



EASYLOGIX.DE



Powerd by
Adam-Labs

Physics

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www.easylogix.de

www.PCB-Investigator.com

www.adam-labs.com



PCBi-Physics

Edition



The PCB-Investigator Physics Edition offers a variety of functions that make it possible to simulate and analyze the thermal and electrical properties of printed circuit boards. Some of the key benefits include:

- Exact PCB shape mapping: The edition uses the actual shape of the PCB to optimize the simulation.
- Component shapes from design data: The edition uses the actual shapes of components created in the design software for simulation.
- Editing functions for layer and component shapes: The edition provides functions for editing layers and component shapes to customize the simulation.
- Material Library: The edition contains a library of thermal and electrical properties of materials that can be used in simulation.
- Layer structure definition: The edition makes it possible to define and simulate the layer structure of the printed circuit board.
- Use of electrical properties: The edition takes into account electrical properties such as resistance and capacitance in the simulation.
- 2D/3D visualization: The edition offers the possibility to display simulations in 2D and 3D to better understand the results.
- Add or remove components or copper objects: The edition allows you to add or remove components or copper objects during simulation.
- Add new layers with shape-bound material sections: The edition allows you to add new layers with shape-bound material sections.
- Back-annotation of changes: The edition makes it possible to write changes back into the design software.
- Optimized memory usage: The edition uses a solver that optimizes memory usage.
- High resolution solvers for current and temperature: The edition uses high-resolution solvers to simulate current and temperature.
- Coupling of current and temperature: The edition makes it possible to consider the coupling of current and temperature in the simulation.
- Mesh-based simulation: The edition makes it possible to perform the simulation at the network level to analyze the signal integrity of printed circuit boards and identify problems such as crosstalk or signal loss.
- Pin-based power allocation: The edition makes it possible to assign the current at the pin level to simulate the current load of sources and sinks.
- GPU solver for high performance: The edition uses a GPU solver to boost the performance of the simulation.
- Transient simulation of current and temperature: The edition makes it possible to perform the simulation of current and temperature in transient states to study the dynamics of thermal loads.
- Heating profiles and PWM control: The edition makes it possible to consider heating profiles and PWM (pulse width modulation) control in the simulation to simulate the thermal load of printed circuit boards under realistic operating conditions.



Features

Analysis

Setup Analysis

Net Compare

Service

Advantages

- ++ Exact board shape**
- ++ Component shape from design data**
- ++ Editing functions for layer and component shapes**
- ++ Material library**
- ++ PCB Layer stack-up definition**
- ++ Electrical property usage**
- ++ 2D / 3D Visualisation**
- ++ Adding or removing components or copper objects**
- ++ Adding new layers with shape defined material sections**
- ++ Back annotation of changes**
- ++ Memory usage optimized Solver**
- ++ High resolution current/temperature Solver**
- ++ Current temperature coupling**
- ++ Net based Solving**
- ++ Pin addressed current assignment for source and drain**
- ++ GPU Solver for high performance**
- ++ Transient solving of current and temperature**
- ++ Heating profile + PWM**



Load PCB

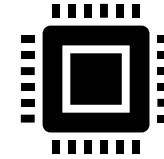
Analysis

Setup Analysis

Net Compare

Service

Optimized for PCB



- **Solver Options**
 - **Temperature**
 - **Voltage drop**

- **DC Simulation by solving any shapes**
- **Result for Components, Pins and Layers**
- **Suitable for large board sizes**
- **Segments of usage**
 - **Computer**
 - **Communication**
 - **Consumer**
 - **Industrial**
 - **Medical**
 - **Automotive**
 - **Aviation**
 - **Defence**
 - **Transportation**



