VisualCAM Version 16.9 SR2

January 21, 2019

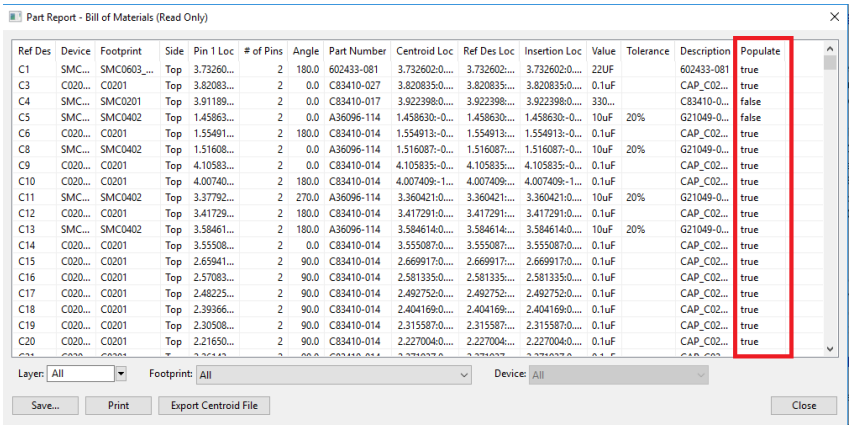
What's New in Version 16.9.69 Service Release 2

BOM AND CENTROIDS

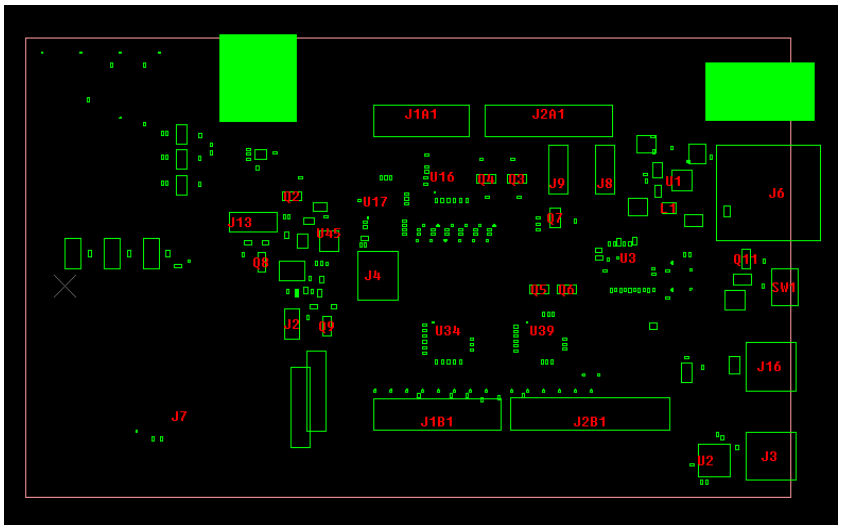
- NEW - Enhancements in VisualCAM's BOM report now allow you to easily create Centroid files in any order including an option to mirror the backside when exporting the Centroid file.

You now have the ability to change the "Populate" settings in your BOMs indicating whether or not to insert (populate) each component during placement. You are able to do this paperless by using the "Populate" function in 2581. You can now see what is included in the BOM and which parts are to be inserted and which parts are not. This is extremely valuable during PCB Assembly setup and at the placement machine to review your data on screen in real time.

Set a components populate attribute value or compare BOM's of different assemblies and update the BOM automatically to reset the Populate setting in the file. You can now view this data in the BOM and graphically display on screen using VisualCAM.



View and Sort Components in the BOM including the populate status and get the centroid data needed for Assembly.



View the Assembly Outlines as described in the 2581 file on screen, the filled areas are making use of the "Populate" element in IPC-2581 to show the parts that are not to be installed for ease of verification during Assembly.

Fabrication Reports

Pushing for paperless, you can now visualize the information needed to manufacture your design by using the new Fabrication Reports. Take a quick look inside at the stackup with a graphic depiction including the Impedance, Board information, Designer Notes, Standard Notes, Drill Spans. Also included in the report are Dimension Drawing, Hole Chart, and Assembly Top and Bottom. This new report allows further access to the information inside your IPC2581 file.

