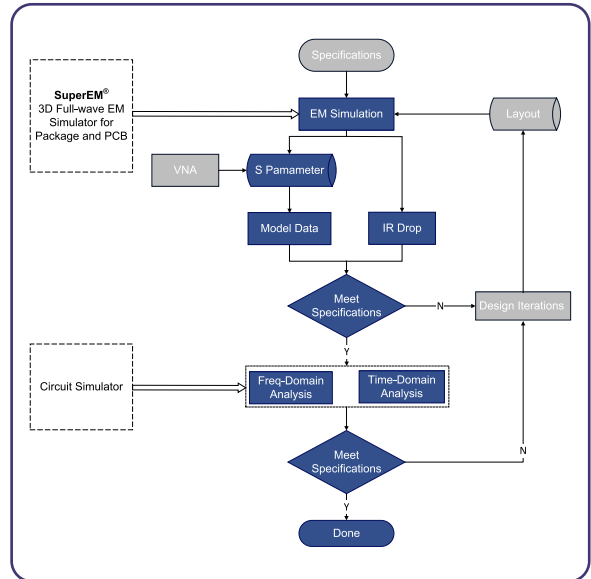




Introduction

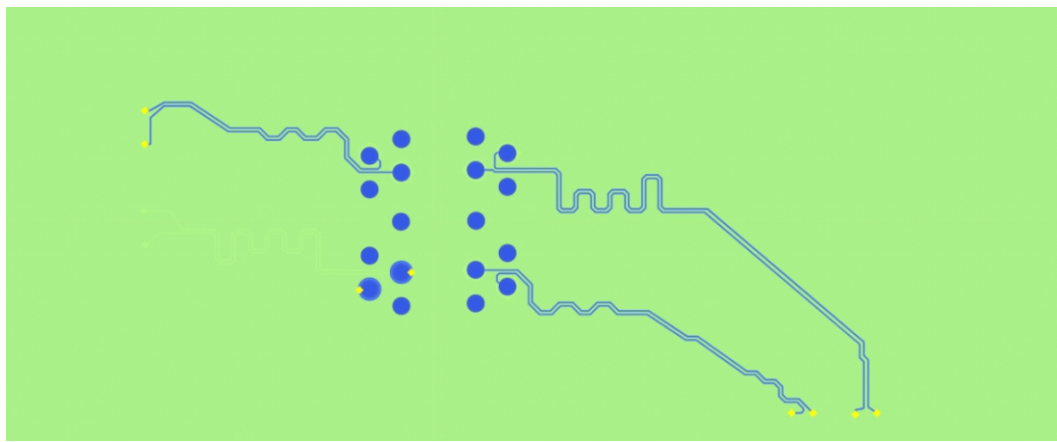
Signal Integrity (SI) analysis evaluates the transmission and reflection of signals in packages and circuit boards to ensure that the signal quality is within normal limits. SI analysis typically includes time domain simulation, which is used to evaluate waveforms and reflections on transmission lines, and frequency domain simulation, which is used to evaluate the frequency response and bandwidth of signals. Power Integrity (PI) analysis evaluates the impact of power supply noise and power supply interference on circuit performance for power supply design optimization. Faraday Dynamics offers cutting-edge 3D full-wave electromagnetic simulation technology and frequency-/time-domain circuit simulation algorithms for engineers to perform simulation analysis and optimize package and PCB design. They seamlessly integrate with the industry's leading package and board design environments to provide high-precision analysis services to a wide range of designers.

Design Flow

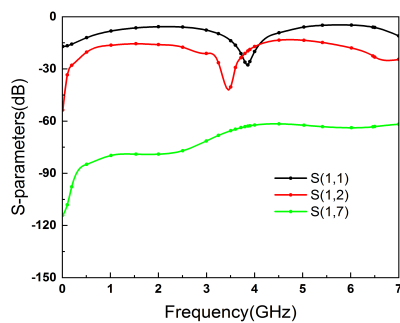


Circuit Simulations

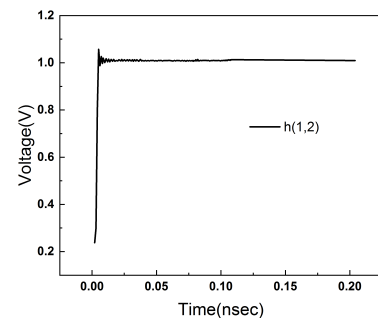
This case describes the flow of simulating electromagnetic characteristics and extracting parameters of signal lines in packages and circuit boards by using SuperEM[®] from Faraday Dynamics, and the flow of time-domain simulation by using FDSPICE[®]. The software interface is easy to use and can quickly complete the modeling and simulation, which can meet the user's needs for signal integrity analysis of the design.



