IPC MARKET RESEARCH

PCB Technology Trends 2016





TABLE OF CONTENTS

Introduction	1
Section 1: All Responses	2
Section 2: Automotive	42
Section 3: Defense and Aerospace	78
Section 4: High-End Systems	115
Section 5: Industrial	151
Section 6: Medical	188
Appendices:	
Survey Questionnaire	226
Current IPC Market Research Reports	237

Sections 1 through 6 cover the following topics*:

1) Demographics

Geographic Representation Industry Segments Product Types Market Segments PCB Expansion Plans

2) Board Properties

Interconnect
Layer Count
Heat Dissipation
Through-Hole Boards Designed for
Assembly with Press-Fit Technology

Board Thickness and High-Density

3) Miniaturization

Line Width and Spacing I/O Pitch
Linear Dimensions
Density
Via Diameters
Aspect Ratios
Via Structure
Via Filling

4) Materials

Rigid Materials
Flexible and Stretchable Materials
Metal Core
Reinforcement Materials
Thermal Properties
Loss Characteristics
Lead-Free
Halogen-Free
Surface Finishes
Lamination Cycles

5) Special Structures

Embedded Components Optical Channels Chip Packages or Modules

6) Printed Electronics

PE Usage and Types Printing Processes PE Applications 3D Printing

7) Issues and Trends

Traceability
Recyclable Content
Compliance Challenges
Biggest Technical Challenges
Trends

^{*}Not all topics are included in every section. In cases where insufficient valid survey responses were collected, the data are omitted.

[©] Copyright 2017, IPC-Association Connecting Electronics Industries, Bannockburn, Illinois. All rights reserved under both international and Pan-American copyright conventions. Any copying, scanning or other reproduction of these materials without the prior written consent of the copyright holder is strictly prohibited and constitutes infringement under the Copyright Law of the United States.