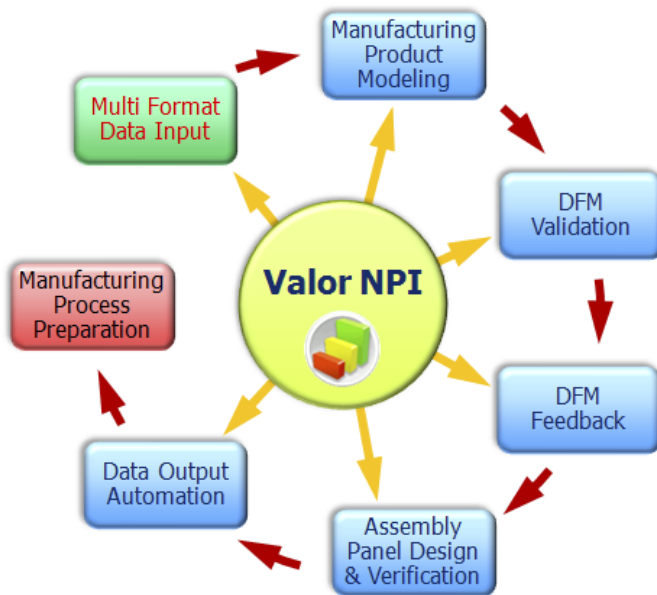


# Valor NPI

Complete manufacturing data hand-off flow with integrated DFM verification



### MAJOR BENEFITS:

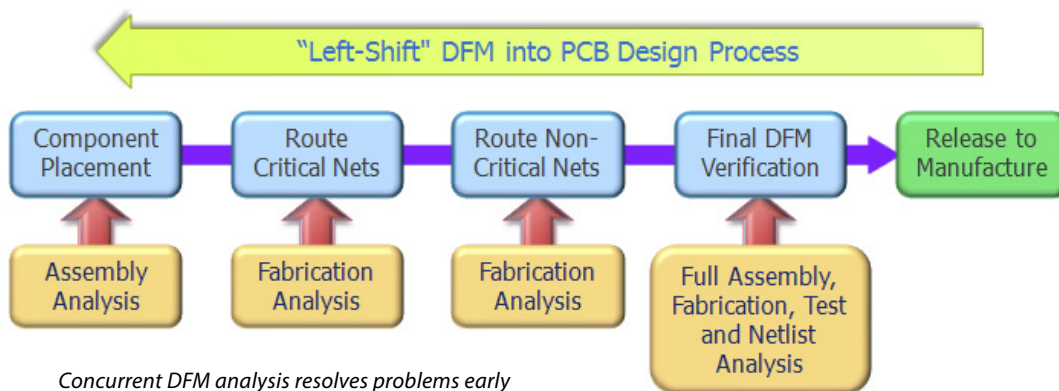
- Complete NPI Solution – no other software needed
- Reduces total product cost
- Minimizes the number of revision spins to bring a new design to production release
- Improves the reliability of a design
- Reduces the amount of time spent on manufacturing “call-backs”
- Works with all major PCB layout tools

New product Introduction (NPI) Process

## Overview

Getting the most competitive product to volume production and to market on time is the responsibility of not only the manufacturer but also the PCB designer. Decisions made in component selection, placement, and routing of a printed circuit board directly affect the success of your new product introduction (NPI) process.

Any DFM problem found by your supply chain will cause a delay, at minimum, or worse, costly scrap. As a result, leading electronic design companies have found that concurrent use of a comprehensive DFM verification tool and enhanced intelligent manufacturing data within their NPI process, expensive revision spins are reduced and improvements in the quality and reliability of the final product are seen. In addition, preparing and configuring the EDA output data in line with the manufacturing processes at an early stage ensures the smooth flow through PCB fabrication, assembly and test. Valor® NPI provides the solution to efficiently transfer PCB designs from any source into production.

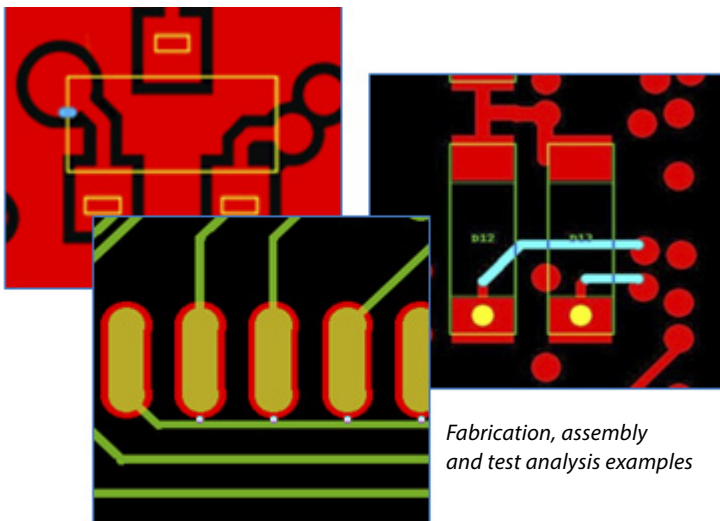


Concurrent DFM analysis resolves problems early for lowest possible cost

## Concurrent DFM with Valor NPI

At each successive step of the NPI process, the cost of rectifying a problem increases tenfold. You wouldn't want to find solder mask exposing copper traces after PCB fabrication, tomb-stoning caused by traces under a small passive device during assembly, or testpoints covered by components during test. It is better to find and fix these problems during the design phase using DFM.

