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# BOND PAD DEFECT CALCULATION USING GRIDLINES

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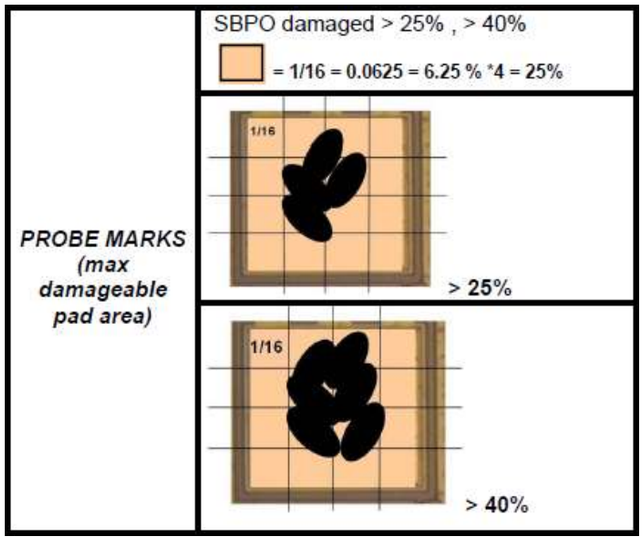
## PROJECT OBJECTIVE

- Provide specialized measurement tool for quantifying or measuring probe marks and bond pad-related defects, for Incoming Quality Control (IQC) station, Assembly Process Control, and for New Product Introduction (NPI)
- 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

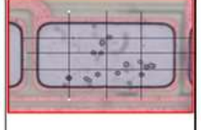
## PROBLEM IDENTIFICATION – BOND PAD DEFECT USING VISUAL MEASUREMENT

- Previous methodology employed manual grids to measure or estimate the magnitude of the bond pad defect




Example of Bond Pad Defects That Need Measurement

## SOLUTION IMPLEMENTATION

| BEFORE | | | | AFTER | | |
|---|---|---|---|---|---|---|
| Sample | Manual Grid | | | Auto | | |
| | Measurement | Dispo | Image | Measurement | Dispo | Image |
| 1 | 1/16 | MARGINAL |  | 3.72% | ACCEPT |  |
| 2 | >2/16 | REJECT |  | 10.25% | REJECT |  |
| **Loss:** Low accuracy. Measurement is subjective, and through visual estimation. | | | | **Gain:** Measurement is still subjective but with better accuracy. The measurement tool calculates real-time while pin-pointing the defects. | | |
| **Result:** Sample 1 – no decision (marginal)<br>Sample 2 – reject | | | | **Result:** Sample 1 – accept, with 3.72% bond pad defect<br>Sample 2 – reject, with 10.25% bond pad defect | | |