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SEMI-AUTO GRID TOOL FOR DAF VOIDS MEASUREMENT

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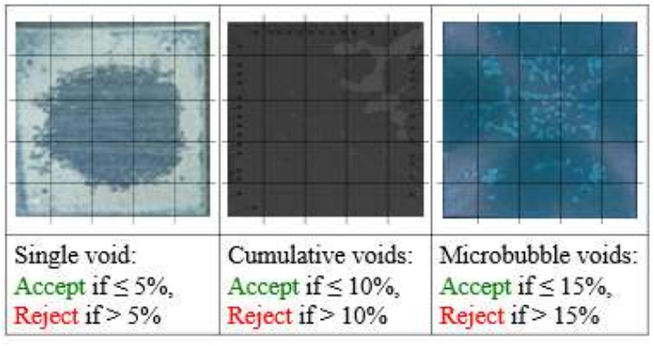
PROJECT OBJECTIVE

- Provide specialized tool for Assembly Process Control and New Product Introduction (NPI) for measuring and/or quantifying die attach film (DAF) voids and other die attach-related defects
- Zero cost implementation by utilizing existing software licenses and available resources
    - Instead of purchasing brand-new measurement equipment or software measurement tool, one big challenge is to come up with an innovative and cost-effective solution that will address quality-related difficulties by maximizing existing available resources

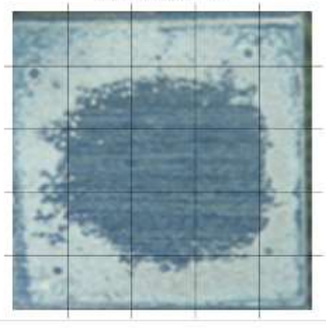
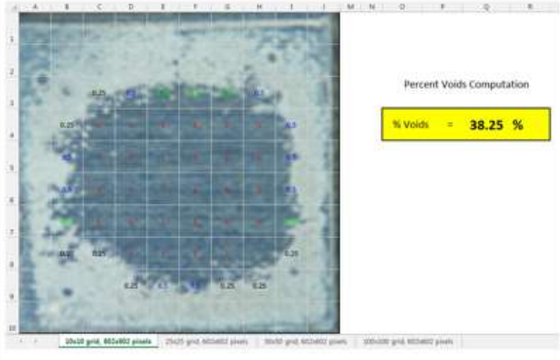
PROBLEM IDENTIFICATION – BOND PAD DEFECT USING VISUAL MEASUREMENT

- Previous methodology utilized manual grids to measure or estimate the magnitude of the defect



Example of DAF Voids That Need Measurement

SOLUTION IMPLEMENTATION

BEFORE	AFTER
▪ No existing standard tool being used in Assembly Process Control and in NPI ▪ If measurement is really needed, it is then done using visual manual grid estimation **Manual Grid** 	**Semi-Auto Grid Tool** 
Loss: Low accuracy. Measurement is subjective, and through visual estimation.	**Gain:** Measurement is still subjective but with better accuracy. The tool calculates real-time while pin-pointing the defects.
Result: Based on the manual grid estimation, the voids covered a total of 8 grid boxes out of 25. Hence, measured % voids is estimated at 32%.	**Result:** % voids is at 38.25%. The measured value is of better accuracy and credibility than the visual manual grid estimation.