



Leading metrology capabilities:

- > 100% bump measurement
- > Down to 2um bump height
- > Down to 2um L/S RDL
- > CD/Overlay of any object type and size
- > True die shift position
- > EBR metrology
- > Auto setup/calibration
- > Ultra high throughput configurations
- > Height and depth profiling
- > Layer thickness

2D Inspection

| | |
|-----------------------------------|--|
| Inspection Capabilities | Detection of down to 0.85µm surface defects BF Detection of down to 0.3µm surface defects DF |
| Resolution | Multiple magnifications for optimized sensitivity |
| Zone Editing | Enables detection algorithm per zone for optimized sensitivity |
| CAD | CAD based detection |
| Multi Recipe | Enables running successive scans in one cycle with different focus, magnification, illumination, sensitivity and detection engines |
| Defect Classification / Filtering | Feature based classification |
| Tool Matching | Simple recipe transfer from system to system System to System results matching |

3D Metrology

| | |
|--|--|
| Bump types | Copper pillar, solder, gold bumps, micro bumps |
| Capabilities | Measurement of bump height, co-planarity, PR/PI thickness and via opening depth and surface-to-surface metrology |
| CTS – Camtek triangulation Sensor : High speed 3D scan | |
| Height Accuracy ¹ | 0.1µm |
| Height Repeatability ¹ | 1% of bump height and > 0.2µm at 3σ |
| Measurement Range | 2 – 250µm |
| CCS - Camtek Confocal Sensor : 3D high resolution profile area mapping | |
| Resolution | 0.05µm |
| Height Repeatability ¹ | 0.1µm at 3σ |
| Layer thickness Range | 5-200µm |
| Height metrology range | 1 µm - 300 µm |
| CLIP – Camtek Light interferometer profiler: | |
| Resolution | 0.05µm |
| Height Repeatability ¹ | 0.2µm at 3σ |
| Measurement Range | 0.2 - 100 µm |

2D Metrology

| | |
|---------------|--|
| Object types | Bump, RDL, Pad, UBM, Via |
| Capabilities | Measurement of diameter, width, length, placement deviations, overlay, die shift |
| Accuracy | 0.1µm |
| Repeatability | 0.2 µm at 3σ |

1 - Accuracy and repeatability on VLSI step target