PCBi-Physics

Load PCB

Analysis

Setup Analysis

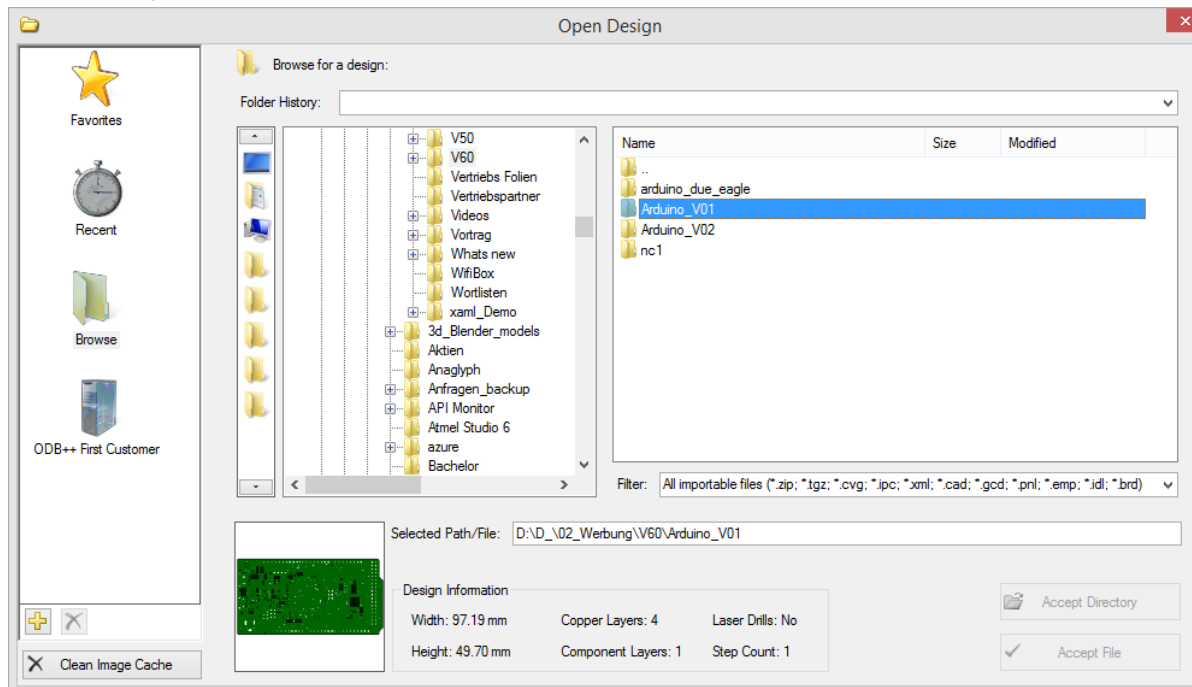
Net Compare

Service

The PCB-Investigator Physics Edition offers the possibility to import the data of the PCB from the formats

- ODB++,
- GenCAD,
- IPC2581,
- IDF 2.0/3.0
- Gerber

and can, use it as a source.





PCBi-Physics

Load PCB

Analysis

Setup Analysis

Net Compare

Service

Define the current for the required net

PCBi-Physics - Transient Simulation

Project Board Operation Chronology Components Environment Simulate

All components:

ID	Reference	Value	Out-Nets
1	L2		SNONES ,NetL2...
2	L3		SNONES ,NetL3...
3	L4		SNONES ,NetL4...
4	L5		SNONES ,NetL5...
5	Q12		NetQ12_1 ,SW2...
6	Q13		NetQ13_1 ,SW2...
7	Q16		NetQ16_1 ,SW1...
8	Q17		NetQ17_1 ,SW1...
9	Q20		NetQ20_1 ,SW2...
10	Q21		NetQ21_1 ,SW2...
11	Q8		NetQ8_1 ,SW1...