Fabrication Report

Design Name: Edison_arduin-IPC2581-Demo-Full_2581B
Panel Number:
Total Layers: 4

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Layer	Thickness	Function	Material	Impedance	Df	Dk	Drill Span
SILKSCREEN_TOP	0.000394	SILKSCREEN	EPOXY_INK_UV_CURE				
ENIG_TOP	0.000181	COATINGCOND	ENIG				
SOLDERMASK_TOP	0.000472	SOLDERMASK	SOLDERMASK_FLEXIBLE_UV_CURE				
TOP	0.001902	CONDUCTOR	COPPER	Yes			
DIELECTRIC_INDEX_5	0.004000	DIELPREG	370HR		4.5	0.0211	
GND	0.001299	PLANE	COPPER				
DIELECTRIC_INDEX_7	0.004000	DIELPREG	370HR		4.5	0.0211	
PWR_GND	0.001299	PLANE	COPPER				
DIELECTRIC_INDEX_9	0.004000	DIELPREG	370HR		4.5	0.0211	
BOTTOM	0.001902	CONDUCTOR	COPPER	Yes			
SOLDERMASK_BOTTOM	0.000472	SOLDERMASK	SOLDERMASK_FLEXIBLE_UV_CURE				
ENIG_BOTTOM	0.000181	COATINGCOND	ENIG				
SILKSCREEN_BOTTOM	0.000394	SILKSCREEN	EPOXY_INK_UV_CURE				

Designer Notes: **Design Name: Edison_arduin-IPC2581-Demo-Full_2581B**

1. All line neck downs and changes to differential line width and space are of design intent.
2. Use artwork FILLED_VIA for holes that are to be filled with Peters 2795 or equivalent non-conductive resin. These are the plated COH Chip on hole or pad on via type vias to be plated over on both sides.
3. The filled and plated over via is considered the most complex feature. The Fujitsu daisy chain coupon must contain the filled via feature.
4. Tent vias on top layer using artwork TENT_VIA_TOP. Tent vias on bottom using artwork TENT_VIA_BOTTOM.
5. Breakout from the center of any Non-Plated Through Hole into other nearby Non-Plated Through Hole is not acceptable, some material must remain between holes. Less than 6 mils or 0.52 mm minimum clearance between Non-Plated Through Holes is permitted on this design.

Standard Notes - INSTRUCTION: **Design Name: Edison_arduin-IPC2581-Demo-Full_2581B**

1. DF Standard 900/014 is the purchase specification that lists many of the requirements for this design. The specification also lists acceptable deviations that may be applied if necessary. The specififcation labeled DESIGNER_NOTES will take precedence when conflicting information between DF Standard 900/014 or other FNC specifications occur
2. It is acceptable to change the MADE IN USA text on the silkscreen layer to that of the actual country where the board is fabricated.
3. The PanelProfile layer contains the rout data
4. The V-Score layer contains the v-score data.

Board Information: **Design Name: Edison_arduin-IPC2581-Demo-Full_2581B**

Units:	Inches
Board Thickness:	0.020496063
Minimum Trace Width:	0.00 (+/- 10.00%)
Minimum Trace Spacing:	0.00 (+/- 10.00%)
Surface Finish:	HASL

Compliance Notes - OTHER: **Design Name: Edison_arduin-IPC2581-Demo-Full_2581B**

1 UL Standard
2 Telcordia GR-78-Core

Controlled Impedance Required: **Design Name: Edison_arduin-IPC2581-Demo-Full_2581B**

Layer: TOP CONDUCTOR COPPER Thickness: 0.001902

1. EDGE_COUPLED
   MICROSTRIP_MASK_COVERED

Ohms:	90
Trace Width:	90
Differential Pair Spacing:	0.127
Co-Planar Spacing:	0.00
Reference Plane:	L6:GND

2. SINGLE_ENDED
   MICROSTRIP_MASK_COVERED

Ohms:	50
Trace Width:	50
Differential Pair Spacing:	0.00
Co-Planar Spacing:	0.00
Reference Plane:	L6:GND

Layer: BOTTOM CONDUCTOR COPPER Thickness: 0.001902

1. EDGE_COUPLED
   MICROSTRIP_MASK_COVERED

Ohms:	90
Trace Width:	90
Differential Pair Spacing:	0.127
Co-Planar Spacing:	0.00
Reference Plane:	L8:PWR_GND

2. SINGLE_ENDED
   MICROSTRIP_MASK_COVERED

Ohms:	50
Trace Width:	50
Differential Pair Spacing:	0.00
Co-Planar Spacing:	0.00
Reference Plane:	L8:PWR_GND

NEW IN STACKUP

11612 WSSI_SITE now supports a Company Logo in the Stackup Report

11600 Stackup Report now supports nsaProfileDrawing name

11438 Stackup Editor - Added Dielectric Constant (Df), Loss Tangent (Dk) and Drill Span columns. You can now select columns to be turned off.

