Press Release: Industry News

For Immediate Release

Dr. Vahid Akhavan, NovaCentrix, to Present at SMTA Capital Chapter Meeting on January 20th

January 6, 2022 - The SMTA Capital Chapter Officer team is excited to provide our members with a free technical webinar on "Use of Photonic Soldering to Rework Chip Components" presented by Dr. Vahid Akhavan, Global Application Engineer at NovaCentrix. The presentation will take place on January 20th at 12:00am EST.

Rework of assembled boards is often a necessary but difficult proposition. The complexity of the rework increases with the number of components to be reworked. A specific case involves where many passives must be removed and replaced without damaging or de-soldering adjacent components. High Density Packaging (HDP) User group formed a project team to look at a novel technology solution, photonic soldering. In this study, photonic soldering was used as a pathway to achieve the desired rework process with minimal thermal load on adjacent functional components.

Photonic soldering is a process where high intensity light from a flash lamp is used as an energy source to uniformly heat up a large, exposed area. This process provides a digital thermal control to selectively heat up target areas with minimal air movement. By masking components, using differences in absorption, changes in input power and variation of exposure duration over a few seconds to preferentially heat up specific areas of a working device. This technology enables quick and concurrent re-attach of multiple passives without affecting other parts of the board.

For this work, the focus was on the use of SAC-305 solder alloy on FR4 substrates. The rework requirements for 0805 components were evaluated. Said components resided within millimeters of components that were to remain un-impacted during the rework process. This report evaluates the quality of the formed solder junctions through microscopy, cross sectioning, and shear testing. Additionally, the neighboring solder joints were evaluated for any changes through similar evaluation processes. The findings show that the resulting rework is independent of any specific design and material choices.

This presentation also provides an update to the phase 2 of this project that focuses on attachment of non-line of sight components to circuits on FR4 substrates.

Register here: SMTA

SMTA Members: Free of Charge
Non-Members: $15

About SMTA: 30 Years Developing Solutions in Electronics Assembly

The SMTA membership is an international network of professionals who build skills, share practical experience, and develop solutions in electronic assembly technologies, including microsystems, emerging technologies, and related business operations. For more information or to join, please visit www.smta.org.

###

Word Count: 421