

Virtual production in the eC-cloud

Your Populated Board produced
“right first time”



30/31 MEI & 1 JUNI 2017
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Defining your Circuit

- Defining your BOM
 - Functionality of components.
 - Availability of components ?
 - Package to use ? Footprint definition.
 - Testing implications ?
 - Heat Management ?
 - Pricing ?
 - Etc ...
- Schematics



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Defining your PCB

- What are the PCB cost drivers ?
- What makes a PCB hard/impossible to make ?
- Which tools are available to help me ?
 - Offline direct consulting RFQ - All
 - Online capability catalogues - All
 - Online smart menus - Eurocircuits



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STANDARD pool



Delivery format	Single PCB
PCB quantity	10
Delivery term	7 working days
Number of layers	6
PCB width (X) (mm)	100.00
PCB height (Y) (mm)	80.00
eC-registration compatible PCB	<input type="checkbox"/>

Stencils

Material definition

Select pre-defined buildup

Board thickness	1.55 mm	Board buildup	Standard
Material Tg	145-150 °C		
Outer layer copper foil	18 µm (end 35 µm)	Inner layer copper foil	35 µm
Extra PTH runs	0	Extra press cycles	0

Board technology

Select classification

Outer layer trackwidth (OL-TV)	0.150 mm	Outer layer isolation distance (OL-TT-TP-PP)	0.150 mm
Outer layer annular ring (OAR)	0.125 mm	Inner layer trackwidth (IL-TV)	0.150 mm
Inner layer isolation distance (IL-TT-TP-PP)	0.150 mm	Inner layer annular ring (IAR)	0.125 mm
Smallest final hole	0.25 mm	Hole density	< 1000/dm²
Technology class	6C	Holes <= may be reduced	0.45 mm

Board definition

Top soldermask	Green	Bottom soldermask	Green
Top legend	White	Bottom legend	White
Surface finish	Any lead free finish	Milling	No
Bare Board Testing	<input checked="" type="checkbox"/>	UL marking	<input type="checkbox"/>

Advanced options

Summary

Business customer? Select here.

Service	STANDARD pool	
Delivery term	7 working days	
Estimated shipment date	01-10-2013	
Quantity	10 PCBs	
Board surface / Order surface	0.80 dm² / 8.00 dm²	
Prices	Net	Gross*
Single PCB	€ 31.79	€ 38.47
Total boards	€ 317.92	€ 384.68
<input checked="" type="radio"/> Express transport	€ 12.48	€ 15.10
<input type="radio"/> Economy transport	€ 10.49	€ 12.69
Total	€ 330.39	€ 399.77

* The gross prices include 21.00% VAT.

Add to basket

Useful documents



→ PCB Calculator user guide

Read more...

→ PCB design guidelines

Read more...

Alternatives

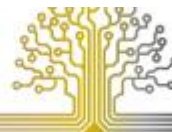
Customized matrix

<p>10 PCBs</p> <p>7 working days</p> <p>Net: € 31.79, Gross*: € 38.47</p> <p>€ 317.92, € 384.68</p> <p>Select</p>	<p>20 PCBs</p> <p>7 working days</p> <p>Net: € 21.17, Gross*: € 25.62</p> <p>€ 423.49, € 512.43</p> <p>Select</p>	<p>30 PCBs</p> <p>7 working days</p> <p>Net: € 17.00, Gross*: € 20.58</p> <p>€ 510.13, € 617.26</p> <p>Select</p>
<p>10 PCBs</p> <p>6 working days</p> <p>Net: € 39.90, Gross*: € 48.28</p> <p>€ 399.02, € 482.81</p> <p>Select</p>	<p>20 PCBs</p> <p>6 working days</p> <p>Net: € 26.58, Gross*: € 32.16</p> <p>€ 531.53, € 643.15</p> <p>Select</p>	<p>30 PCBs</p> <p>6 working days</p> <p>Net: € 21.34, Gross*: € 25.82</p> <p>€ 640.27, € 774.73</p> <p>Select</p>

* The gross prices include 21.00% VAT.

The transport costs and total price are calculated and shown in the summary according to the selection.

Smart menu



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- Technical support
 - Build wizard
 - 700 builds

Buildup selector - (STANDARDpool)

Material

Number of layers: 6 Board thickness: 1.55 mm

Reversed buildup: ☒ Blind/Buried via runs: 3

Extra press cycles: 0 Special buildup: ☐

Top soldermask: Green Bottom soldermask: Green

Top legend: White Bottom legend: None

Peelable mask: No Carbon contacts: No

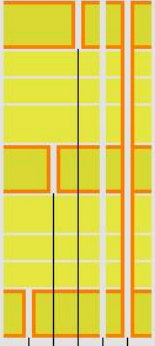
Viafill: No Top heatsink paste: No

Bottom heatsink paste: No

Core thickness	Outer layer copper foil	Inner layer copper
0.360 mm	12 µm (end 30 µm)	12 µm
0.360 mm	18 µm (end 35 µm)	18 µm
0.360 mm	35 µm (end 60 µm)	35 µm
0.200 mm	12 µm (end 30 µm)	12 µm
0.200 mm	18 µm (end 35 µm)	18 µm
0.200 mm	35 µm (end 60 µm)	35 µm
0.200 mm	70 µm (end 95 µm)	70 µm
0.100 mm	12 µm (end 30 µm)	12 µm
0.100 mm	18 µm (end 35 µm)	18 µm
0.100 mm	35 µm (end 60 µm)	35 µm
0.100 mm	70 µm (end 95 µm)	70 µm

Buildup

Total material thickness: 1.548 mm



Top legend

- Top soldermask
- Top copper
- Core - FR4-Improved - 0.2mm
- Inner copper 1
- Prepreg - PR2116 - 0.12mm
- Prepreg - PR2116 - 0.12mm
- Prepreg - PR7628 - 0.18mm
- Inner copper 2
- Core - FR4-Improved - 0.2mm
- Inner copper 3
- Prepreg - PR7628 - 0.18mm
- Prepreg - PR2116 - 0.12mm
- Prepreg - PR2116 - 0.12mm
- Inner copper 4
- Core - FR4-Improved - 0.2mm
- Bottom copper
- Bottom soldermask
- Plated drill
- Non Plated Through Hole (NPTH)
- Blind/buried via (Top - Inner 1)
- Blind/buried via (Inner 2 - Inner 3)
- Blind/buried via (Inner 4 - Bottom)

Smart menu

Build-up validation!

- faster prices, faster deliveries, lower costs



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- Technical support
 - Technical validation
 - 300 rules

The screenshot displays a software interface for PCB design. It features two main configuration panels: 'Material definition' and 'Board technology'. The 'Material definition' panel includes settings for 'Board thickness' (1.55 mm), 'Board buildup' (Standard), 'Material Tg' (145-150 °C), and 'Outer layer copper foil' (70 µm end 95 µm). The 'Board technology' panel includes settings for 'Outer layer trackwidth (OL-TW)' (0.100 mm), 'Outer layer isolation distance (OL-TT-TP-PP)' (0.125 mm), 'Outer layer annular ring (OAR)' (0.100 mm), 'Smallest final hole' (0.25 mm), 'Hole density' (< 1000/dm²), and 'Technology class' (8C). Below these panels is a red 'Order detail conflicts' section containing two messages. Each message states that the selected outer layer copper foil (70 µm end 95 µm) requires a minimum outer layer trackwidth of 0.200 mm and a minimum outer layer isolation of 0.250 mm, with 'Accept' buttons to resolve the conflicts.

Material definition Select pre-defined buildup

Board thickness: 1.55 mm Board buildup: Standard

Material Tg: 145-150 °C

Outer layer copper foil: 70 µm (end 95 µm)

Board technology Select classification

Outer layer trackwidth (OL-TW): 0.100 mm Outer layer isolation distance (OL-TT-TP-PP): 0.125 mm

Outer layer annular ring (OAR): 0.100 mm Smallest final hole: 0.25 mm

Hole density: < 1000/dm² Technology class: 8C

Order detail conflicts

The selected outer layer copper foil (70 µm (end 95 µm)) requires a minimum outer layer trackwidth of 0.200 mm. The current value for outer layer trackwidth is 0.100 mm. Press accept to adapt the outer layer trackwidth setting to the required value. Accept

The selected outer layer copper foil (70 µm (end 95 µm)) requires a minimum outer layer isolation of 0.250 mm. The current value for outer layer isolation is 0.125 mm. Press accept to adapt the outer layer isolation setting to the required value. Accept

Smart menu

Technical validations!

