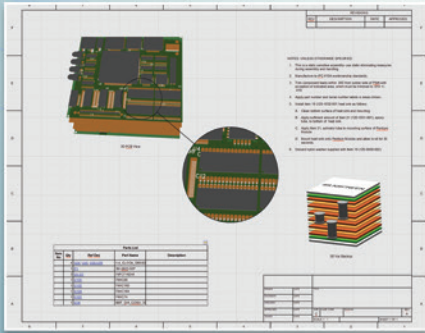




## Blueprint PCB

Create Comprehensive Documentation to Drive Fabrication, Assembly & Inspection

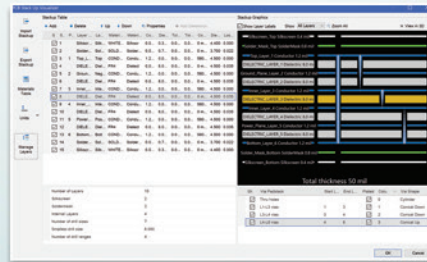


Use 3D models for superior illustration of PCB assemblies



## DFMStream

Easily Verify Design and Manufacturing Rules Any Time During the Design Cycle

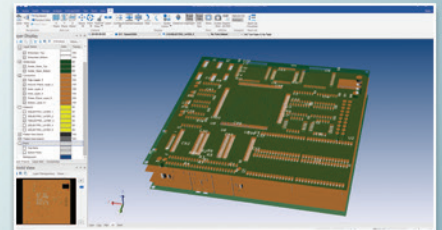


Interactively define layer order, attributes, and drill ranges using tables, cross section or 3D model



## CAM350

Verify and Optimize PCB Designs for Successful Manufacturing



Visualize PCB construction intent using rich 3D modeling

## Solutions for Post Processing Printed Circuit Board Designs

DownStream provides a comprehensive yet economical solution to PCB post processing that enables engineers and designers to quickly create key deliverables for PCB fabrication, assembly and testing. DownStream's tools combine powerful features for processing complex designs with a very easy to use interface. This allows even the most infrequent user the ability to generate PCB artwork, design validation, and bare board and assembly drawings and documents.

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### Worldwide Sales, Technical Support and Training

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## Verify and Optimize PCB Designs for Successful Manufacturing

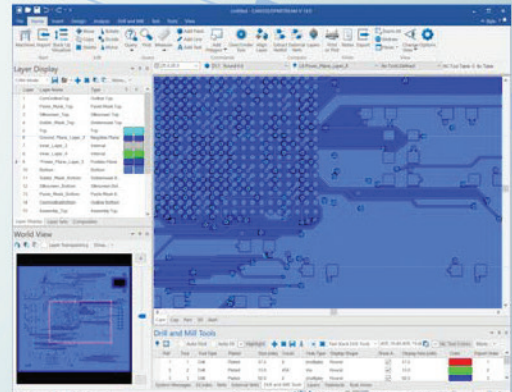
Before completed PCB designs are transitioned to a PCB fabricator, today's complex designs require comprehensive verification to ensure a successful and timely fabrication process. Errors discovered during fabrication pre-processing can drastically impact product schedules and result in costly design re-spins. Fabricators can make modifications to your design data to minimize delays, but the changes may compromise the design's integrity and intent. Inspecting, preparing and validating a PCB design prior to releasing to manufacturing will result in a significant increase in efficiency. It reduces the risk of design re-spins, and most importantly, ensures successful electronic products are built faster at less cost. CAM350 offers a complete suite of tools to import your design data, modify the data if necessary and analyze the design for potential fabrication and assembly errors. From design through fabrication, CAM350 streamlines the transition of engineering data into successful, physical PCBs.

