

Finding Design Defects Using Time and Frequency Domain Techniques

One half day *practical* class at NASA Ames Research Center by Douglas C. Smith

Have you ever had a hidden design issue on an IC device, PCB, or at the system level, cause problems during compliance testing or after equipment was put into service? Do you worry about hidden design flaws affecting the mission outcome or causing expensive field problems in commercial equipment? Do you need a quick quality check of a cable harness that has restricted access or can't be visually inspected and that does not disturb the cable or its connectors? These topics and more are covered in this practical "hands-on" 1/2 day class at NASA Ames Research Park.

Integrated Circuit Noise Measurement

- How to measure noise, crosstalk, and ground bounce inside the package with no direct connection
- How to gauge the impact of noise, crosstalk, and ground bounce in the package on IC operation
- Identifying signal integrity problems including those that occur with very low probability
- Identifying EMC problems

Resonant Frequency of Physical Structures

- How to measure structural resonance
- Needed equipment
- Several examples with data
- Kinds of operational and EMC problems that can be found
- Live demonstrations

Cable Harness Quality Check w/o Visual Inspection

- Overview of method
- Live demonstration on test harness
- *Applications to commercial, military, and space vehicle applications*
- Developing a test for a specific application – important considerations

Uncovering Design Flaws Through Controlled Stressing

- Tools used
- Technical background
- Time Domain techniques
 - Stressing individual ports of equipment
 - Tools
 - Method
 - Results
 - Case histories
 - Stressing PCBs and IC devices
 - Tools
 - Method
 - Results
 - Case histories
 - Live demonstrations on test and operating PCBs
- Frequency domain techniques
 - Tools
 - Method
 - Results
 - Case histories

Learn "out-of-this-world" techniques to find hidden and intermittent design flaws before they cause problems.

Registration Details

This 1/2 day seminar will be held periodically and on demand at RMV Technology Group, LLC at NASA Ames Research Park, Moffett Field, Building 19 in room 1073. Directions and map provided upon request. Large and small groups can be accommodated.

The cost for the session is \$295 for advance payment. All charge cards are accepted. Payment may be made on the day of the seminar for \$335 if seating space is available. Return the charge form on the next page by fax to 408-358-3799 to register. Space is limited so early registration is recommended.

Feel free to contact us for more information at:

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