Nothing selected

Save Setting Material Library Import Setting Export Setting Close



PCBi-Physics

Get the temperature for any net and the whole board

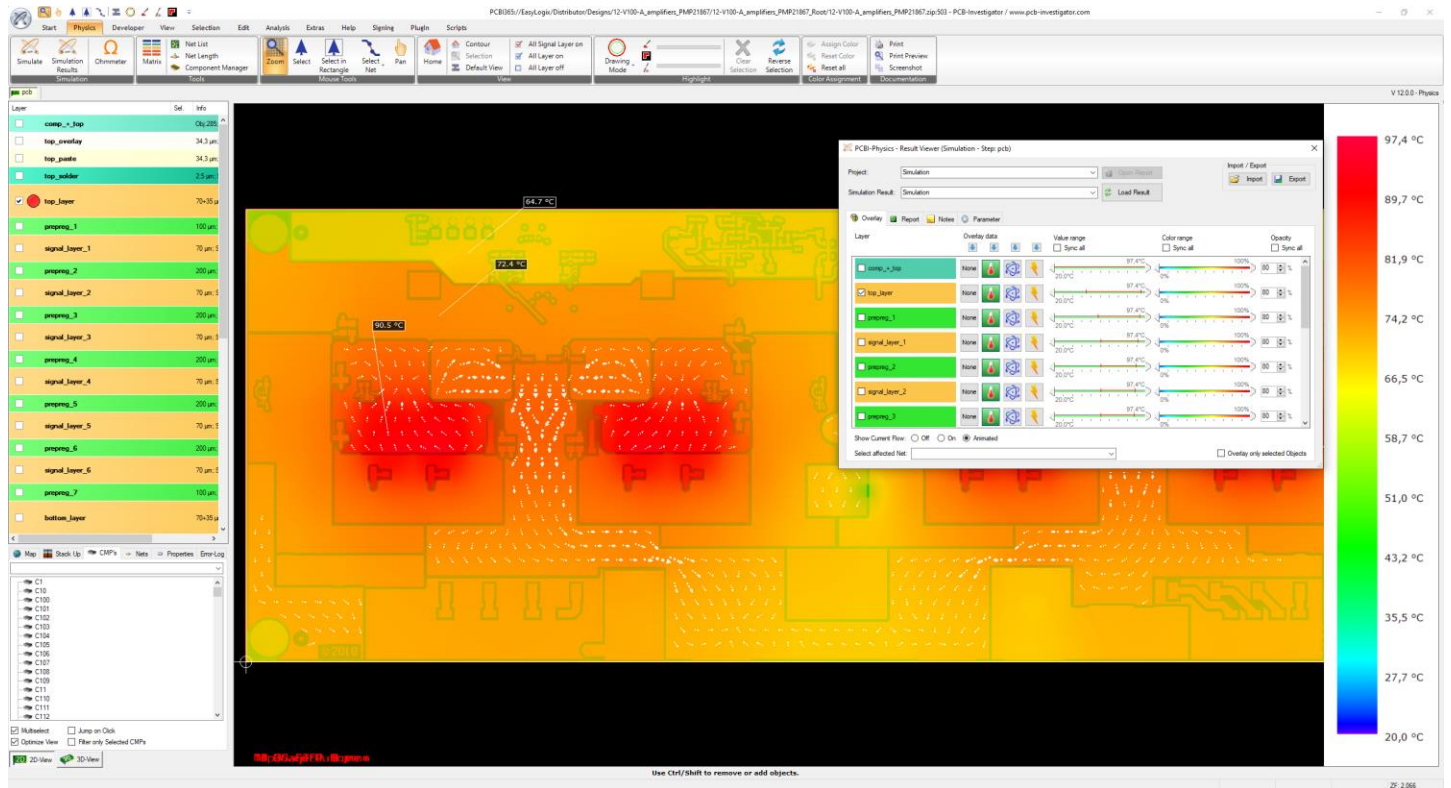