- No production delays



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- Technical support
 - Classification wizard
 - Pattern
 - Holes
 - Copper weight

Classification wizard

Pattern class

	Design values	3	4	5	6	7	8	9
Outer layer trackwidth (OL-TW)	0.150	≥ 0.250 mm	≥ 0.200 mm	≥ 0.175 mm	≥ 0.150 mm	≥ 0.125 mm	≥ 0.100 mm	≥ 0.090 mm
Outer layer isolation distance (OL-TT-TP-PP)	0.150	≥ 0.250 mm	≥ 0.200 mm	≥ 0.175 mm	≥ 0.150 mm	≥ 0.125 mm	≥ 0.125 mm ⚠	≥ 0.125 mm ⚠
Outer layer annular ring (OAR)	0.125	≥ 0.200 mm	≥ 0.150 mm	≥ 0.150 mm	≥ 0.125 mm	≥ 0.125 mm	≥ 0.100 mm	≥ 0.100 mm
Inner layer trackwidth (IL-TW)	0.150	≥ 0.250 mm	≥ 0.200 mm	≥ 0.175 mm	≥ 0.150 mm	≥ 0.125 mm	≥ 0.100 mm	≥ 0.090 mm
Inner layer isolation distance (IL-TT-TP-PP)	0.150	≥ 0.250 mm	≥ 0.200 mm	≥ 0.175 mm	≥ 0.150 mm	≥ 0.125 mm	≥ 0.100 mm	≥ 0.100 mm ⚠
Inner layer annular ring (IAR)	0.125	≥ 0.200 mm	≥ 0.150 mm	≥ 0.150 mm	≥ 0.125 mm	≥ 0.125 mm	≥ 0.125 mm	≥ 0.125 mm

⚠ The selected outer copper foil thickness (18 µm) requires a minimum outer layer isolation of 0.125 mm.
⚠ The selected inner copper foil thickness (18 µm) requires a minimum inner layer isolation of 0.100 mm.

Drill class

	Design values	A	B	C	D	E
Smallest final hole	0.25	≥ 0.50 mm	≥ 0.35 mm	≥ 0.25 mm	≥ 0.15 mm	≥ 0.10 mm

Cancel Apply

Smart menu

Classification aide!



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- Poolable options
 - Extra cost expressed as single coin symbol

Board definition	
Top soldermask	Green
Top legend	White
Surface finish	Che Ni/Au selectif
Bare Board Testing	<input checked="" type="checkbox"/>

Smart menu

Price guidance!

- Non-poolable options
 - Extra cost expressed as multiple coin symbol and remark

Material definition	
Board thickness	1.55 mm
Material Tg	145-150 °C
Outer layer copper foil	18 µm (end 35 µm)
Extra PTH runs	1

Remarks

- ⚠ Pooling conditions no longer met due to the following order details:
- Extra PTH runs



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Make your board layout

- Place your components
 - Footprints
- PCB Layout
 - Traces, vias, ...



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PCB - details	Possible issues	Clearly defined in:			PCB Visualizer defines
		Gerber X	Gerber X2	Native EAGLE/KiCAD	
Base material	On stock / on offer	no	no	no	PCB Configurator
Number of layers	Layers complete or not	no	no	yes	Buildup editor
Definition of the layers	Clear definition / assignment	no	yes	yes	Buildup editor
Board size	Possible open or more contours	no	no	no	Outline editor
Customer panel	Definition not standardized	no	no	no	Panel editor
Copper thickness	Definition base/end Cu	no	no	no/yes	Buildup editor
build up	Definition not standardized	no	no	no/yes	Buildup editor
PTH		no	yes	yes	Drill Editor
Via / component hole		no	yes	yes	Drill Editor
NPTH		no	yes	yes	Drill Editor
Slots & Cut outs	Definition not standardized	no	yes	yes	Outline editor / Drill editor
blind & burried vias	Define the layer name correct	no/yes	yes	yes	Buildup editor
Thermal pads	Defined in CAD or not	no	no/yes	no/yes	-
Surface finish		no	no	no	PCB Configurator
Soldermask colour		no	no	no	PCB Configurator
Legend colour		no	no	no	PCB Configurator
press fit holes	Definition not standardized	no	no	no	PCB Configurator parameter
peelable mask	Definition not standardized	no	no	no	Buildup editor
Carbon contacts	Definition not standardized	no	no	no	Buildup editor
edge connector / beveling	Definition not standardized	no	no	no	PCB Configurator parameter
depth routing	Definition not standardized	no	no	no	PCB Configurator / Drill editor
via-fill	Definition not standardized	no	no	no	PCB Configurator / Drill editor
chamfered holes	Definition not standardized	no	no	no	PCB Configurator / Drill editor
PTH on the board edge	Definition not standardized	no	no	no	PCB Configurator parameter
round-edge plating	Definition not standardized	no	no	no	PCB Configurator parameter
heatsink paste	Definition not standardized	no	no	no	Buildup editor

PCB data CAD to CAM



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PCB Visualizer® v1.3-152-151013

Home | My PCB | My Projects | My Account | My Orders | My Settings | My Help | My Feedback

Board name: LSA-tstEagle (B0503230) Data set: Customer data

Customer data

Imported 21 layers

STANDARD pool

Delivery format: eC-panel by Eur Panel quantity: 10
 Delivery term: 7 working days Number of layers: 6
 Measured: 6
 PCB width (Q) (mm): 158.75 Measured: 158.75 mm
 PCB height (Y) (mm): 69.85 Measured: 69.85 mm
 eC-registration compatible PCB ☒ Board name: LSA-tstEagle

Stencils

Panel

Repeat in X: 2 Repeat in Y: 2
 Panel width (Q) (mm): 333.50 Panel height (Y) (mm): 155.70
 PCBs per panel: 4 PCB separation method: Break routing
 Panel border: 5.00 mm PCB spacing: 2.00 mm
 Panel without cross outs ☐ Panel outline: Routing

Material

Technology

PCB definition

Top soldermask: Green Bottom soldermask: Green
 Measured: Detected Measured: Detected
 Top legend: White Bottom legend: None
 Measured: Detected Measured: Not detected
 Surface finish: Any lead free fi Milling: No
 Bare Board Testing ☒

Advanced options

Board buildup

Top view
 Top solderpaste
 Top legend
 Top soldermask
 Top copper
 Inner copper 1
 Inner copper 2
 Inner copper 3
 Inner copper 4
 Bottom copper
 Bottom soldermask
 Plated drill
 Non Plated Through Hole (NPTH)
 Bottom view
 Total material thickness: 1.56 mm

Detailed View

0. All Order details of your PCB.
 1. Imported layers and the Buildup editor.
 2. Graphical presentation of the Buildup.
 3. Panel editor to define customer panels.
 4. Classification wizard to determine the technology class of the PCB.
 5. PCB PiXture editor to integrate graphics onto your PCB.
 6. Marking editor to manipulate all markings on the board.
 7. The Visualization of your data, your virtual PCB.
 8. The shown data set, customer data or production data.
 9. The PCB Visualizer help function.
 10. The price for your chosen combination of quantity and delivery term.
 11. Save all changes to the basket item.
 12. Launch an inquiry to be processed by our engineers and sales.
 13. Remarks on your data versus order details, actions required.
 14. Customized matrix to input your choice of quantity and delivery terms.
 15. Automatically chosen alternatives for Quantities and delivery terms.
 16. On page online chat support.

Summary

Service: STANDARD pool
 Delivery term: 7 working days
 Estimated shipment date: 22-10-2015
 Quantity: 10 panels
 Board surface / Order surface: 5.19 dm² / 51.93 dm²
 Price: Net
 Single panel: € 113.62
 Total boards: € 1136.18
 Express transport: € 0.00
 VAT 11 %: € 238.60
 Total gross: € 1374.78
 Save changes
 Launch Inquiry

Remarks

The panel is marked as eC-registration compatible, but no stencils are ordered.
 The measured value for Outer layer annular ring (OAR) (0.050 mm) does not match any of the available options.
 The measured value for Inner layer annular ring (IAR) (0.050 mm) does not match any of the available options.

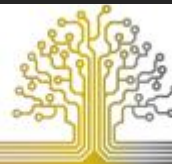
Alternatives

Customized matrix

10 panels 10 working days Net € 985.89 Select	20 panels 10 working days Net € 1369.10 Select	30 panels 10 working days Net € 1688.76 Select
10 panels 8 working days Net € 108.61	20 panels 8 working days Net € 75.41	30 panels 8 working days Net € 62.02