Concurrent DFM verification with Valor NPI is the best way to incorporate manufacturing optimization into your PCB design process and identify the opportunity for fabrication and assembly improvement during layout, and avoid having to re-route the PCB. If an error is identified, a single click takes you to the location on your PCB design so that you can make the required changes.



## Comprehensive Analysis

Your DFM process is only as good as the verification tools you use. Today's miniaturized, high-layer count designs cannot be reliably reviewed manually.

Simple DFM tools do not check all manufacturing process factors. Mentor's Valor NPI verification software analyzes your PCB design with more than:

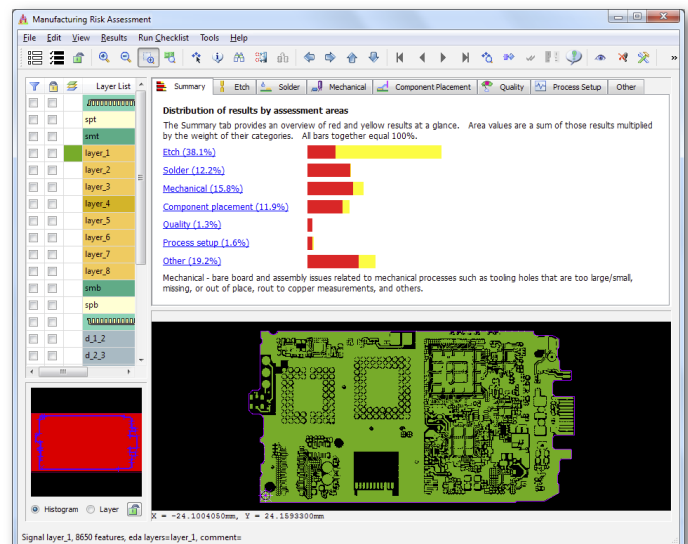
- ☒ 275 Fabrication checks
- ☒ 250 Assembly checks
- ☒ 100 Advanced substrate checks

- ☒ 40 Microvia checks
- ☒ 30 Assembly panel checks

In addition, Valor NPI lets you check your design netlist against the manufacturing data to ensure there are no connectivity errors. Valor NPI validates that your BOM matches the design, and that all components in your Approved Vendors List (AVL) are an acceptable physical match.

## Understand the Manufacturing Risks

Valor NPI not only identifies where your PCB design is in direct violation of your supplier's manufacturing capabilities, it also shows where low yield or field failures may occur by using color severity indicators of red, yellow, and green. Valor NPI further categorizes and prioritizes the design-change requirements so that you can easily resolve the most critical first. The weight assigned to each check is user definable, enabling you to decide how the results should be prioritized.



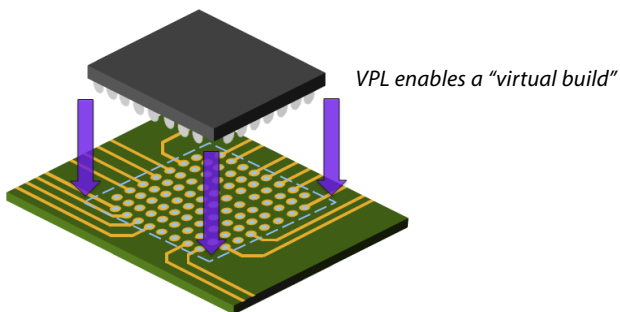
*Understanding the manufacturing risks*

## Valor Parts Library — An Accurate Library for Accurate Assembly Analysis

The method and consistency of components as they are represented in the CAD data presents challenges for accurate assembly analysis.

Valor NPI offers optional access to the Valor Parts Library (VPL), which contains more than 35 million manufacturing part numbers with accurate 2 ½ D “plus” data models. The component bodies are drawn according to the manufacturer’s data sheet, adhering to an ISO-9001 certified process, including the length, width, and height as well as the pin contact areas.

When VPL models are merged with the manufacturing data, sophisticated assembly validation is enabled. This is the best way to assure optimum solder joints in your design, together with guaranteed assembly and rework capability



## Manufacturing Data Preparation

Valor NPI includes a toolset to prepare the PCB design output for manufacture. Product modeling produces a high level product definition by assigning attributes to elements and components. This enhances the manufacturing data, adding further intelligence before manufacturing process preparation.

Other features including assembly panel design, XML-based scorecard and automated manufacturing output, create a complete and unrivalled PCB NPI solution.

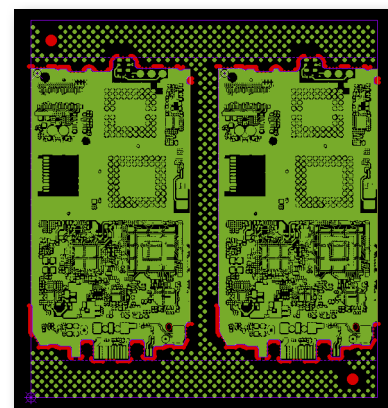
## Synchronized with your Supply Chain

Unless you and your suppliers perform the same analysis, there is no certainty that your PCB design will not have DFM problems in production. Anything less leaves you with a risk that you have missed something costly.

The Valor NPI tool was developed by the same people that created the DFM verification tools used by more PCB fabricators and contract assembly companies than any other system.

Collaborate with your manufacturing supplier to simulate, in advance with Valor® NPI, how your suppliers process your product.

Combining best-in-class DFM with all the data preparation functions, Valor NPI is the solution to fulfil your new product introduction needs.



Assembly Panel Design