Load PCB

Setup Compare

Setup Analysis

Result

Service





PCBi-Physics

Load PCB

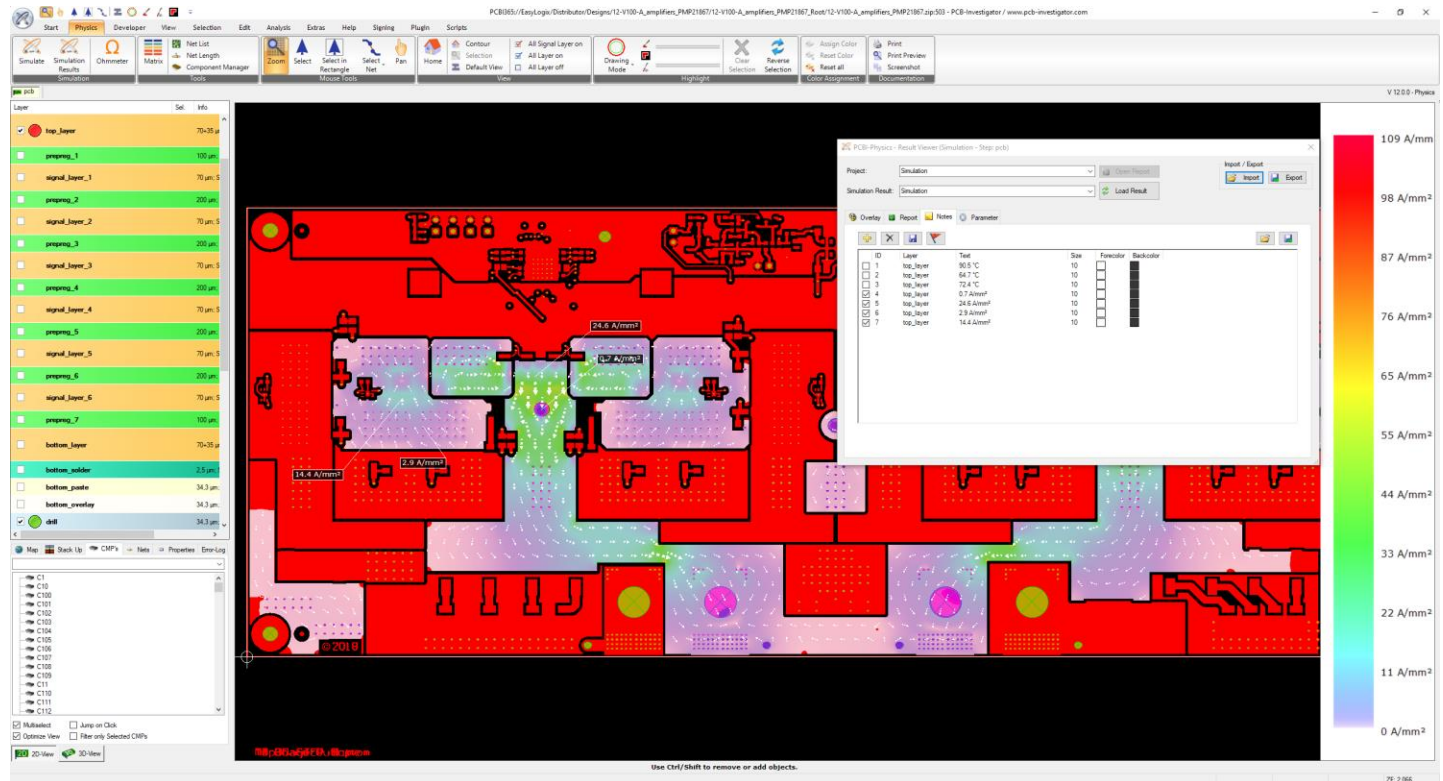
See current density for any net in detail