Contact support

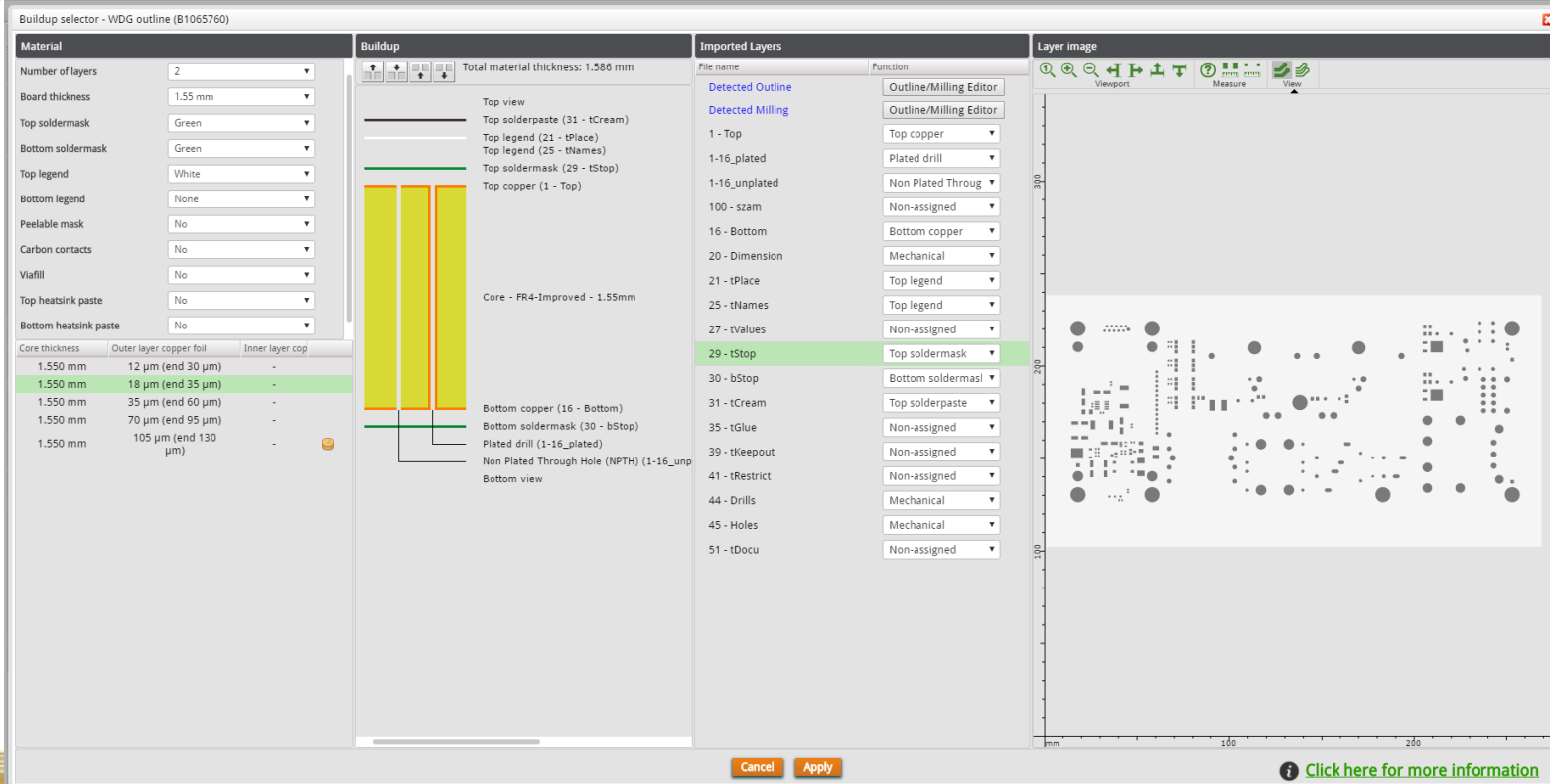
PCB Configurator :
 Remove data ambiguities online



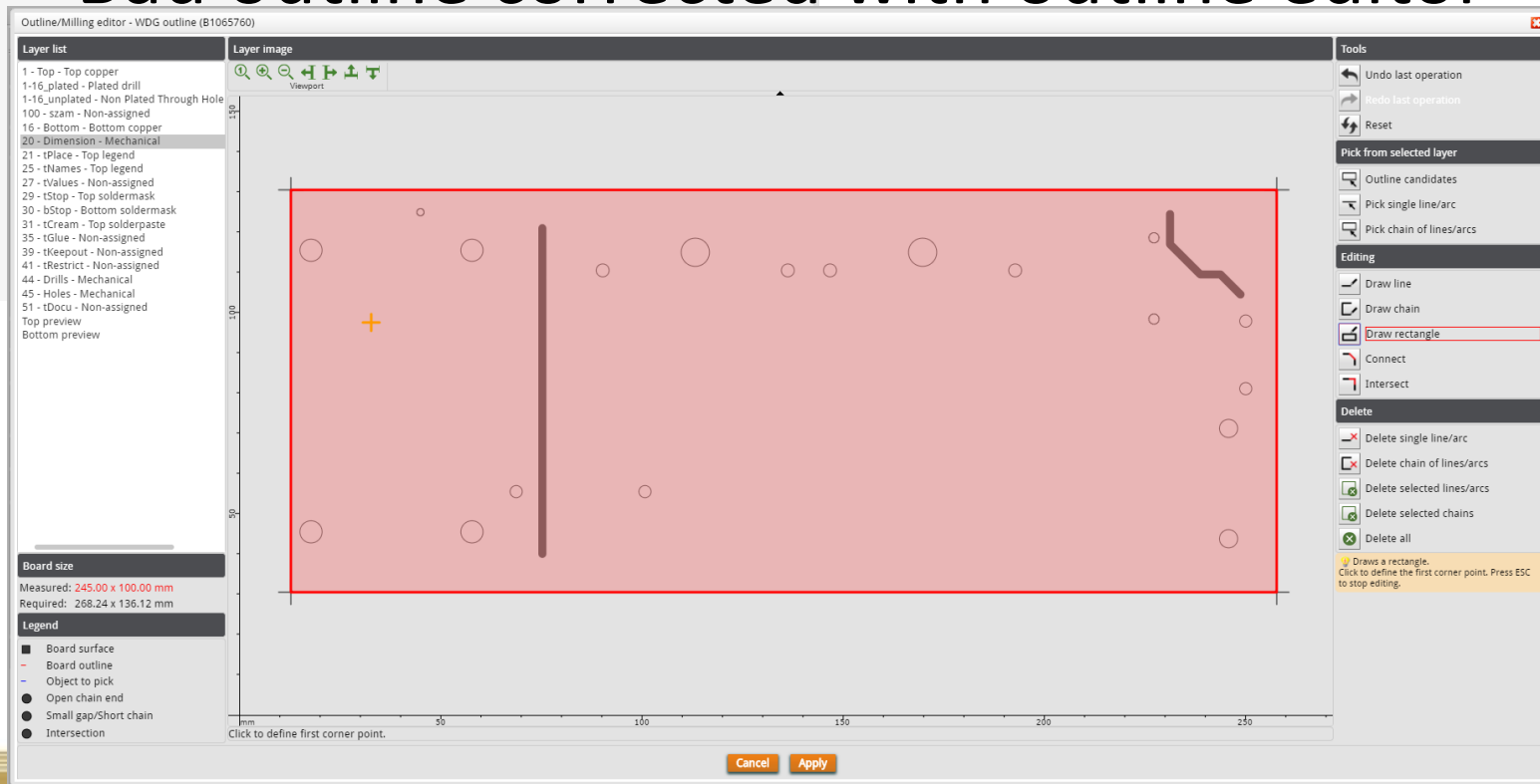
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Confusing layer naming corrected with buildup editor



Bad outline corrected with outline editor



Buildup selector - (STANDARDpool)

Material

Number of layers: 4
 Reversed buildup: ☐
 Extra press cycles: 1
 Top soldermask: Green
 Top legend: White
 Peelable mask: No
 Viafill: No
 Bottom heatsink paste: No

Board thickness: 1.55 mm
 Blind/Buried via runs: 1
 Special buildup: ☐
 Bottom soldermask: Green
 Bottom legend: None
 Carbon contacts: No
 Top heatsink paste: No

Core thickness	Outer layer copper foil	Inner layer copper
0.710 mm	12 µm (end 30 µm)	12 µm
0.710 mm	12 µm (end 30 µm)	18 µm
0.710 mm	18 µm (end 35 µm)	18 µm
0.710 mm	18 µm (end 35 µm)	35 µm
0.710 mm	35 µm (end 60 µm)	35 µm
0.710 mm	35 µm (end 60 µm)	70 µm
0.710 mm	70 µm (end 95 µm)	70 µm
0.360 mm	12 µm (end 30 µm)	12 µm
0.360 mm	12 µm (end 30 µm)	18 µm
0.360 mm	18 µm (end 35 µm)	18 µm
0.360 mm	18 µm (end 35 µm)	35 µm
0.360 mm	35 µm (end 60 µm)	35 µm
0.360 mm	35 µm (end 60 µm)	70 µm
0.360 mm	70 µm (end 95 µm)	70 µm
0.200 mm	12 µm (end 30 µm)	12 µm
0.200 mm	12 µm (end 30 µm)	18 µm
0.200 mm	18 µm (end 35 µm)	18 µm
0.200 mm	18 µm (end 35 µm)	35 µm
0.200 mm	35 µm (end 60 µm)	35 µm
0.200 mm	35 µm (end 60 µm)	70 µm
0.200 mm	70 µm (end 95 µm)	70 µm
0.100 mm	12 µm (end 30 µm)	12 µm
0.100 mm	12 µm (end 30 µm)	18 µm
0.100 mm	18 µm (end 35 µm)	18 µm
0.100 mm	18 µm (end 35 µm)	35 µm

Buildup

Total material thickness: 1.536 mm

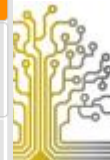
Top legend
 Top soldermask
 Top copper
 Prepreg - PR7628 - 0.18mm
 Prepreg - PR7628 - 0.18mm
 Inner copper 1
 Core - FR4-Improved - 0.71mm
 Inner copper 2
 Prepreg - PR7628 - 0.18mm
 Prepreg - PR7628 - 0.18mm
 Bottom copper
 Bottom soldermask
 Plated drill
 Non Plated Through Hole (NPTH)
 Blind/buried via (Top - Inner 1)

Remarks

Blind/buried via (Top - Inner 1) ends at the top side of a core. Select the via in the buildup and use the buttons in the toolbar to correct the drill span or choose a different board buildup.

