



Multi-Disciplinary Design of Electronic Modules

DfX-Bridge

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Belgium



Project Details

Project coordinator	Davy Pissoort, KHBO, Belgium
Other applicants	K.U. Leuven, Belgium; imec, Belgium
Sector	Electronics
Call of Interest	<input checked="" type="checkbox"/> CORNET <input type="checkbox"/> EraSME
Proposal summary:	Provide the industry with a set of technically and scientifically sound guidelines for the multidisciplinary design of electronic modules. The project takes into account the thermal, mechanical, electromagnetic behavior as well as manufacturability and testability of Printed Board Assemblies.
Advantages for SMEs, trade or industry:	Make correct design choices from the start of the design cycle of electronic modules. Avoid costly re-design cycles. Lower cost and time-to-market.
Profile of partners sought:	Research institutes, associations or companies working in the area of thermal, mechanical, electromagnetic behavior of electronic systems (guidelines, modelling, validation, testing)



Project “Multi-disciplinary design of electronic modules on Printed Board Assembly level, bridge between theory and practice”:

Already approved by IWT-Flanders as a Technology-Transfer project.

Existing user committee of 16 Belgian companies.

Duration: 1-10-2010 until 30-09-2012. Can be extended by one year through CORNET collaboration.

Research partners:

KHBO: project coordination, electromagnetic aspects

K.U. Leuven: thermal and mechanical aspects

imec: manufacturability, reliability and testability



Problem description:

Electronics is applied more and more in very harsh environments (automotive, machinery, avionics,...)

High level of safety and reliability is needed over the whole lifetime of the electronics.

Combination of temperature stresses, vibrations, electromagnetic disturbances combined with the requirements for manufacturability and testability result in a very complex problem with often conflicting demands.

For a cost-effective solution, these aspects should be taken into account from the start of the design cycle. Hence, the need for multi-disciplinary design guidelines.



Objectives and outcome of project:

Development of a set of scientifically and technically sound design guidelines for PBA design that take into account the multi-disciplinary aspects.

Highlight conflicts and similarities between the different disciplines.

Guidelines are developed based on real test-cases delivered by the companies out of the user committee.

Avoid conflicts and costly re-design cycles later in the design process. Reduce time and cost-to-market.



Looking for ...

Research institutes, associations and/or companies that are interested in or can help with the development of SME friendly design guidelines, modelling/simulation tools or validation tests for the design of electronic modules taken into account:

- thermal stresses
- vibrations, shocks
- electromagnetic disturbances
 - manufacturability
- reliability
- testability



Contact details



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