11485 Added support to WSSI_SITE for Stackup Report .ini file settings

11439 NEW Feature - Fabrication Report added to the Stackup Editor– Include Stackup, Impedance, Drill Span, Notes, Hole Chart, Dimensions, Assembly Component Layer and more…

FIXED IN STACKUP

11564 Stackup Report - Controlled Impedance - Trace Width value is wrong

11560 Stackup Notes – Muliti Line issue when data is cut and pasted into the Notes editor

11559 Stackup Editor - Board Thickness setting dialog opens when dialog is opening

11545 Stackup Units - Board Info - Need to remove the possible confusion of having two units in the same database

11553 LoadStackup macro command not loading file saved from SaveStackup macro command

11535 Units behave strangely in Board Info section of Stackup Editor

PANELIZE

11579 FIXED - Simple Panelize without virtualization is not working in the latest build

11565 FIXED - Virtual Panel - Multiple panels not regenerating correctly

11547 FIXED - Virtual Panel not working properly when editing the virtual panel layer set afterward

DRC/DFM

11557 NEW - Print Errors in Color and show both layers overlaid for Layer Compare errors

11568 NEW - "Print All" DRC/DFM Error Reports now print to one PDF file with Multiple pages

11563 FIXED - Isolated Pad Removal on Buried Layers

11576 FIXED - Via to Pin not finding these errors

11542 FIXED - Window mode always set in analysis of design file once set

NC

11607 FIXED - Import of NC Slot issue

11518 FIXED - Drill chart ignores rotation / SR 600038035

ODB++

11594 FIXED - These ODB++ designs from Valor don't import due to unrecognized data

11582 FIXED - FPL merge in ODB++ Library

11582 FIXED - Problem with merge in ODB++ based FPL

IPC-2581

11546 NEW - Add Prompt the User on Export of IPC-2581 if the Dimension Units don't match the Database

11590 FIXED - Issue loading in Zuken IPC2581 file

11473 FIXED - Missing pads after export 2581 and then re-import

GERBER

11539 FIXED - Gerber import issue with extremely fine features

GENCAD

11448 FIXED - Gencad Import - outline/centroid issue

MACROS

11664 FIXED - AddPanelHoleChart Macro that failed to add hole chart on this design

11643 NEW – AddPanelFiducialSet adds Mask, Top and Bottom Shape and Size to use

11596 NEW – User ID (UID 1010) Macro to assist in creation of custom drill to mask report

11575 FIXED - Pad Removal Macro Command should not run on PhyNet Layer

11570 NEW - User ID (UID 1008 and UID 1009) Macro to convert draws, arcs, polylines to individual drill hits on a new NC layer, with user specified pitch and number of revolutions.

11566 NEW - GetFirstItem optional argument to use the select filter

11556 NEW – LogMessage Macro to write messages to the log

11522 NEW - Add IsEmptyLayer, IsFreeLayer, and GetLayerFromType macro commands

11500 NEW - Macro command to SetLayerOrder

11499 FIXED - ADDVIEWTAB macro window values are MM instead of Inch

11492 NEW - Macro command to combine apertures of the same size

11490 FIXED - Stacked Pad Removal Macro command to honor Layer parameter

11452 NEW - Macro command to add Dimensions - Linear and Ordinate

11451 FIXED - Create Panel from IDF Macro command needs to remove duplicate drills

11449 NEW - "SetAsVia" macro command added to set "Gerber" pads as via for use with DFM checks

4205 NEW – Allows you to clip all data inside or outside the border on a layer

FIXED MISC

11641 Convert Drawn Pads problem with asymmetrical shape replacement
11629 D0 errors after running Teardrop command
11427 Overlay mode red background issue
11506 Ghost apertures left behind after layer deletion
11482 Compact Aperture List issue
11501 Fixed loading in v15.GTD files that had duplicate unique id's

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11433 Fixed an issue with Automatic Draw Conversion
11430 ARE - When doing 2 pin ambiguity check - order the candidate parts
11428 Addlayer Parameter of LOADSTACKUP macro should become its own separate command
11420 Add pin #1 marker to createsilkscreen macro
11415 Rotated Pad - Paste issue
11425 Fixed issued with LOADSTACKUP macro command

Version 16.9 (16.9.42)

Initial Release of VisualCAM 16.9 (64-bit)