BROCHURE

ANSYS EMC PLUS – PLATFORM LEVEL EMI/EMC CABLE MODELING AND ANALYSIS

Ansys EMC Plus is a dedicated solution for electromagnetic analysis of enclosures, platforms, and cable harnesses installed in complex products such as aircraft and automobiles.

Using Ansys EMC Plus, you can analyze:

- Radiated coupling to cables.
- Radiated emissions from cables.
- Coupling through shields.
- EMI crosstalk between cables.
- Current return network optimization.
- Cable signal integrity.
- Lightning coupling to equipment interfaces.
- HIRF fields and cable coupling.

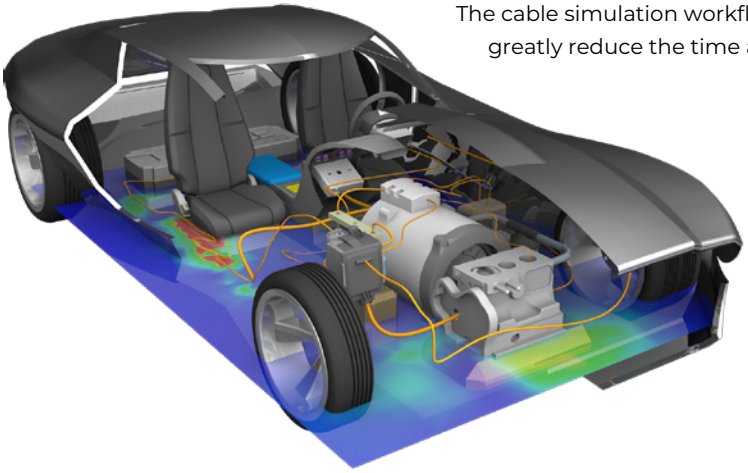
Ansys EMC Plus models can contain multiple conductors, shields and branches to capture the actual cable routing of real buildings, vehicles, aircraft and spacecraft. Each branch segment can contain multiple layers of shields, wires and conductors — all immersed in a variety of media.

Within Ansys EMC Plus you can:

- Analyze electromagnetic coupling through various cable shields to the conductors and wires within.
- Define and employ cable connectors, which often possess different impedance characteristics than the cable itself.
- Terminate each conductor, wire and shield within a cable harness with a variety of methods.
- Drive the cable system including pin voltages, electric fields, current sources and plane wave sources.

/ Easy-to-Use, Fast Workflows

Ansys EMC Plus uses Ansys Discovery as its CAD pre-processor and GUI engine. You never have to leave the Discovery environment for CAD development, property assignment or post-processing. Meshing in EMC Plus is fast and never fails, even with imperfections in the CAD geometry.



EMC Plus lets you quickly define the contents of the cable with a few clicks of the mouse. The cable simulation workflows are easy to learn and intuitive to use. These features greatly reduce the time an analyst needs to develop and simulate EMC Plus models.

/ Applications

EMC Plus's Finite-Difference-Time-Domain (FDTD) approach is capable of capturing the detail of highly complex platforms such as:

- Aircraft
- Automobiles
- Naval platforms
- Electronics systems

3D Electromagnetic Simulation

- Finite-Difference-Time-Domain (FDTD) in 3D (Yee Scheme).
- FDTD for volumes, surfaces and lines.
- Thin surface and thin wire algorithms.
- Hybrid transmission line harness solver.
- Ansys Nexxim Transient Circuit Co-Simulation
- Automatic electrostatic simulation of all cable cross sections for inductance and capacitance matrices.
- Up to three levels of shielding with empirical transfer impedance values included for common cables.
- Supports Ansys HPC.

Geometry Import and Meshing

- A special version of Ansys Discovery included.
- Import all major CAD formats.
- Clean and prepare geometry for simulation.
- Cartesian Yee mesh.

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