

Consulting and problem solving with automated system ASONIKA: Design and reliability of electronic devices and systems

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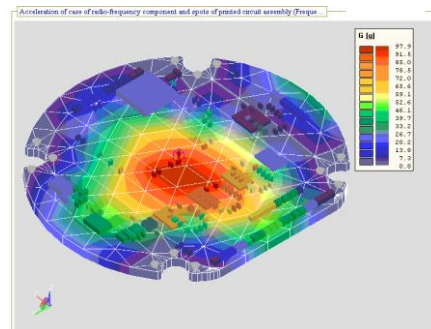
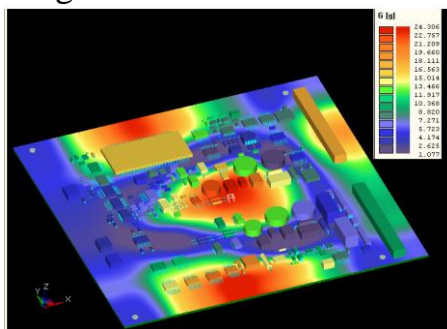
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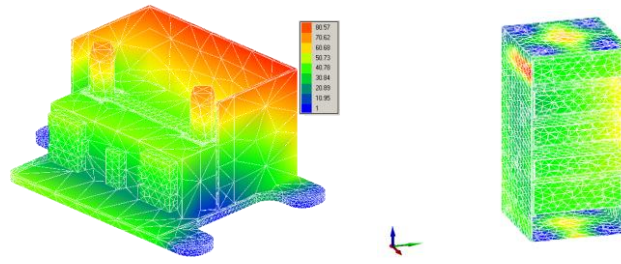
ASONIKA offers an inexpensive and reliable alternative to testing electronic equipment by computer simulation of external mechanical, thermal and electromagnetic impact for already built devices and systems as well as at design stage. ASONIKA provides a significant cost savings, reduction of time to create new devices and equipment and enhancement of the quality and reliability. number of tests. ASONIKA has been used more than 30 years at Russian industries including space and aviation enterprises. We offer several consulting and problem solving services:

1. Thermal and mechanical (vibration, shock, linear acceleration and acoustic noise) calculation of printed circuit boards. We determine the resonances, temperatures and acceleration parameters (displacement and stress) of each component along with indication of thermal and mechanical loads.



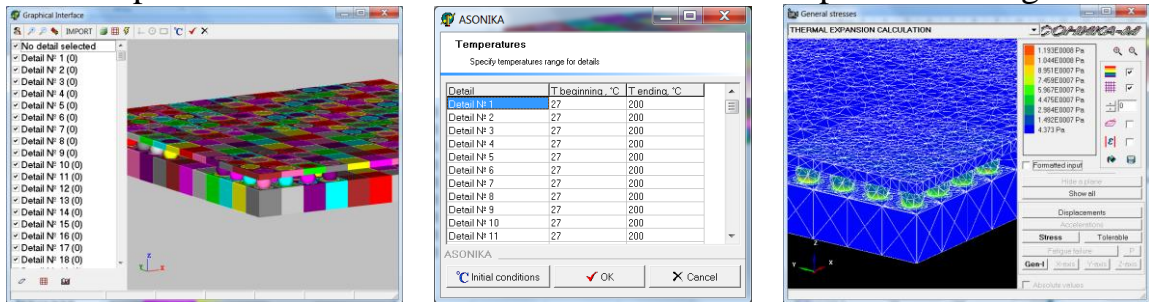
Our automated system contains a converter of printed circuit boards from Mentor Graphics, Altium Designere, OrCAD and P-Cad formats, it also includes a database of electronic components and materials necessary for the calculation of external impacts.

2. Thermal and mechanical (vibration, shock and linear acceleration) calculations of cabinets and modules. We determine the resonances, temperatures and accelerations (displacement and stress) of construction elements and display thermal and mechanical loads.



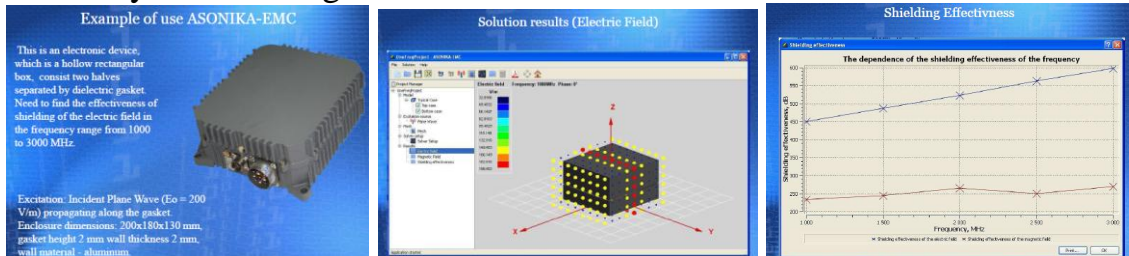
Converter of 3D-models from CAD system is available.

3. Thermal analysis of microcircuits and other designs. Calculation of mechanical pressure in a microcircuit is carried out at temperature change.

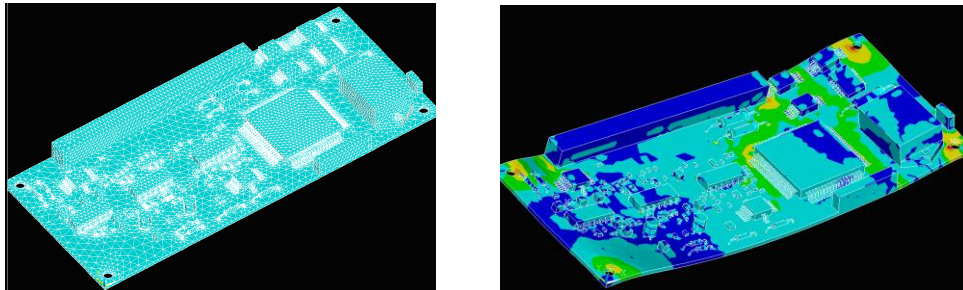


The subsystem allows to carry out also calculation of temperature pressure and fatigue durability at thermal stationary and non-stationary influences.

4. Calculations of the electric and magnetic fields, as well as evaluation of the efficiency of screening.



5. Analysis of fatigue durability of designs of printed circuit boards at mechanical influences.



6. Estimates of reliability of modules, printed circuit boards and electronic components. We determine the average time and probability of reliable operation, time to fatigue failure

As an outcome of consulting and problem solving we provide a detailed report with recommendations of design improvement in terms of heat loads, mechanical stability, electromagnetic compatibility and overall reliability.