## Features and Functionality

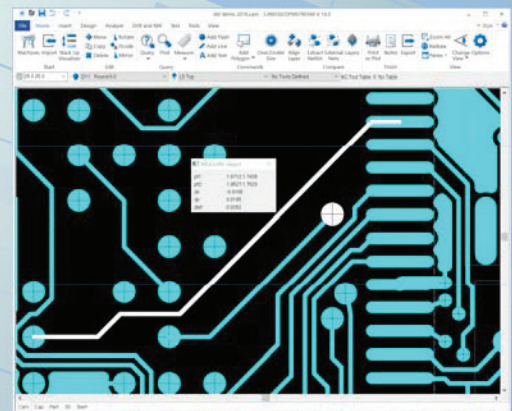
CAM350 offers everything necessary to import, export, optimize, modify and verify your design. With robust add-on modules, you have the option to perform comprehensive analysis quickly and easily, intelligent data transfer, enhanced engineering preparation and inspection, and much more. The Design Analyzer streamlines communication between you and your fabricator well before they have your design files. This ensures they are qualified to build your design and your design files meet their internal requirements. These additional practices will save you time and money, while allowing you to create cutting edge electronic products.

- Import and export data in standard data exchange formats
- Analyze for and repair design and manufacturing flaws
- Inspect for etching, soldermask, thermal, and spacing violations
- Visualize 2D CAM Data as a 3D PCB
- Optimize panelization, tooling, milling and drilling
- Support for Flex, Rigid Flex and Embedded Component CAD
- Flex/Rigid, Flex/Inter-Layer DFM Checks

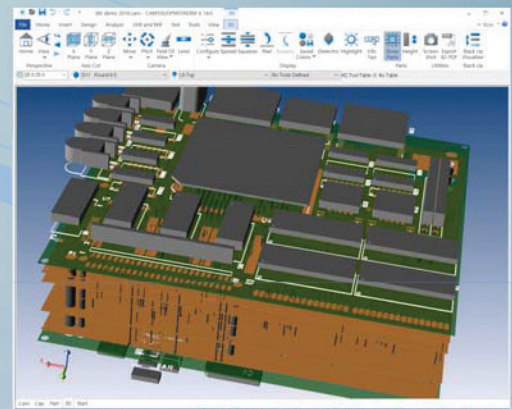
***Powerful and versatile, CAM350 offers a complete solution to streamline the transition of engineering data into physical PCBs, ultimately resulting in successful electronic products.***



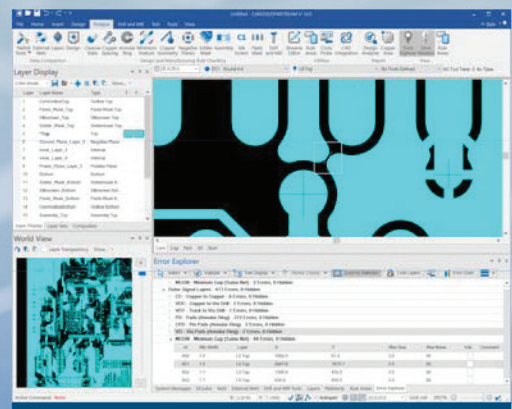
CAM350 offers a robust CAM editing environment



Measuring tool to query distance between objects



3D Visualization to view a virtual model of a PCB



DFM Analysis to locate fabrication related errors





## Create Comprehensive PCB Documentation to Drive PCB Fabrication, Assembly and Inspection

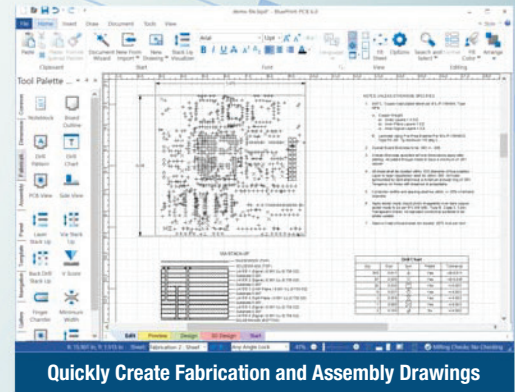
For the past several decades PCB CAD tools have evolved to become superlative at PCB design. However, with respect to PCB Documentation they are woefully behind even the most rudimentary word processor, or graphic editor application. Unlike the typical PCB CAD tool, BluePrint was designed from the ground up to be a documentation editor. Use BluePrint to create fabrication, assembly, process step, variant assembly drawings or component coordinate charts. Use assembly panel design features to design and document a custom assembly panel with mill tabs, web routes, pinning holes and fiducials. With BluePrint, you create custom documentation to meet your specific needs. Using traditional PCB CAD methods to maintain PCB documentation for the life cycle of a product can be time consuming and error prone. With BluePrint ECO support, document maintenance is a snap. After the source PCB design is revised, import the revised design data into BluePrint and changes are automatically propagated across the documentation set. With BluePrint, documentation maintenance effort is dramatically reduced by eliminating the tedious manual revision process required for documentation authored in a PCB CAD system.

