



DfR Solutions Newsletter January/February 2008

Happy New Year!

As we start the New Year, the staff at DfR Solutions wishes you a successful and prosperous 2008. As always, we are here to answer any quality and reliability issues you may encounter. Just give us a call at 301-474-0607 or send us an [email](#).

Falling Dollar Makes DfR Even More Competitive in Europe

With a "flat earth"™ and a sinking dollar, an increasing number of companies from Europe (England, Ireland, Norway, Germany, etc.) are contacting DfR Solutions for consultation, testing, and failure analysis services. What are you waiting for? Contact [Klaus Hagen](#) or [Gerd Fischer](#) for more information.

Common Problems in Opto-Electronics - Packaging

The proliferation of start-ups, radical shortening of development cycles, constant cost reduction pressure from customers, and outsourcing/offshore production have all colluded to promote quick, ill-informed design and process decisions in opto-electronic components and systems. This is the first in a series of white papers by [John McNulty](#) on the most common issues and how to avoid them. Click [here](#) to read.

Counterfeit Problem? Counterfeit Solution!

Though there are some indications that the proliferation of counterfeits is declining, it remains a vexing issue for the electronics industry (as evidenced by the numerous counterfeit activities performed by DfR last year). A great solution would be to have a visual indicator right on the package. To work towards that goal, DfR has teamed up with Digital Light Innovations to benchmark their MikroCAD. Its remarkable technology allows for rapid (less than 1 minute) identification of imperceptible changes in part markings.

DfR and DLI are currently looking for a wide range of examples of discrete and active counterfeits. If you or your company is interested in participating, please contact [Bob Esser](#) as soon as possible. For more information about DfR's™ activities in counterfeit detection and avoidance, please click [here](#).

My Coffee Just Killed My Computer!

A good reliability engineer makes sure that product qualification considers every realistic environment. That includes human error, such as the the periodic spills of various beverages. But, how to test for all possible beverages? Answer: Rely on DfR Solutions. The results of our [internal study](#) just might surprise you. For more information on issues regarding contamination and cleanliness, please contact [Seth Binfield](#).

RoHS 2 Moves Forward

As mentioned in our previous newsletter, the creation of RoHS 2 continues. The Technical Adaptation Committee (TAC) is [currently reviewing](#) all existing exemptions to the current RoHS legislation (we're™ betting on flip chip and high-Pb to go bye-bye). The TAC welcomes all opinions and concerns (but only for 8 weeks). And remember, its not only exemptions. The [Oko Institut](#) has been tasked with identifying new substances to remove or regulate.

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Whisker-Free Tin!? Gosh, That Sounds Familiar

Uyemura, a Japanese supplier of tin plating chemistry, is [claiming](#) that their new "satin"™ pure tin plating (GRX-70) greatly limits the length and density of tin whiskers. Success at last? Proceed with caution. Recent history has demonstrated that even successful formulations can be upended by sensitivity to process parameters (good one day, bad the next) and exposure to unexpected environments (any testing with corrosive gases?). Need more guidance on tin whiskers? Please contact [Bob Esser](#) or [Gerd Fischer](#).

Singin™ The Black Pad Blues

Have you ever experienced Black Pad? Did it make you just want to sing? Now you can (click [here](#)). (Thanks Joe!)

Service of the Month: Technology Insertion (aka, Applied Research)

While most of our customers are familiar with our broad range of activities in the new product development cycle (design assurance, supplier benchmarking, product qualification, etc.), you may not know about one of our most requested services: [Technology Insertion](#). A unique combination of a strong research background with an understanding of the practical aspects of the electronics industry generates solid results delivered on time and at low cost. Our recent study on the reliability of Ni-modified SnCu was cited by one solder expert as a "textbook example"™, but was delivered at 1/3rd the price of similar studies by "non-profit"™ universities and organizations. How did we do it? Call or [email](#) us to find out.

DfR News

DfR Solutions announces Director of East Asian Business Development

Due to rapidly increasing business with companies in East Asia, including component suppliers, CEMs, and OEMs, DfR is proud to announce [Dr. John McNulty](#) as our Director of East Asian Business Development. Click [here](#) to read the press release.

Upcoming Events

SMTA Anaheim Academy (Anaheim, CA: January 29, 2008)

[Craig Hillman](#) is teaching the course, ["Selecting a Pb-Free Solution for Military, Avionics, and Space Applications."](#) For more information, please contact [Angela Lawson](#) or click [here](#).

LEAP Working Group (Irving, TX: January 30-31, 2008)

[Nathan Blattau](#) will present ["Developing a Pb-Free Qualification Plan for Hi-Rel Applications."](#) This presentation provides a detailed and practical approach, combined with an informative case study, for modifying internal test plans in response to the RoHS legislation. For more information, please contact [Angela Lawson](#) or [Rusty Rentsch](#).

