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US Navy Awards DfR Solutions Two Phase II Small Business Innovation Research Grants
Largest Government Grant to Date for the Study of Lead-free Solder Reliability

College Park, MD – November 3, 2011 – DfR Solutions, a leader in quality, reliability, and durability (QRD) solutions for the electronics industry, today announced that it has been awarded two Phase II SBIR grants from the United States Naval Air Warfare Center Aircraft Division (NAWCAD). DfR Solutions will study the effects of reballing and vibration and mechanical shock on the reliability of lead (Pb) free solder used in electronics components in Naval applications. The studies will last two years and are valued at over one million dollars.

Phase II proposal submission is highly selective and is by invitation only. The Navy evaluates and selects Phase II proposals among the most promising Phase I projects, using specific evaluation criteria with technical merit being most important. Of the other companies that participated in the Phase I studies, DfR Solutions was the only organization that received the Phase II awards.

“We are extremely honored to be awarded two Phase II SBIR studies,” said Craig Hillman, PhD, CEO and founder of DfR Solutions. “DfR Solutions is developing assessment tools to determine the robustness of lead-free solder in high reliability systems. We are proud to be recognized as a Pb-free center of excellence by the United States Navy.”

Phase II Reballing Study:

In response to the increasing obsolescence of SnPb parts, military contractors are directing that Pb-free parts be reballled. This practice involves a third party removing the Pb-free solder balls and replacing them with SnPb solder balls. The DfR Solutions study will address the potential risks and costs associated with reballing.

"The additional handling and thermal exposure associated with this practice could lead to significant performance and reliability issues," said Dr. Randy Schueller, a Senior Member of Technical Staff at DfR Solutions. "This calls into question the value of this activity from an end-user perspective."

Phase II Lead-Free Study:

The pressure to move to Pb-free has intensified within the supply chain. However, Pb-free electronics have a history of poor performance when exposed to vibration or mechanical shock. This poor performance has led to concerns within the military community about the reliability of Pb-solder.

"We see a real opportunity to quantify the reliability of Pb-free solder under complex mechanical loads and take some of the uncertainty out of Pb-free in military applications, said Dr. Nathan Blattau, Chief Scientist of DfR Solutions.

About the SBIR Program

The Small Business Innovation Research (SBIR) program is a United States Government program, coordinated by the Small Business Administration. The SBIR Program is structured in three phases. Phase I (project feasibility) determines the scientific, technical and commercial merit and feasibility of the ideas submitted. Phase II (project development to prototype) is the major research and development effort, funding the prototyping and demonstration of the most promising Phase I projects. Phase III (commercialization) is the ultimate goal of each SBIR effort and statute requires that Phase III work be funded by sources outside the SBIR Program.

About DfR Solutions, LLC:

DfR Solutions has world-renowned expertise in applying the science of Reliability Physics to electrical and electronics technologies and is a leading provider of quality, reliability, and durability (QRD) research and consulting for the electronics industry. The company's integrated use of Physics of Failure (PoF) and Best Practices provides crucial insights and solutions early in product design and development and throughout the product life cycle. DfR Solutions specializes in

providing knowledge- and science-based solutions to maximize and accelerate the product integrity assurance activities of their clients in every marketplace for electronic technologies (consumer, industrial, automotive, medical, military, telecom, oil drilling, and throughout the electronic component and material supply chain). For more information regarding DfR Solutions, visit www.dfrsolutions.com.

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