Applying New Approaches to Emerging SMT PCB Stencil Printing Challenges

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Abstract

Current trends in the production of mobile consumer electronics and automotive products are driving the SMT stencil printing process to achieve higher throughputs with correspondingly higher wet print accuracies. Process challenges are imposed by such as larger (panelized) PCB handling requirements, shrinking PCB topographies with smaller components and tighter designs (fine pitch), and the demands of 'broadband printing'. Printer suppliers are responding to these issues with new and enhanced techniques that improve volume distribution and print definition, holding the print process window open. For example, more printers use side-clamping systems for more accurate test results and fewer volumetric variations across the board. Also, the ability to adjust squeegee angle has improved print consistency from edge to edge and increased the aperture fill on experimental materials, something that we are seeing more and more of as PCB assembly technology advances into new territories. These are some of the issues that will be briefly discussed in this paper.