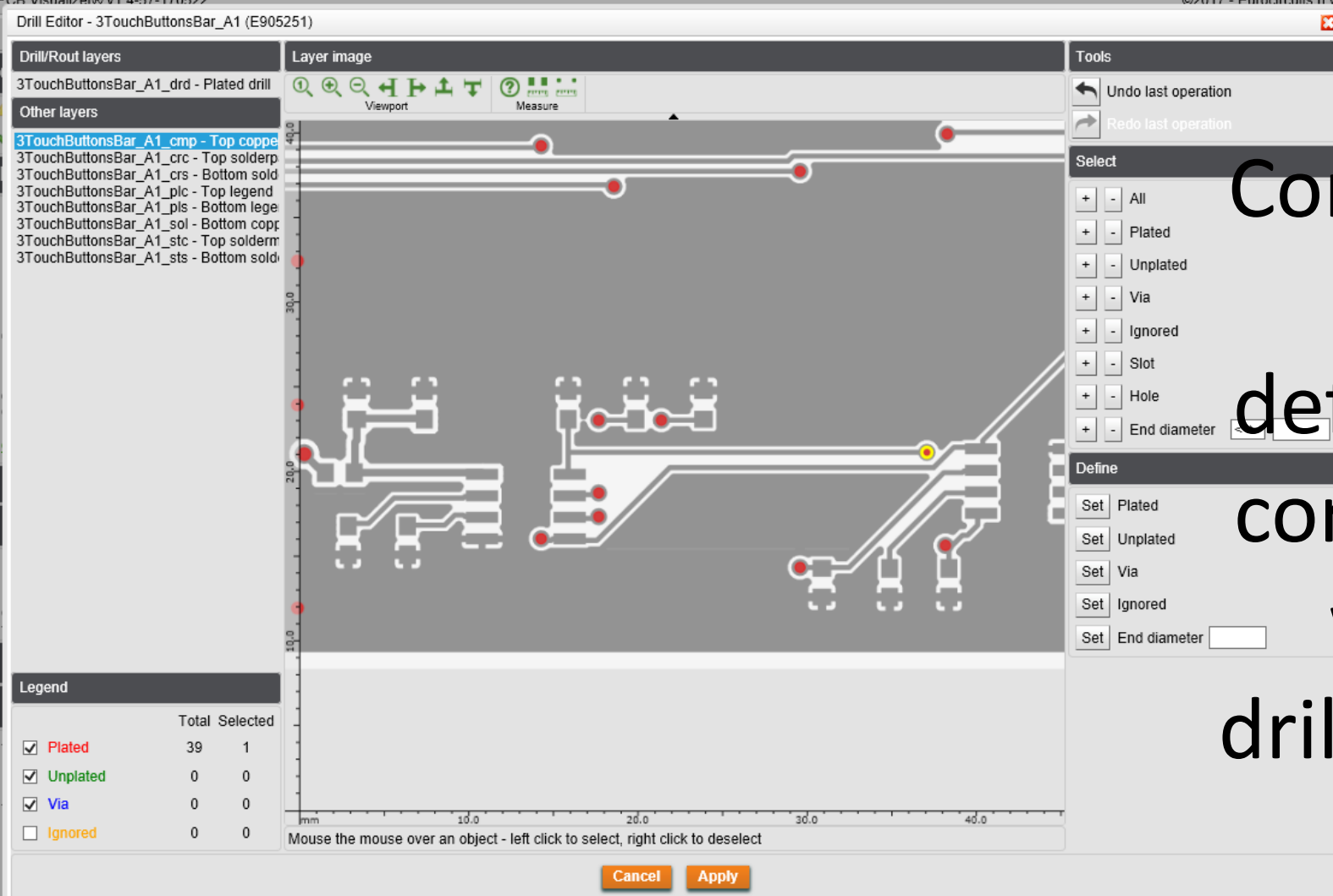
Cancel Apply [Click here for more information](#)

Bad buildup edited with buildup editor

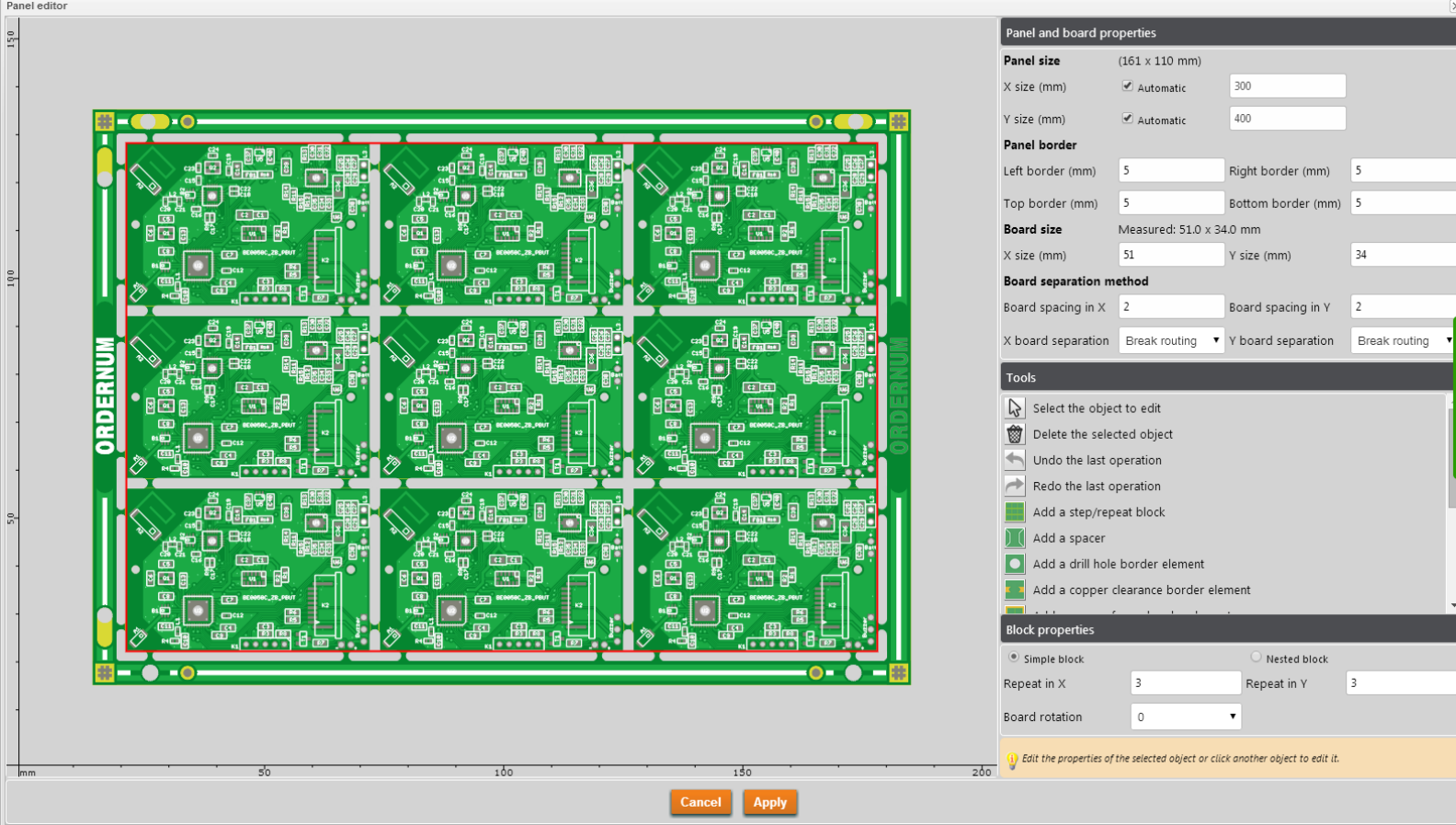


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Confusing
hole
definition
corrected
with
drill editor



“Panel editor”



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DRC - DFM Information

DRC information DFM information

Layer	Required	Measured			
Outer layer trackwidth (OL-TW)					
Top copper	0.150 mm	0.150 mm			
Bottom copper	0.150 mm	0.150 mm			
Outer layer isolation distance (OL-TT-TP-PP)					
Top copper	0.125 mm	0.141 mm			
Bottom copper	0.125 mm	0.150 mm			
Outer layer annular ring (OAR)					
Top copper	0.125 mm	0.050 mm	32	10	
Bottom copper	0.125 mm	0.050 mm	32	10	
Inner layer trackwidth (IL-TW)					
Inner copper 1	0.150 mm	0.150 mm			
Inner copper 2	0.150 mm	0.150 mm			
Inner copper 3	0.150 mm	0.150 mm			
Inner copper 4	0.150 mm	0.150 mm			
Inner layer isolation distance (IL-TT-TP-PP)					

Fault view

Outer layer annular ring (OAR) - Top copper

Current issue

Measured annular ring : 0.050 mm
Required annular ring : 0.125 mm
Tool diameter : 0.25 mm
Hole diameter : 0.15 mm
Calculated pad diameter : 0.350 mm

Annular ring

More information can be found [here](#).