DfR Solutions in Dallas, Texas (January 29-31, 2008)

[Nathan Blattau](#) will be in the Dallas area for the LEAP meeting and is currently available for onsite visits. If your company would like Dr. Blattau to give a presentation or be available for discussions, please contact [Angela Lawson](#) to make arrangements

Reliability and Maintainability Symposium (Las Vegas, NV: January 31, 2008)

[Craig Hillman](#), in conjunction with Mike Silverman and Fred Schenkelberg of [OpsAlaCarte](#), will present ["How to Develop a Qualification Test Plan for RoHS Products."](#) For more information, please contact [Angela Lawson](#) or go to the RAMS [website](#) to register for this conference.

DesignCon (San Jose, CA: February 4-7, 2008)

[Ed Dodd](#) and [John McNulty](#) will host an exhibit at [DesignCon](#) with a special focus on DfR Solutions™ [design activities](#) and the [fiXtress](#) software program for design professionals. This unique program automates component stress analysis, reducing product development time and greatly reducing the risk of potential field issues. Stop by Booth 908 to learn more.

National Defense Industrial Association - Advanced Planning Briefing for Industry (Washington, DC: February 7, 2008)

[Bob Esser](#) will be representing DfR Solutions as this important conference on latest research topics of interest in national defense. If you are planning on attending this conference and would like to meet with Dr. Esser and discuss DfR's expertise in qualifying new technologies and making prognostics a reality, please contact him by [email](#).

Commercialization of Military and Space Electronics (San Diego, CA: February 11-14, 2008)

[Nathan Blattau](#) will be presenting ["Paradigm Shift in Design Assurance and Reliability Prediction"](#). This presentation focuses on new approaches to design assurance that will reduce engineering costs and capture reliability issues earlier in the product development cycle. For more information, please contact [Leon Hamiter](#) or [Angela Lawson](#).

SMTAI Webcast on Moisture Sensitivity for Printed Wiring Boards (March 10, 2008)

DfR Solutions will present "Robustness of Printed Wiring Boards to Pb-free Reflow and the Influence of Absorbed Moisture." This presentation will discuss the issues with Pb-free and printed boards and how storage controls may or may not mitigate this risk. For more information, please contact [Craig Hillman](#) or [Ryan Flaherty](#).

IPC/JEDEC Conference on Reliability, Rework, & Repair of Lead-Free Electronics (Raleigh, NC: March 11-12, 2008)

[Joelle Arnold](#), in conjunction with Keith Sweatman of [Nihon Superior](#), will present "Accelerated Reliability Testing of Ni-Modified SnCu and SAC305: Part I: Accelerated Thermal Cycling and Part II: Vibration and Shock." For more information, please visit the conference website.

Designing for Excellence (DfR Solutions, College Park, MD: March 24 - 25, 2008)

[Craig Hillman](#), in collaboration with [ATE Solutions](#), will teach "Design for Excellence (DFX): X = Reliability, Manufacturability, etc." For more information, please contact [Angela Lawson](#) or [Louis Ungar](#).

IPC Printed Circuits Expo / APEX (Las Vegas, NV: March 30 - April 3, 2008)

[Craig Hillman](#) will teach the courses "Understanding Failure and Root-Cause Analysis in Lead Free Electronics" and "True Design for Reliability: Understanding What Is and What Is Not DfR." For more information, please visit the IPC [website](#) or contact [Angela Lawson](#).

Embedded Systems Conference (San Jose, CA: April 14-18, 2008)

[Nathan Blattau](#) and [Craig Hillman](#) will present "Common Hardware Mistakes by Embedded System Designers." This extended presentation will guide designers, both electrical and mechanical, on errors in component selection, component placement, and board layout that lead to field failures and the actions necessary to prevent them. For more information visit the ESC [website](#), or contact [Angela Lawson](#).

Wayne Tustin at DfR Solutions (College Park, MD: May 13-15, 2008)

Wayne Tustin will teach his popular short course "Random Vibration and Shock Testing, ESS, HALT & HASS" at DfR Solutions, College Park, MD. For more details and reservations, please click [here](#).

IPC National Electronics Week (London, England: June 17-19, 2008)

[Craig Hillman](#) will teach two courses during the IPC's new event, *National Electronics Week*. "Understanding Failure and Root-Cause Analysis in Lead-Free Electronics" will be presented on Thursday, June 19, and "True Design for Reliability: Understanding What is, and What is Not DfR" will be presented on June 19. For more information on the event, visit the IPC [website](#).

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