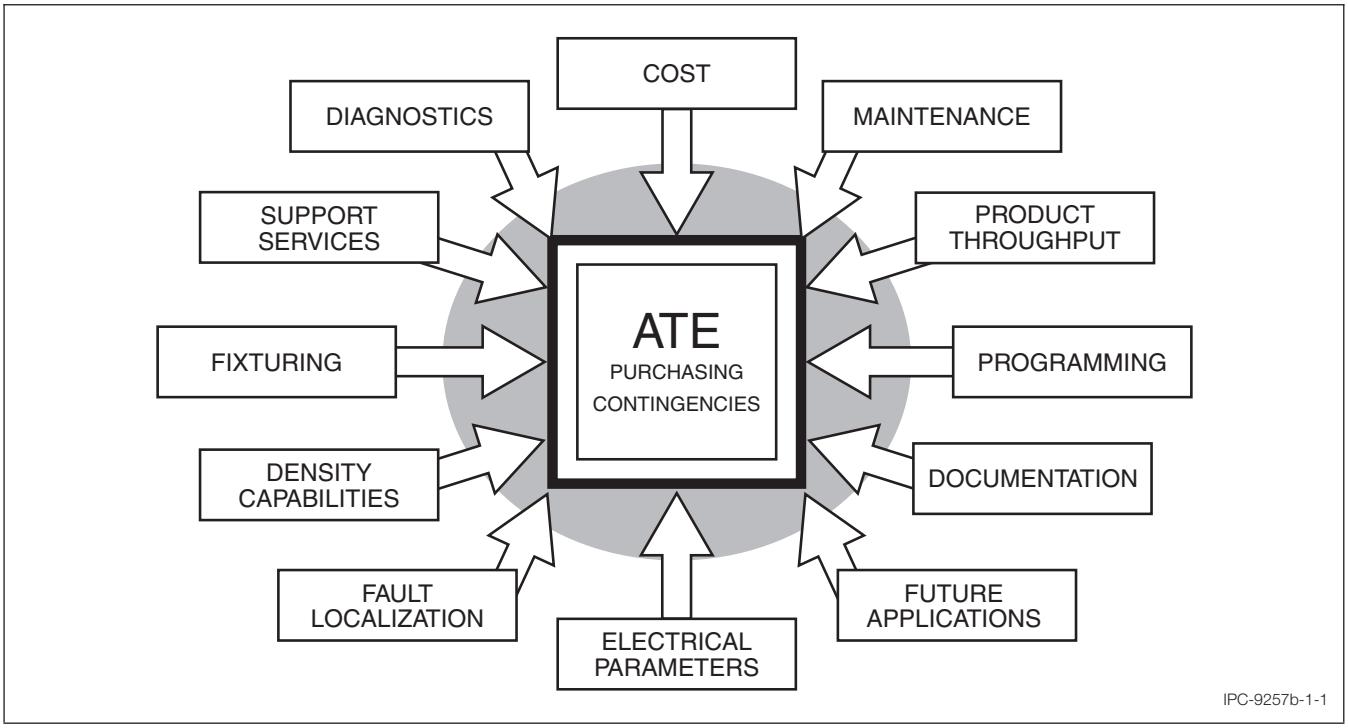

Figure 1-1 Automatic Test Equipment (ATE) Selection Criteria