Board buildup

Top view

Top solderpaste

Top legend

Top soldermask

Top copper

Inner copper 1

Inner copper 2

Inner copper 3

Inner copper 4

Bottom copper

Bottom soldermask

Plated drill

Non Plated Through Hole

Bottom view

Total material thickness: 1.56 mm

Bird's Eye View

Detailed View

0. PCB Checker - DRC Information

1. Detailed PCB parameter overview with fault indication

2. Detailed fault description

3. Bird eye view of all faults and repaired issues

4. Detailed zoom of the fault in the board

5. Remarks stay in sight

6. On page online chat support

Summary

Service STANDARD pool

Delivery term 7 working days

Estimated shipment date 22-10-2015

Quantity 10 panels

Board surface / Order surface 5.19 dm² / 51.93 dm²

Prices Net

Single panel € 113.62

Total boards € 1136.18

Express transport € 0.00

VAT 21.00% € 238.60

Total gross € 1374.78

[Save changes](#)

Click the "Launch inquiry" button in case you are having troubles configuring your PCB. Our sales team will review your input and generate an offer.

[Launch Inquiry](#)

Remarks

The panel is marked as eC-registration compatible, but no stencils are ordered.

The measured value for Outer layer annular ring (OAR) (0.050 mm) does not match any of the available options. ☐ Ignore

The measured value for Inner layer annular ring (IAR) (0.050 mm) does not match any of the available options. ☐ Ignore

Alternatives Customized matrix

10 panels 10 working days Net € 98.59 € 985.89 Select	20 panels 10 working days Net € 68.45 € 1369.10 Select	30 panels 10 working days Net € 56.29 € 1688.76 Select
10 panels 8 working days Net € 108.61	20 panels 8 working days Net € 75.41	30 panels 8 working days Net € 62.02

[Contact support](#)

PCB Checker : Evaluate possible DRC issues



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PCB Configurator

PCB Checker

Board name LSA-tstEagle (B0503230) Data set: Customer data

DRC - DFM information

DRC information

DFM information

Layer	Values
Plating	
Top copper	0.80
Bottom copper	0.71
Solderpaste surface	
Top solderpaste	1335.75 mm ²
Not-connected soldermask-free pads - Potential fiducials	
Top copper	16
Bottom copper	0
Copper free of soldermask	
Top copper	14.80%
Bottom copper	3.04%

Fault view

Plating - Top copper

Current issue

Plating index : 0.80

The plating index measures the uniformity of copper density on the board. A completely uniform board has an index of 1 which means that no plating problems are expected. Lower values show less uniformity, highlighted on the visual image by the red and blue areas. If the index falls to 0.4 or less, then special attention is required.

More information can be found [here](#).

Plating

Top plating index 0.8

0. PCB Checker - DFM information

1. Plating index

2. Detailed info on the plating index of the chosen layer

3. Image of the plating index of the chosen layer

4. Calculated solder paste surface (SMD)

5. Potential fiducials

6. % Copper, free of soldermask against the board surface

7. On page online chat support

Underplating

Normal plating

Overplating

Summary

Service	STANDARD pool
Delivery term	7 working days
Estimated shipment date	22-10-2015
Quantity	10 PCBs
Board surface / Order surface	1.11 dm ² / 11.09 dm ²
Prices	Net
Single PCB	€ 42.27
Total boards	€ 422.69
Express transport	€ 0.00
VAT 21.00%	€ 88.77
Total gross	€ 511.46

Save changes

Click the 'Launch inquiry' button in case you are having troubles configuring your PCB. Our sales team will review your input and generate an offer.

Launch inquiry

Remarks

- The measured value for Outer layer annular ring (OAR) (0.050 mm) does not match any of the available options. ☐ Ignore
- The measured value for Inner layer annular ring (IAR) (0.050 mm) does not match any of the available options. ☐ Ignore

Alternatives

Customized matrix

10 PCBs 7 working days Net € 422.69 <div>Select</div>	20 PCBs 7 working days Net € 27.92 € 558.34 <div>Select</div>	30 PCBs 7 working days Net € 22.87 € 686.09 <div>Select</div>
10 PCBs 6 working days Net € 52.95 € 529.50 <div>Select</div>	20 PCBs 6 working days Net € 34.97 € 699.46 <div>Select</div>	30 PCBs 6 working days Net € 28.65 € 859.58 <div>Select</div>

Contact support

PCB Checker : Evaluate possible DFM issues



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PCBA data - CAD to CAM

PCBA - details	Possible issues	Clearly defined in:			PCBA Visualizer defines
		BOM	CPL	Native EAGLE/KiCAD	
File format	Definition not standardized	no	no	yes	BOM editor / CPL editor
Component description	Definition not standardized	no	no	no	BOM editor
Manufacturing Part Number	Not clear or partial description	no	no	no	BOM editor
Supplier Part Number	Not clear or partial description	no	no	no	BOM editor
Component package	Poor definition leads to different package link in manufacturing DB	no	no	no	BOM editor
Component origin (Offset)	Different origin than manufacturing DB	no	no	no	CPL editor
Component Rotation (pin 1)	Different rotation than manufacturing DB	no	no	no	CPL editor
Component centroid	Different centroid than manufacturing DB	no	no	no	CPL editor
Component footprint	Poor definition leads to different footprint link in manufacturing DB	no	no	no	-
IPC definition of the footprint	Almost never available	no	no	no	show
Component Packaging	Need to be decided by the manufacturer	no	no	no	removed in BOM editor



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Choose columns to be used

Mapping of at least one column out of MPN, Description or Package name. And, one out of Quantity and Reference designators is mandatory.

Back

Submit

Row Nr.	Qty	Value	Description	Device	Package	Parts
	Quantity	Value	Description	Comment	Package name	Reference Designator
2	1	JP_1X14	CONNECTOR	Control Board	JP_1X14	CN1
3	1	JP_1X4	CONNECTOR	Control Board	JP_1X4	CN5
4	1	JP_1X5	CONNECTOR	Control Board	JP_1X5	CN3
5	1	JP_1X6	CONNECTOR	Control Board	JP_1X6	CN4
6	1	15EDGRC-3.5/6P	CONNECTOR	Control Board	CON_TERMINAL_3.5MM_6-PIN	CN6
7	1	15EDGK-3.5/6P	CONNECTOR	Control Board	CON_TERMINAL_3.5MM_6-PIN	CN6-pair
8	0	40_PIM_CON_0.5_MMHIROSE	CONNECTOR	Control Board	40_PIN_CON_0.5_MM_02	CN2
9	1	40_PIM_CON_0.5_MM	CONNECTOR	Control Board	40_PIN_CON_0.5_MM_02	CN2
10	2	18p SMD-0603	CAPACITOR	Control Board	0603_TYPE_B	C56, C57
11	6	10n 50V SMD-0603	CAPACITOR	Control Board	0603_TYPE_B	C45, C46, C47, C48, C49, C50
12	40	100n 16V X7R SMD-0402	CAPACITOR	Control Board	0402_TYPE_C	C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C26, C27, C29, C30, C32, C38, C40, C41, C42, C43, C44, C51,
13	2	1u 25V SMD-0603	CAPACITOR	Control Board	0603_TYPE_B	C36, C39
14	1	1u Tantal	CAPACITOR	Control Board	SMC_A	C31
15	2	2.2u Tantal	CAPACITOR	Control Board	SMC_A	C25, C28
16	4	4.7u Tantal	CAPACITOR	Control Board	SMC_A	C1, C33, C35, C37
17	1	10u 16V X5R SMD-0805	CAPACITOR	Control Board	0805_TYPE_A	C34
18	1	8MHz	CRYSTAL	Control Board	CRYSTAL_3.2MM_2PIN	Q1
19	1	SMLVT3V3	DIODE	Control Board	DO-214AA	D1
20	2	PMEG4005AEA.115	DIODE	Control Board	SOD123FL	D2, D3
21	1	STM32F429NI - MCU	IC	Control Board	TFBGA	IC1
22	1	AS4C4M165-6BIN - SDRAM	IC	Control Board	TFBGA-54	IC2
23	1	MCP130T-300 - RESET	IC	Control Board	SOT-23-II	IC3

- BOM editor:
 - Detect BOM list format
 - Assign column types
 - Automated search



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Search parts

Your part:

MPN	Manufacturer	Description	Package	Supplier	SPN	Library	Value	Mounting	Comment	URL
		IC	SO08W				W25Q32FV5SIG - FLASH			Control Board

MPN Package Description

Search result (Eurocircuits):

