Ansys

Magnetics & Consumer Electronics Design

with Ansys Maxwell

/ Addressing the Challenges of the Consumer Electronics Industry

Ansys provides electronics simulation leading expertise to solve some of the biggest design challenges in producing compliant devices. These challenges include compact size and integrated footprint of components and devices, manufacturing cost, thermal impact, and mechanical integrity.

Solution Overview

Ansys Maxwell is widely used in many low-frequency applications, such as wireless charging, PCB/ECAD magnetics, power supplies, magnetic latching, actuators, biomedical devices, EMI/EMC, and more. It enables rapid and accurate simulation of EM fields in electronic and consumer devices to reduce design iterations and time to market.

Applications & Solution Benefits

WIRELESS CHARGING

- Maximize power transfer and reduce charging time by improving Tx-Rx flux
- Reduce thermal impact and hot spots
- Account for saturation effects from permanent magnets and design Qi-compliant chargers
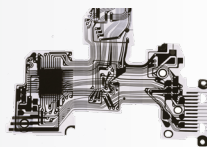
PCB/ECAD MAGNETICS

- Increase understanding of EMI to design compliant devices
- Perform transient voltage drops and DCIR analysis
- Reduce acoustic noise and vibration issues by computing Lorentz forces between traces

POWER SUPPLIES

- Stay within temperature limits for inductors and transformers
- Reduce footprint by optimizing magnetic component size and performance
- Design quickly using built-in templates
- Avoid leakage inductance, overvoltages, and parasitic effects

MAGNETIC LATCHING

- Meet latching force requirements
- Reduce cost by sizing magnets appropriately
- Predict moving trajectory, speed, and mechanical impact to reduce failed latch scenarios

Why Ansys?

For more than 50 years, Ansys engineering simulation software has enabled innovators in the consumer electronics and high-tech industries to push boundaries using the predictive power of simulation through virtual prototyping. Global electronic manufacturers have chosen Ansys to meet evolving consumer preferences and market demands.

Learn more about **Ansys Maxwell**