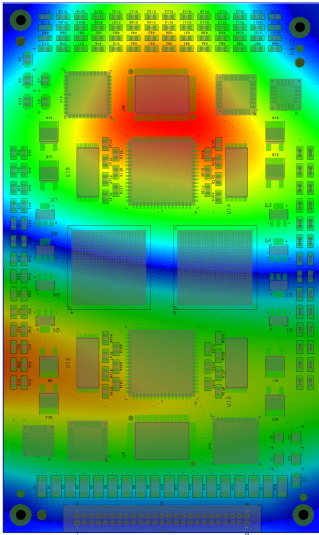


## Simulated Mechanical Testing—Vibration



DfR Solutions brings you the most revolutionary design analysis tool yet, using automated finite element analysis (FEA). For the first time, board level FEA that used to take days can be run in minutes.

### Harmonic Vibration

Most vibration induced damage occurs at the fundamental harmonic frequencies. DfR's Harmonic Vibration Simulation tool identifies up to ten harmonics, ensuring compliance with performance specifications and improving reliability before the first prototype is assembled.

Understanding the harmonic properties of your board under vibration can better inform component placement. The Harmonic Vibration Simulation tool allows components with more sensitive interconnects to be kept away from areas of high stress and strain, reducing the need for redesigns and re-spins after testing.

### Random Vibration

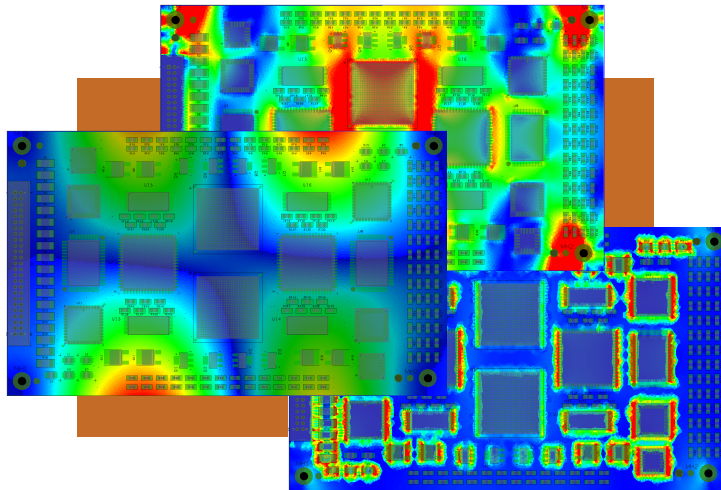
DfR Solutions understands the need to provide a direct correlation between the virtual testing and the product test plan. Often these plans include random vibration specified using a power spectral density (PSD) curve. This feature allows conventional test plans to be explored at the virtual level during the design stage.

Random vibration testing is designed to approximate a use environment more accurately than harmonic testing. DfR's ADA tool comes preloaded with PSD profiles from industry standards like MIL-STD-810 labeled by application for easy selection. While the intuitive nomenclature and the prepopulated PSD curves allow for easy test application, each field editable to allow for complete customization.

- Resonant Frequency
- Preset Environments
- Customizable
- Component Placement Analysis
- Stress Analysis
- Strain Analysis

## Mechanical Shock

DfR Solutions rounds out their simulated mechanical testing suite with mechanical shock. Even devices designed for relatively benign environments must still withstand the stresses of the manufacturing and shipping process. The same FEA modeling technology that provides a long term vibration profile can also provide insight into the shock and impact resistance of the design. Understand the effect of component placement and solder chemistry on reliability during shock events and improve the design to meet the challenges of your product's lifetime.



- Drop Testing
- Shipping Stresses
- Automated Modeling
- Automated Meshing
- Automated FEA

## Automated Modeling

You've already designed your product. You've created files that a manufacturer can use to build your product. Why is it then that until now, virtual product had to be manually pieced together from scratch? DfR's ADA CORE tool takes those very same manufacturing files you already generate and builds your product virtually. Gone are the days where a virtual model was weeks in the making. Design changes can be made on the fly. What-if analysis can be done in a fraction of the time it takes to get on a typical modeler's schedule. Mechanical simulation can be run in minutes, not days, providing you the answers you need to build a better product, faster and at a fraction of the cost.

Call for more information  
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