MPN	Manufacturer	Description	IPC	Datasheet	Supplier	Price	Stock	Verified
<input type="checkbox"/> AD633JNZ	Analog Devices	Multiplier IC (Analog Devices) AD633JNZ Multiplier IC	DIP762W45P254L1016H533Q8		Eurocircuits	0	0	No
<input type="checkbox"/> SN74LVC1G32DBVR	Texas Instruments	Logic IC (Texas Instruments) SN74LVC1G32DBVR Logic IC	SOT23-5P95_280X145L45X40		Eurocircuits	0	0	No
<input type="checkbox"/> SN74AHC1G04DBVR	Texas Instruments	Logic IC (Texas Instruments) SN74AHC1G04DBVR Logic IC	SOT23-5P95_280X145L45X40		Eurocircuits	0	0	No
<input type="checkbox"/> SN75LBC176DR	Texas Instruments	Logic IC (Texas Instruments) SN75LBC176DR Logic IC	SOIC8P127_490X600K175L83X41N		Eurocircuits	0	0	No
<input type="checkbox"/> ADM232LJRZ	Analog Devices	Interface IC (Analog Devices) ADM232LJRZ Interface IC	SOT16P127_990X600K175L83X41N		Eurocircuits	0	0	No
<input type="checkbox"/> SN74AHC1G32DBVR	Texas Instruments	Logic IC (Texas Instruments) SN74AHC1G32DBVR Logic IC	SOT23-5P95_280X145L45X40		Eurocircuits	0	0	No
<input type="checkbox"/> SN74LVC1G08DBVT	Texas Instruments	Logic IC (Texas Instruments) SN74LVC1G08DBVT Logic IC	SOT23-5P95_280X145L45X40					
<input type="checkbox"/> SN74AHC1G32DBVR	Texas Instruments	Logic IC (Texas Instruments) SN74AHC1G32DBVR Logic IC	SOT23-5P95_280X145L45X40					
<input type="checkbox"/> LMD18200T/NOPB	Texas Instruments	Motor Driver IC (Texas Instruments) LMD18200T/NOPB Motor Driver IC	TO170P2002K462K479-11					
<input type="checkbox"/> L293DNE	Texas Instruments	Motor Driver IC (Texas Instruments) L293DNE Motor Driver IC	DIP762W46P254L1931H508Q16B					

Search result (Octopart):

MPN	Manufacturer	Description	IPC
<input type="checkbox"/> MAX232CPE+	Maxim Integrated	Dual Transmitter/Receiver RS-232 16-Pin PDIP N	
<input type="checkbox"/> MCP2122-E/P	Microchip	Infrared Encoder/Decoder 8-Pin PDIP Tube	
<input type="checkbox"/> CSS460A-BSZ	Cirrus Logic	IC ENERGY METERING 1PHASE 24SSOP - CSS460A-BSZ	

Search

Resistor 5.62k 1%

Search results (5) - double click to replace identified part.

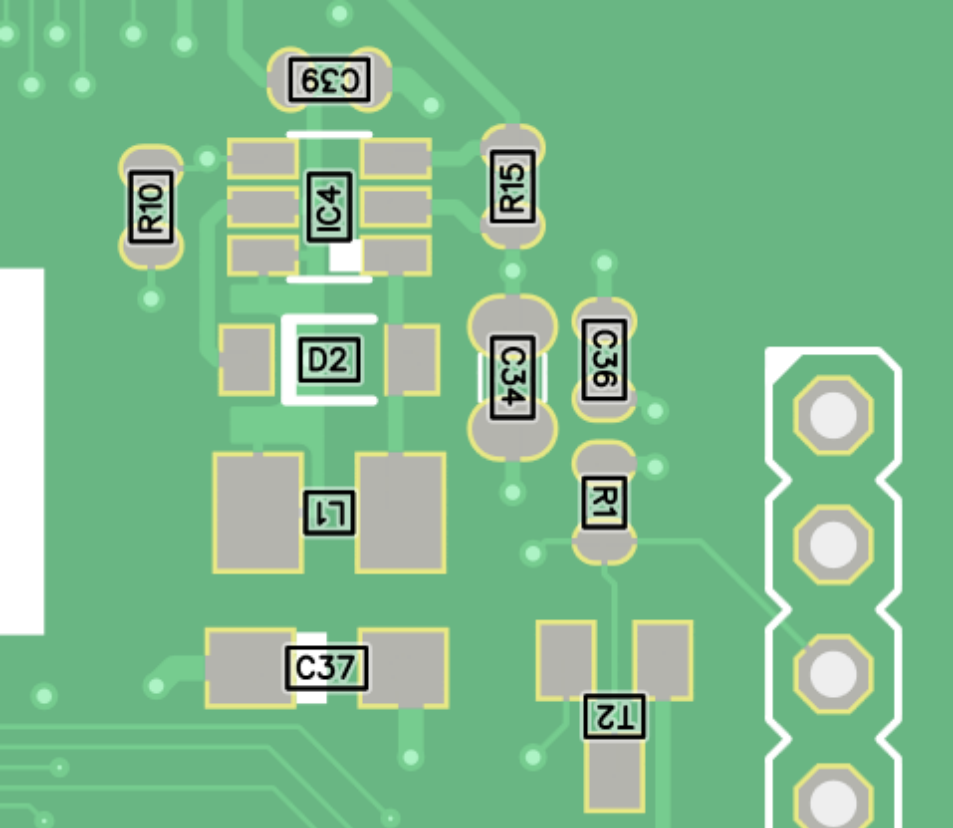
	Found part	Datasheet	Image
	CRCW06035K62FKEA - Vishay 5.62k Ohm $\pm 1\%$ 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automot		
	ERA6AEB5621V - Panasonic 5.62k Ohm $\pm 0.1\%$ 0.125W, 1/8W Chip Resistor 0805 (2012 Metric) Autor		
	RC0201FR-075K62L - Yageo 5.62k Ohm $\pm 1\%$ 0.05W, 1/20W Chip Resistor 0201 (0603 Metric) Moistu		
	RC0402FR-075K62L - Yageo 5.62k Ohm $\pm 1\%$ 0.063W, 1/16W Chip Resistor 0402 (1005 Metric) Moist		
	CRCW08055K62FKEA - Vishay 5.62k Ohm $\pm 1\%$ 0.125W, 1/8W Chip Resistor 0805 (2012 Metric) Automot		

- BOM editor - Manual search
 - Integrated search on different sources
 - Eurocircuits component database
 - Supplier/Manufacturer websites
 - Direct access to spec sheets



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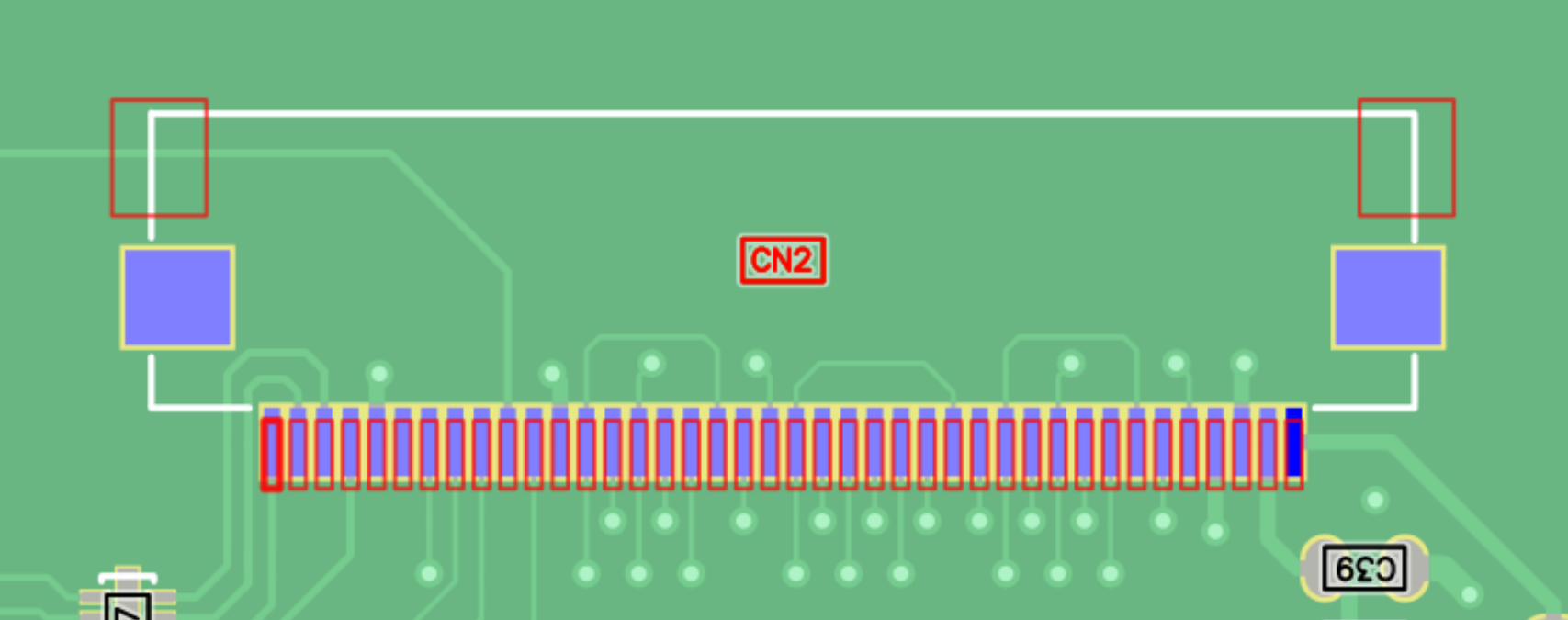


- CPL editor - Read and Visualize
 - Detect CPL format
 - Assign column types
 - Visualize component locations on PCB data