## Features and Functionality

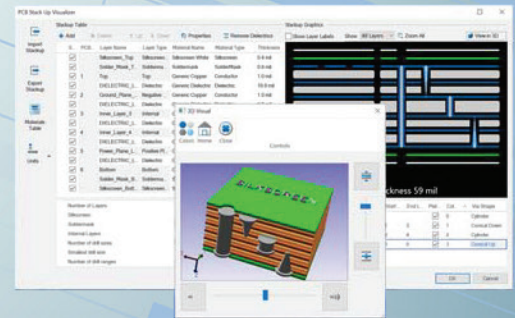
BluePrint imports your PCB CAD data to facilitate quick production of comprehensive electronic drawings to drive PCB fabrication, assembly and inspection processes. BluePrint offers all the functionality you need to develop the high quality documentation required by all stakeholders in the fabrication and assembly of printed circuit boards.

- Automates creation of PCB documentation
- Increases documentation detail and accuracy
- Improves manufacturing instructions
- Simplifies manufacturing inspection
- Creates one electronic “release package”
- Eases PCB documentation distribution and use
- Support for Flex, Rigid Flex and Embedded Component CAD Data

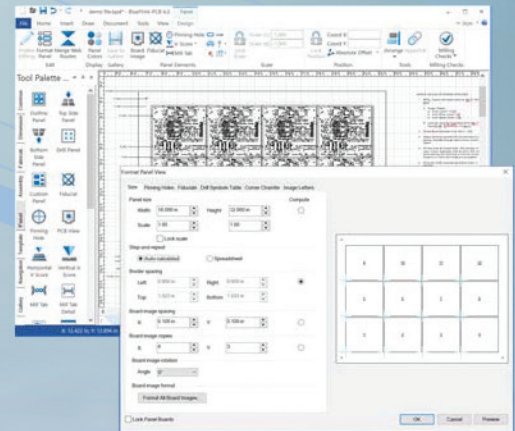
***BluePrint-PCB enhances and simplifies PCB documentation using automation and technology, easing the entire process from creation through distribution and usability.***



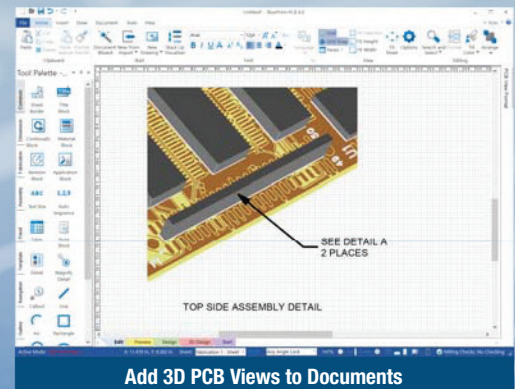
Quickly Create Fabrication and Assembly Drawings



Manage Layer Stackup Design and Materials



Design and Document Assembly Panels



Add 3D PCB Views to Documents



## Verify Design and Manufacturing Rules Anytime during the PCB Design Cycle

PCB designs that pass standard design rule verification within the PCB CAD system, may unknowingly contain critical flaws that derail an expedient transition to manufacturing and assembly. Commonly, flaws are discovered prior to production when design data is being processed for PCB manufacturing or assembly. In many cases, these flaws result in costly time to market delays as designs are updated and reprocessed to address issues detected in pre-production. While manufacturers are fully capable of addressing minor issues, their resolutions are rarely fed back into the source CAD data. This often results in additional rounds of modifications or design re-spins. In worse case scenarios, design intent may unknowingly be sacrificed when the manufacturer alters your source design files prior to production.