Setup Compare

Setup Analysis

Result

Service





PCBi-Physics

Load PCB

Temperature overview with component overlay

Setup Compare

Setup Analysis

Result

Service





PCBi-Physics

Load PCB

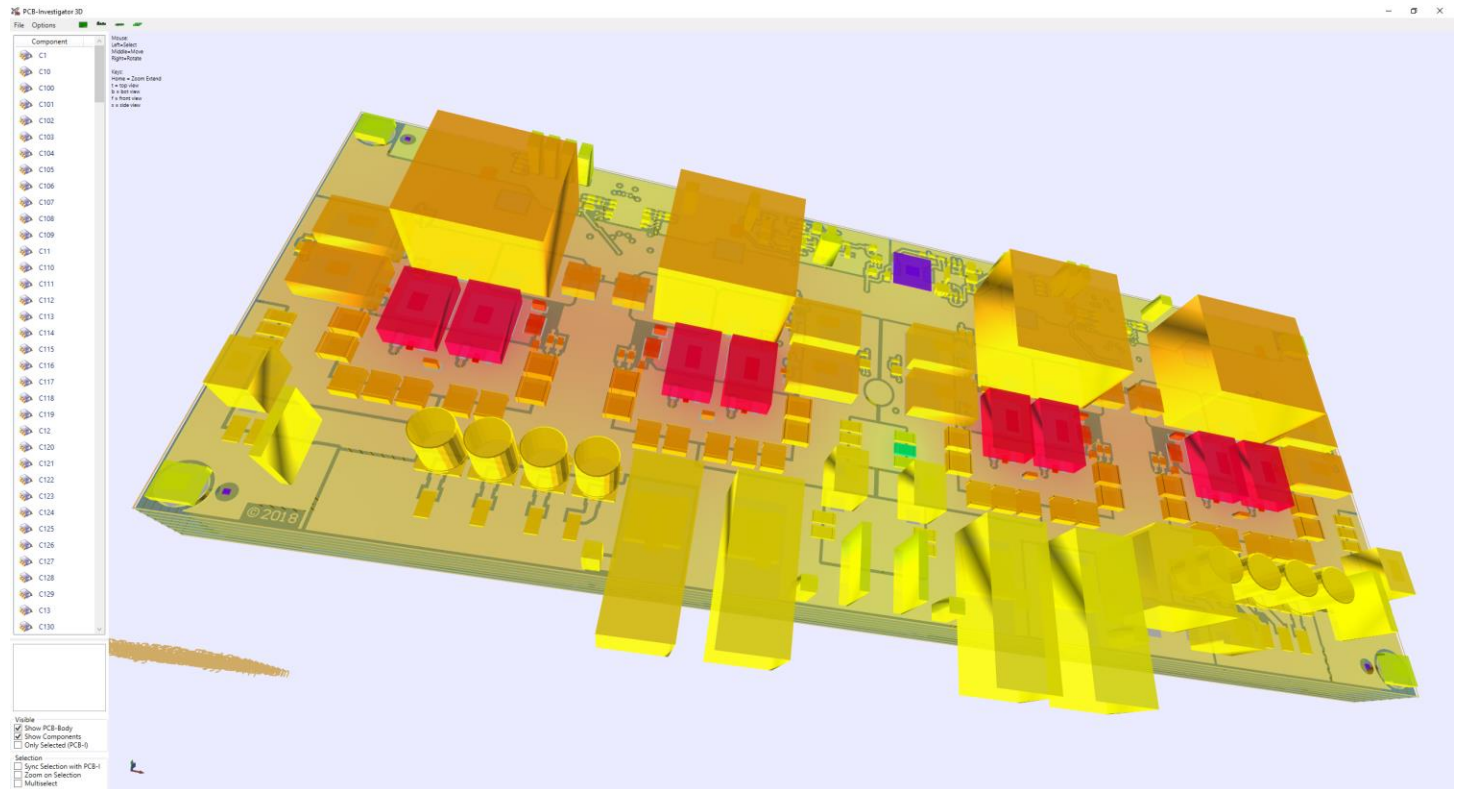
Check the result in 2D and 3D

Setup Compare

Setup Analysis

Result

Service





PCBi-Physics

Load PCB

Setup Compare

Setup Analysis

Result

Service

Mark the result with notes





PCBi-Physics

Load PCB

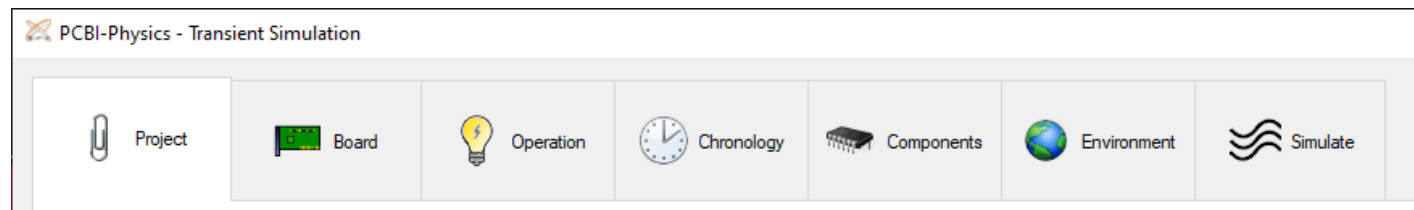
Setup Compare

Setup Analysis

Result

Service

We provide full analysis service for you PCB using ODB++ Data



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