PCB Example



S-Parameter Results in Frequency Domain



Voltage Result in Time Domain

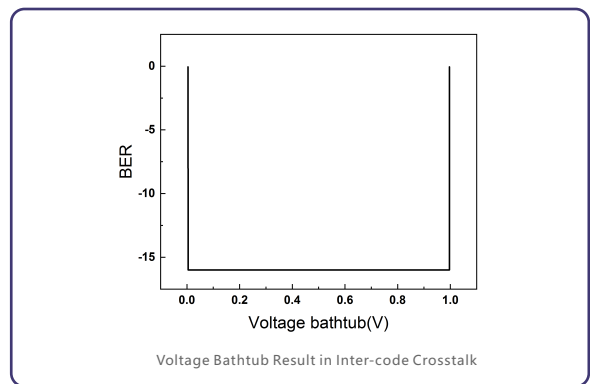
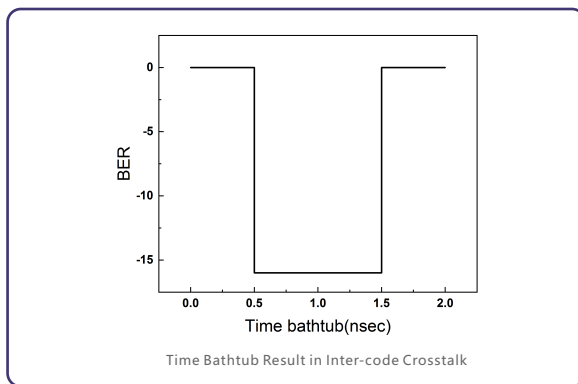
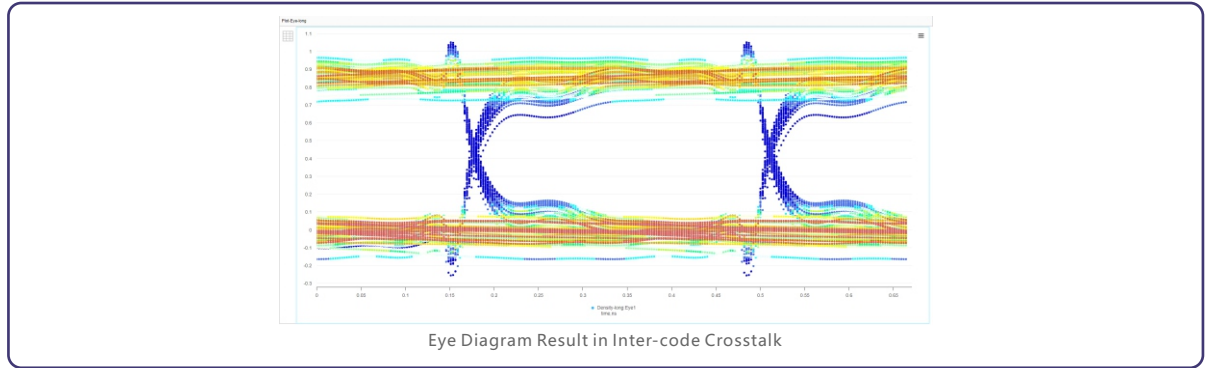


Signal Integrity and Power Integrity

Faraday Dynamics EDA Solutions

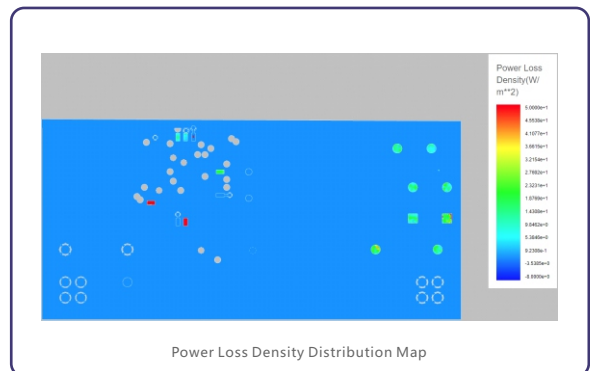
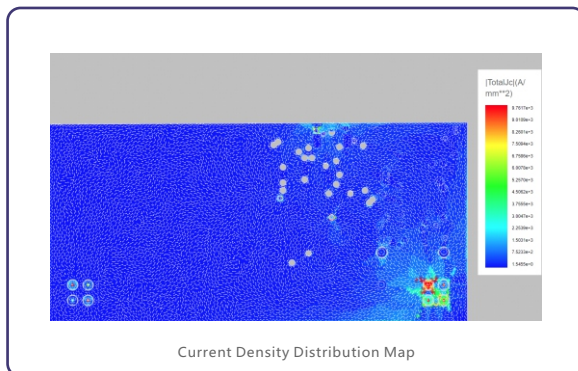
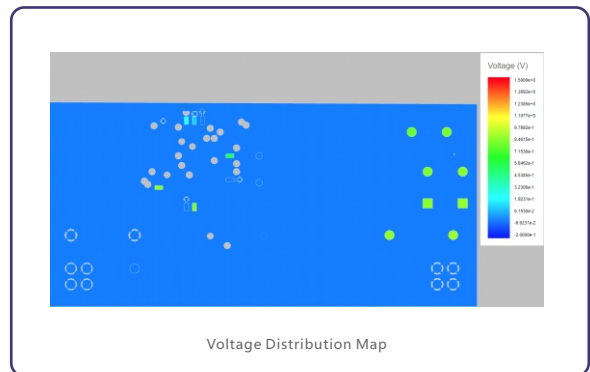
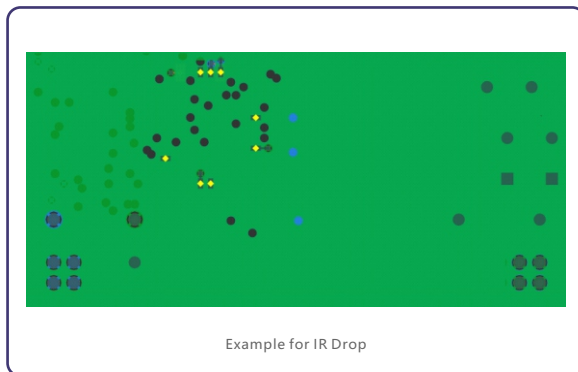


Faraday Dynamics



IR Drop

This case describes the flow of IR Drop simulation of power and ground networks in PCBs using SuperEM[®]. The software seamlessly integrates with industry-leading PCB design environments to quickly read design data and set up simulations that can meet users' needs for IR Drop analysis.



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