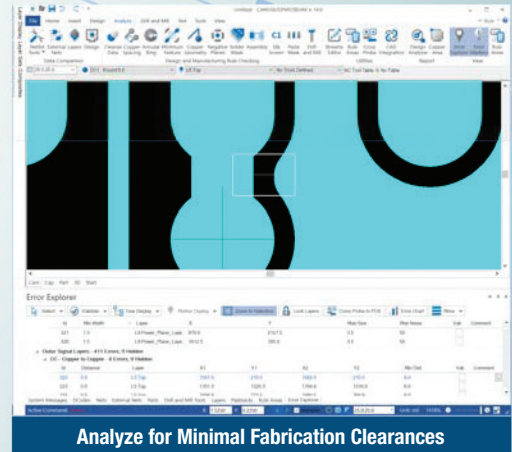
There are an array of Design For Manufacturing (DFM) solutions to analyze a design for potential flaws. Most are available only to companies with surplus budgets and dedicated staff. For the average engineer with limited resources and lack of DFM analysis tools, the only option is to hope for the best when transferring their design to PCB fabrication and assembly. DFMStream can be implemented for a fraction of the annual software maintenance contract typically assessed for more costly DFM solutions.

## Features and Functionality

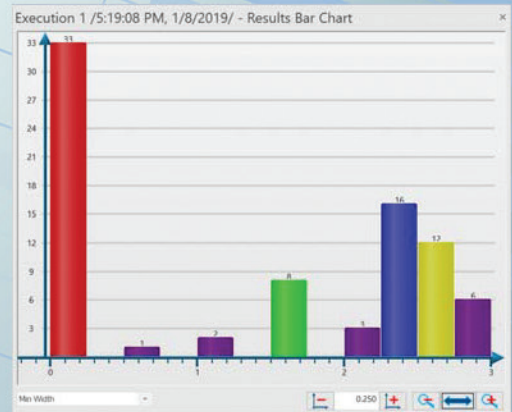
DFMStream offers comprehensive analysis for Gerber files, intelligent manufacturing files, and NC data to ensure the content supplied to the manufacturer will minimize costly delays. DFMStream analysis will identify design content with the potential to result in low manufacturing or assembly yields, or costly scrap.

- Comprehensive, fast, design data analysis and rule checking
- Clean reporting and graphical displays to simplify analysis results
- Unique features to streamline quoting, manufacturing and communication
- Quick to learn, install, and use, for even the most novice users
- Support for Flex, Rigid Flex and Embedded Component CAD Data
- Visualize 2D CAM Data as a 3D PCB

**Powerful and versatile, CAM350 offers a complete solution to streamline the transition of engineering data into physical PCBs, ultimately resulting in successful electronic products.**



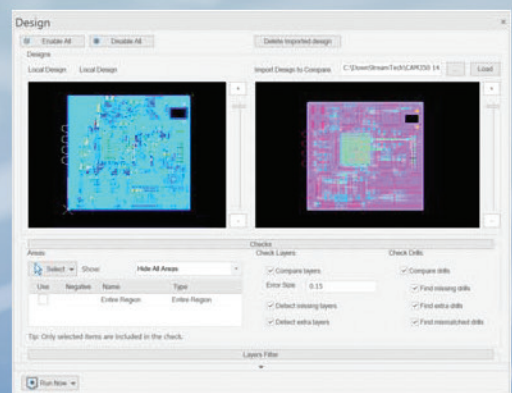
Analyze for Minimal Fabrication Clearances



Charting to Identify Trends in Analysis Results

PCB Feature	Value	DH Circs	DST Fab
Maximum Board Size Aspect Ratio	0	✓	✓
Maximum Board Dimension	3.5 inch	✓	✓
Maximum Board Area	11.2 sq inches	✓	✓
Maximum PCB Layer Count	12	✓	✓
Solder Mask Top Layer	Yes	✓	✓
Solder Mask Bottom Layer	Yes	✓	✓
Silkscreen Top Layer	Yes	✓	✓
Silkscreen Bottom Layer	Yes	✓	✓
Minimum Outer Layer Line Width	5 mil	✓	✓
Minimum Outer Layer Gap	4.0 mil	✓	✓
Minimum Outer Layer Annular Ring	0 mil	✗	✗
Minimum Outer Layer Pad Size	13 mil	✓	✓
Minimum Inner Layer Line Width	5 mil	✓	✓
Minimum Inner Layer Gap	5 mil	✓	✓
Minimum Inner Layer Annular Ring	0 mil	✗	✗

Match Design Constructs to a Preferred Fabricator



Compare Design Revisions to Identify Differences