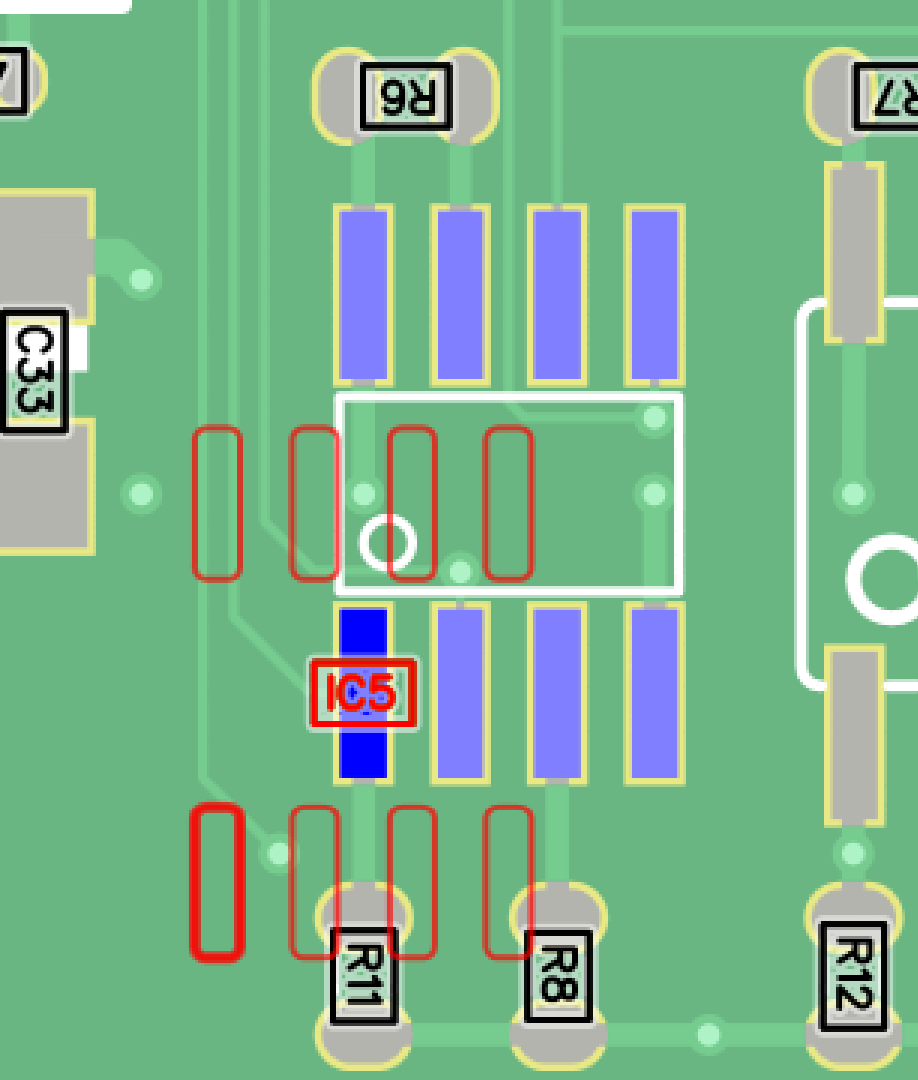
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- Footprint – we check CAD-info against the eC-verified database
 - Incorrect component chosen. Same device available with different packages
 - Incorrect footprint definition in CAD library



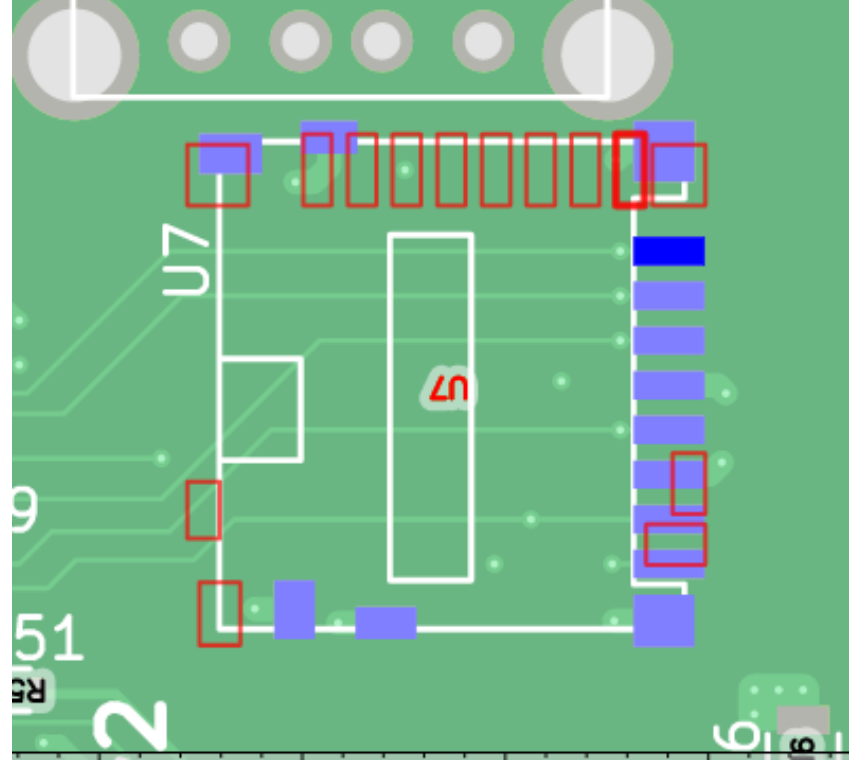
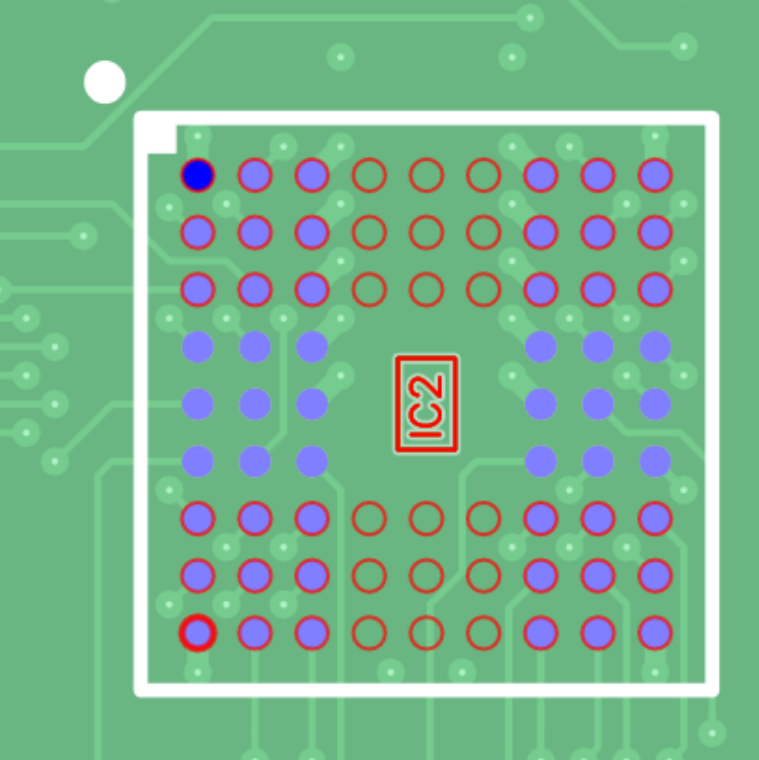


- Location
 - PIN1 vs centroid location in CPL file



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- Rotation
 - Each library can define its own default rotation
 - Verified against eC standard rotation



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Package name: *

HTSSOP-28

IPC name: *

SOP29P65_970X640X120L60X24T340X970N

SOP29P65_970X640X120L60X24T340X970N.lbr [edit file](#)

Description:

Type:

SMD

Total solder points:

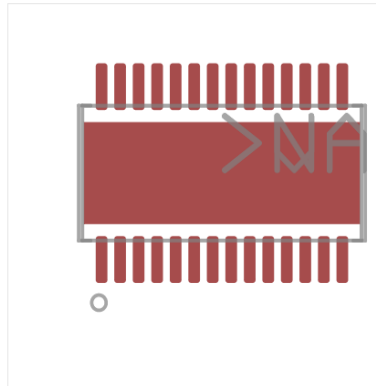
29

Package Info

Category:

Length:	Column Pitch:	Column Pins:
9.70	0.65	
Width:	Row Pitch:	Row Pins:
6.40		
Height:	Pins:	
1.20	29	
Diameter:		

