

# Hermes 3D

## 3D Full-Wave Electromagnetic Simulation of Package and Board



### Highlights

1

Hermes 3D offers efficient three-dimensional full-wave electromagnetic simulation for high-speed serial/parallel circuits including package, PCB, and package-PCB combo.

2

The tool provides great compatibility with various file formats such as brd, mcm, sip, odb++, gds, and dxf.

3

The tool has efficient model processing capabilities such as automatically adding solderball, bonding wire, port, air box, etc

4

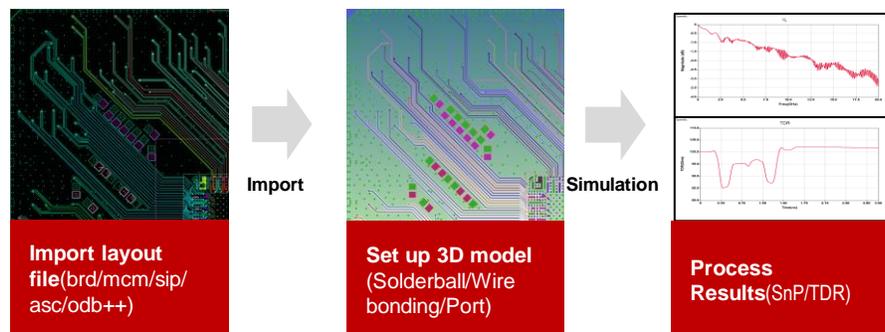
With 3D view function, the tool makes model check much easier and more intuitive.

5

The tool's FEM3D solver uses a 3D full-wave electromagnetic algorithm and adaptive mesh technology to handle all the main applications with high accuracy.



### Hermes 3D Simulation Flow

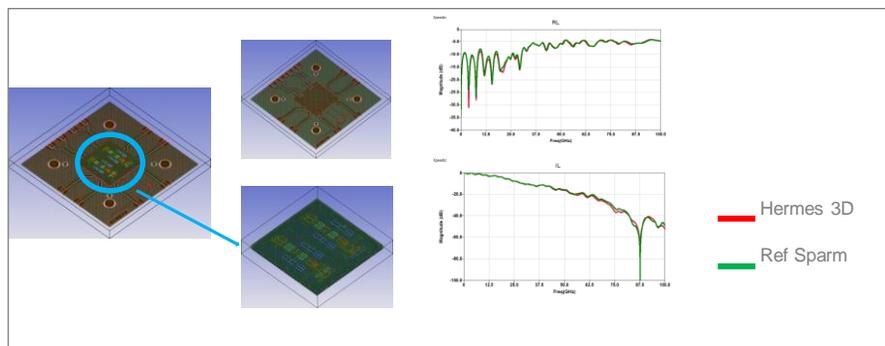


- Hermes 3D is an electromagnetic simulation tool for package and PCB signal integrity analysis. It can quickly import layout file and accurately simulate the resulting structure to check signal integrity indicators such as insertion loss, return loss, crosstalk, etc.
- To meet different requirements for precision and performance, Hermes provides two solvers: FEM3D solver and Hybrid solver
  - FEM3D solver delivers the highest accuracy
  - Hybrid solver achieves good accuracy but with faster speed
- In addition, both solvers make use of parallel technology for better efficiency. The distributed and multi-core processing technology is more competitive than others in the market.



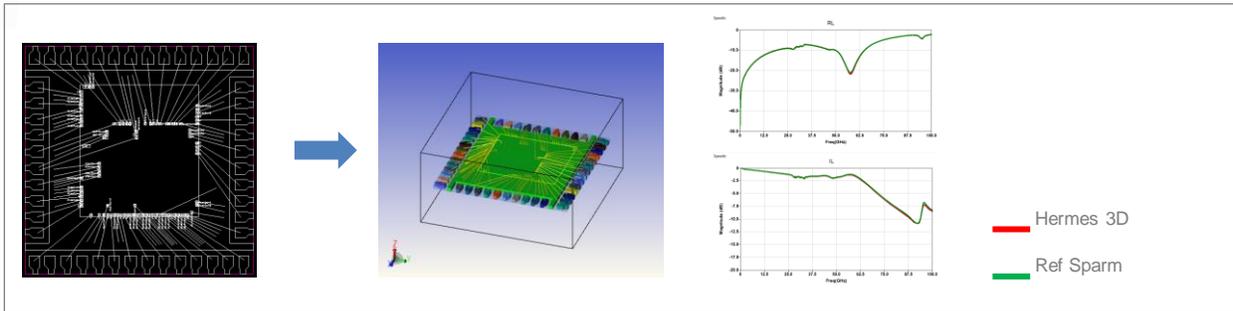
### Package and PCB Co-Simulation

Hermes 3D supports Package-PCB co-simulation to include coupling between package and PCB.



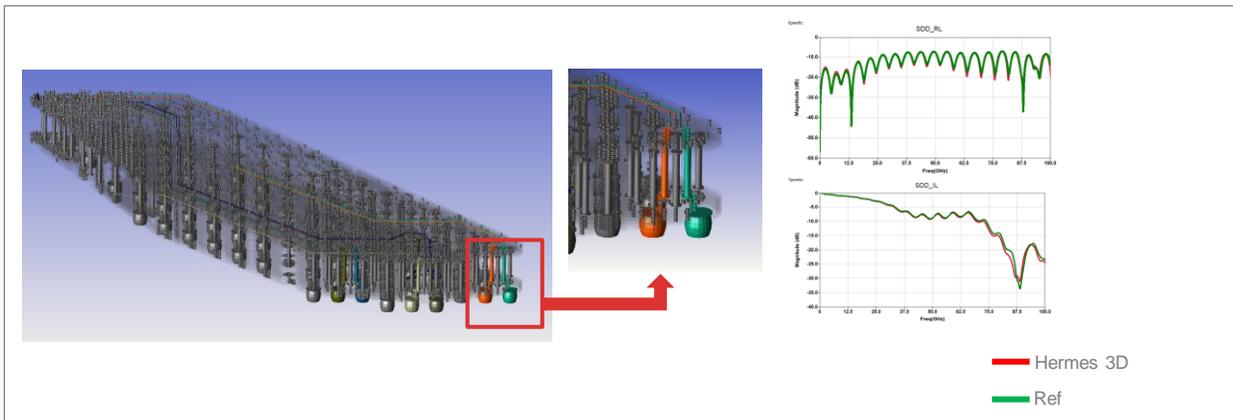
## QFN Package Modeling

- Hermes 3D imports dxf file
- QFN packages are mainly designed with AutoCAD. So, the layout file format is dxf.



## FCBGA Package Modeling

FCBGA package needs to describe the physical characteristics and optimization results of bumps, package traces, and package pads quickly and completely. A tight integration with third-party tools also enhances the flexibility of FEM analysis.



## Rigid-Flex PCB Modeling

- Import of .brd file
- Display of the stack-up of Rigid and Flex parts of a mixed board

