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Printed Board Process Capability, Quality, and Relative Reliability (PCQR^2) Benchmark Test Standard and Database

Developed by the PCQR^2 Subcommittee (D-36) of the Rigid Printed Board Committee (D-30) of IPC

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

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Table of Contents

Tables

Process Capability, Quality, and Relative Reliability (PCQR^2) Benchmark Test Standard and Database

1 SCOPE

1.1 Purpose The purpose of this document is to define the Process Capability, Quality, and Relative Reliability (PCQR^2) Benchmark Test Standard and Database Program used for the evaluation of printed board manufacturing processes. This is in accordance with *The National Technology Roadmap for Electronic Interconnections 2000/2001* published by IPC, which states that ''For a company to efficiently manage its supply chain it must identify the capability of its suppliers and make certain that their capability for manufacturing a product is consistent with the needs of the customer.''

1.2 Documentation Hierarchy All other IPC documents take precedence over this document. This document was developed by the IPC D-36 Subcommittee of the Rigid Printed Board Committee (D-30) of IPC, and describes the process to evaluate the manufacturing process capability of printed board fabricators for certain key features.

1.3 Definition of Terms The definition of all terms used herein **shall** be as specified in IPC-T-50 and as defined below.

Analysis Report Detailed statistical data on each fabricator's database submission.

Comparison Report Comparative statistical data of each fabricator participating in the database.

Conductor Analysis Technologies, Inc. (CAT) The company providing and controlling the intellectual property associated with the process capability panel designs, test methods, data analysis techniques, and the database.

Database Submission A set of process capability panels submitted by a fabricator for testing, data analysis, and inclusion in the database.

Database Subscriber A company or an organization, or division(s) thereof, associated with the electronics industry that obtains access to the database through an annual subscription from IPC.

Database Supplier A fabricator who submits a set of process capability panels for testing, data analysis, and inclusion in the database.

Design Requirements File The file used to detail the specifications and manufacturing requirements of each process capability panel design.

Design Library The family of process capability panel designs developed by the IPC D-36 Subcommittee.

Fabricator A specific company's or organization's facility that manufactures printed boards.

PCQR^2 Database The electronic storage medium for the data and reports generated from the testing of process capability panels.

Peer Report Comparative data showing participating fabricator performance with respect to peers.

Process Capability Data The data generated from the testing of process capability panels.

Process Capability Panel A parametric test panel that is comprised of test modules designed to evaluate specific features of printed boards.

Submission Form The information provided by fabricators upon submitting a set of process capability panels to the database.

Subscription License Agreement The method used by subscribers to gain access to the database which is available at www.pcbquality.com.

Test Module The individual element of a process capability panel.