Close Save Save & New



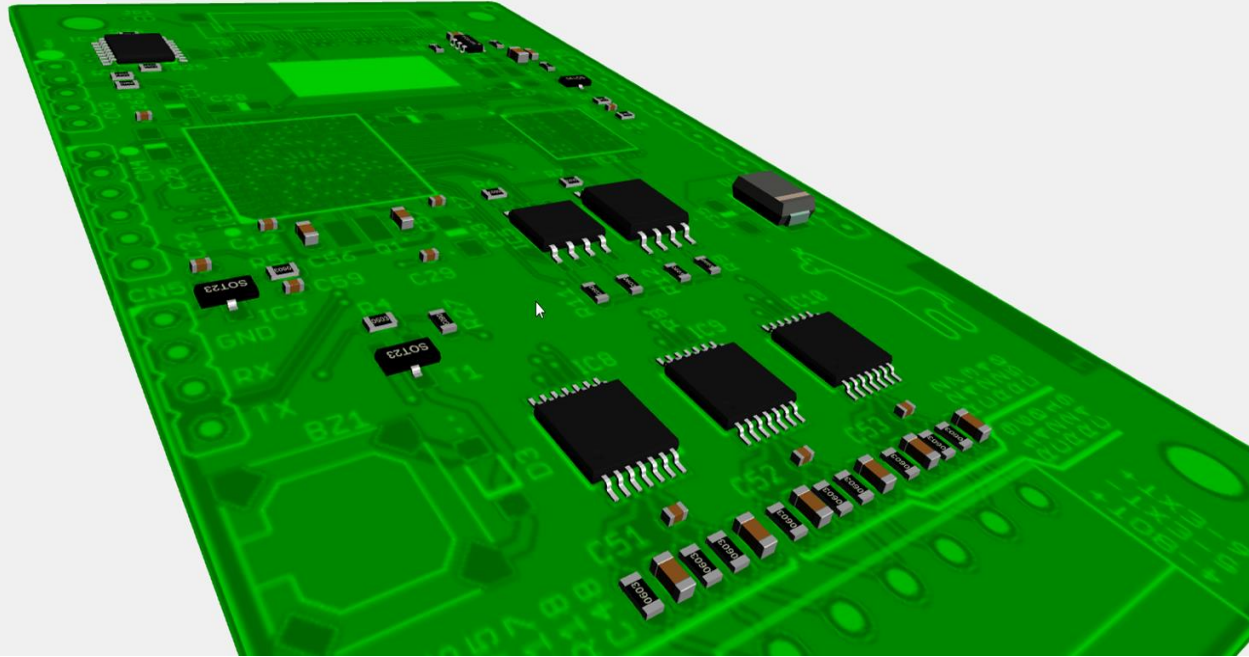
Assembly Visualizer
the way to proceed

- **eC-verified component database (DB)**
 - Verified footprints (IPC-rules + Own practical experience)
 - Output to various CAD-packages



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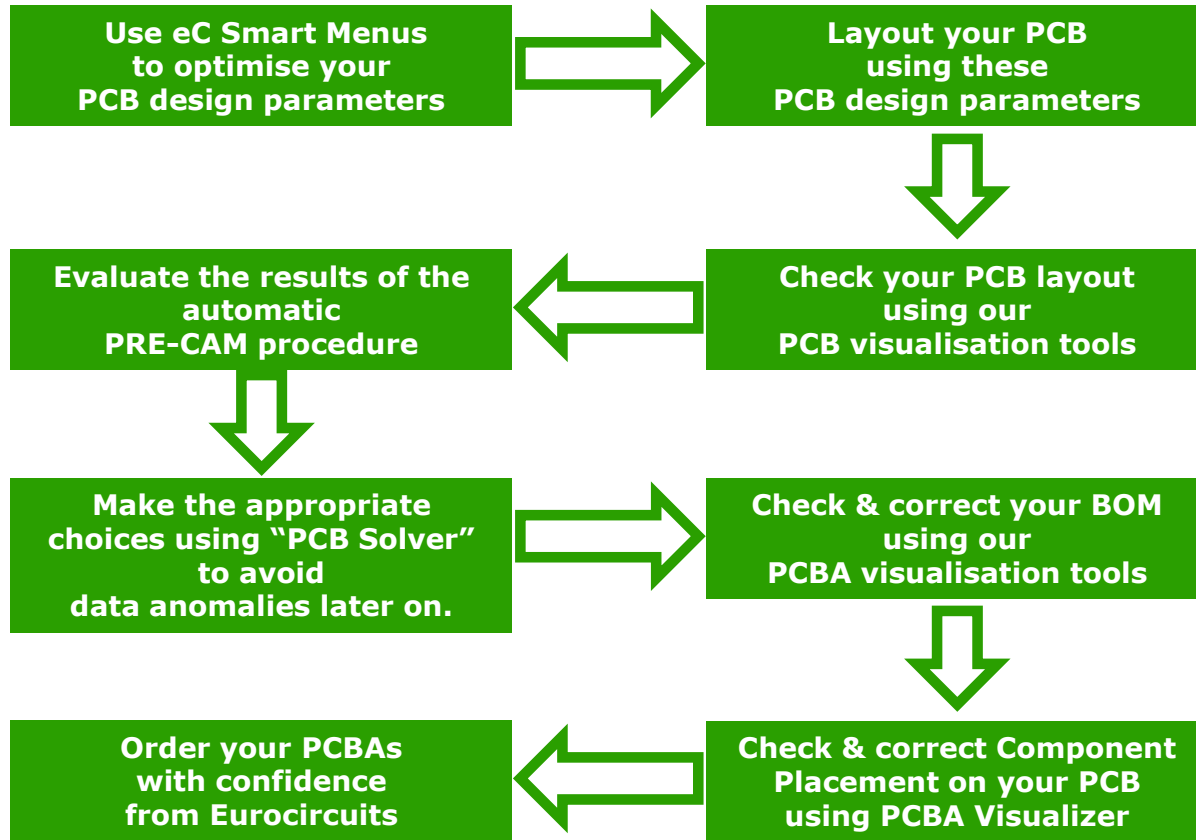
Assembly Visualizer
the way to proceed

- Eurocircuits CAM department
 - pool of electronics engineers for data preparation ... to get a virtual 3D assembled board



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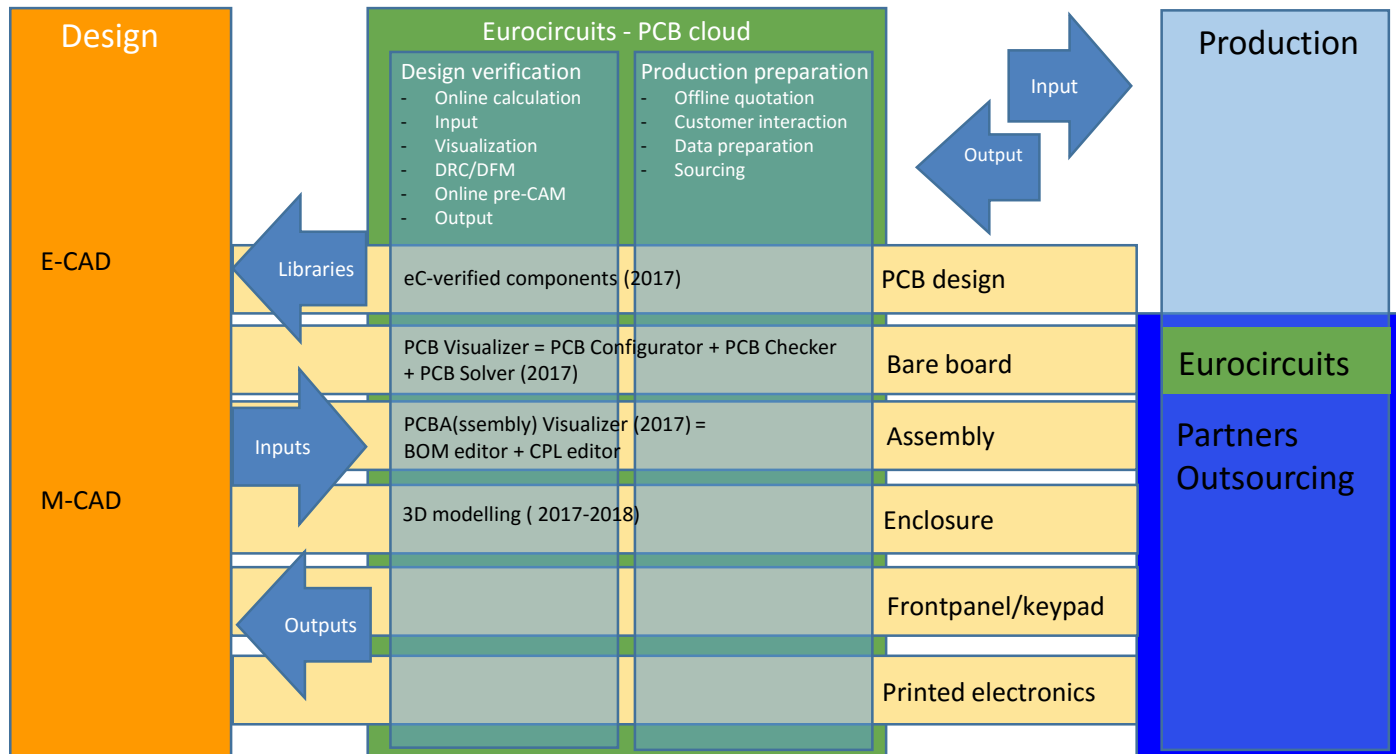


Virtual PCBA production How?



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Making electronic applications



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EURO CIRCUITS

- Your board “right first time”
 - on time
 - accurate to your intentions
 - at best total cost
- Booth 7 F079
- Thanks



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