APCT Passion | Commitment | Trust

ADVANCED CIRCUITS A Division of APCT

Printed Circuit Board Solutions

Design For Manufacturability (DFM)

WORKING TOGETHER

The core competency of the company is detailed engineering support enabling superior execution. Our highly skilled DFM Engineers are available to work directly with your PCB designers or product development staff, supporting the implementation of a cost efficient, high reliability design. This early support will result in reduced cycle times, improved yields and increased product development success. Early involvement of APCT Engineering can save your company both time and money.

OUR DFM CAPABILITIES

Manufacturing
- Pre ECO Design Review
- Comprehensive Tooling Review

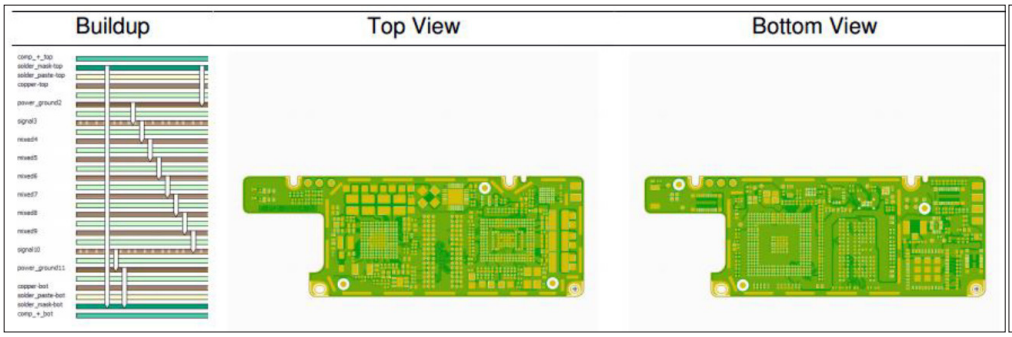
Design Review & Analysis
- Process Capabilities
- Material Selections
- Finish Requirements

Impedance Calculation
- Single Ended
- Horizontal Differential
- Broadside Differential

Panel Utilization & Array Drawings
- Maximize Array for Assembly
- Optimize Panel Utilization

Developing New Technologies
- Engineering Development to meet future Requirements

Central Corporate Contacts
- Knowledgeable Staff
- Field Support

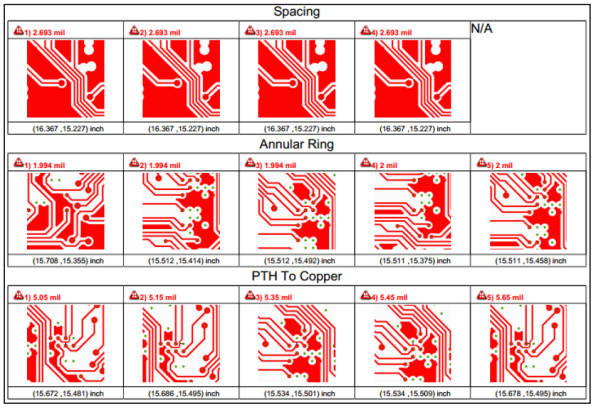


DFM Analysis (Cont.)

Layer	Min PTH To Cu (mil)	Typ PTH To Cu (mil)
copper-top	9.8 (# 8)	10.1 (# 434)
power_ground2n	4.7 (# 5)	7.1 (# 1050)
signal3	7 (# 2)	10.1 (# 386)
signal4	7 (# 2)	10.1 (# 440)
power_ground5n	4.7 (# 6)	7.1 (# 1189)
power_ground6n	4.7 (# 6)	7.1 (# 1246)
signal7	7 (# 2)	10.1 (# 379)
signal8	7 (# 2)	10.1 (# 434)
power_ground9n	4.7 (# 5)	7.1 (# 1053)
copper-bot	7 (# 2)	10.1 (# 387)

DFM Analysis

Layer	Minimal Spacing (mil)	Typical Spacing (mil)	Minimal AR (mil)	Typical AR (mil)	Minimal Line Width (mil)	Typical Line Width (mil)
copper-top	0.3 (# 2)	5 (# 897)	5 (# 2)	5.1 (# 1284)	1 (# 320)	8 (# 1087)
power_ground2n	1 (# 1)	1 (# 1)	0 (# 8)	12 (# 24)	N/A	N/A
signal3	2 (# 1)	5 (# 642)	5 (# 2)	5.1 (# 1380)	5 (# 770)	5 (# 770)
signal4	2 (# 1)	5 (# 700)	5 (# 2)	5.1 (# 1379)	5 (# 779)	5 (# 779)
power_ground5n	12 (# 2)	12 (# 2)	0 (# 7)	6.1 (# 29)	N/A	N/A
power_ground6n	12 (# 7)	12 (# 7)	0 (# 7)	6.1 (# 28)	N/A	N/A
signal7	2 (# 1)	5 (# 486)	5 (# 2)	5.1 (# 1385)	5 (# 632)	5 (# 632)
signal8	2 (# 1)	5 (# 707)	5 (# 2)	5.1 (# 1385)	5 (# 804)	5 (# 804)
power_ground9n	1 (# 1)	1 (# 1)	0 (# 8)	12 (# 24)	N/A	N/A
copper-bot	0.3 (# 2)	11.7 (# 553)	5 (# 1)	5.1 (# 1270)	1 (# 320)	5 (# 1032)
Summary	0.3		0		1	



If you have any further questions you may contact DFM Support at **DFM@APCTinc.com**