Magnetics & Power Electronics Design

with Ansys Maxwell

Addressing the Challenges of the High-Tech Industry

Ansys provides electronics simulation leading expertise to solve some of the electronics industry's biggest design related challenges, including size/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, power transformers, magnetic actuators, biomedical devices, PCB/ECAD, 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.
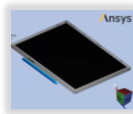
What You Can Achieve – Key Application Benefits

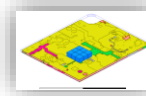| Wireless Charging	Magnetic Latching	Noise & Vibrations in PCBs	Power Supplies

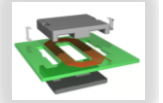|			
✓ Maximize power transfer & reduce charging time by improving Tx-Rx flux ✓ Reduce thermal impact & hot spots ✓ Account for saturation effects from permanent magnets & iterate quickly with the built-in Qi standard 3D component library	✓ Meet latching force requirements ✓ Reduce cost by sizing magnets appropriately ✓ Predict moving trajectory, speed & mechanical impact to reduce failed latch scenarios	✓ Reduce noise issues by computing Lorentz forces between traces ✓ Model deformation & vibrations due to harmonic forces ✓ Obtain acoustic response of boards resulting from vibrations	✓ Remain within the temperature limits for inductors/transformers ✓ Reduce footprint by optimizing size & performance of magnetic components ✓ Quick design using built-in templates ✓ Avoid leakage inductance, over voltages & parasitic effects

Why Ansys?

For more than 50 years, Ansys engineering simulation software has enabled innovators in the high-tech industry to push boundaries using the predictive power of simulation through virtual prototyping. Global electronic manufacturers that have chosen Ansys include Panasonic, Microsoft, LG, Google, Samsung, DELL, Hitachi, and more.

Learn more about Ansys Maxwell or Book an Appointment