



Case Three - Major Telecommunications Company

Yet another major telecommunications company experiences first-hand the importance of Design for Fabrication

M3I sent design files to their prototype manufacturer as they always do. This manufacturer, using CAM350, runs a thorough analysis on the files and notices the potential for many acid traps in the design. They fix the issues in order to produce successful prototypes, but do NOT relay the message back to M3I. The necessary prototypes were delivered and approved.

M3I is pleased with the prototype results and sends the original files off to their volume production facility. This facility, though owned by same parent company as prototype manufacturer, does NOT perform any analysis checks.

- M3I's prototype supplier uses DFF analysis to detect acid traps
- Prototype supplier adjusts design to avoid the issue
- M3I releases the original files to production at different supplier

Two lots of **SCRAP** boards are produced due to acid traps not being detected or avoided.

Circumvent Scrap and Delays

Verifying the design can be built reliably with minimal scrap will get your product to market faster, and at less cost. Design for Fabrication analysis will reduce scrap, delivery delays, and quality issues. Common concerns flagged and ultimately avoided using DFF include:

- Acid traps and solder slivers
- Isolated connections
- Vias covered versus cleared
- Power and ground
- And many many more

The Result

After much wasted time (5 weeks) and money (\$68,000), M3I cancels the contract with their supplier and hires a new volume production fabrication facility. CAM350 would have easily detected the presence of acid traps and saved M3I thousands of dollars in bad boards and lost time-to-shipment.

In Conclusion

M3I has revised their process to perform DFF, DRC, and netlist compare on designs before committing anything to fabrication.

DFF Analysis

Design for Fabrication has become a vital and often overlooked part of the PCB design and fabrication process. It can save facilities time, money, and aggravation.