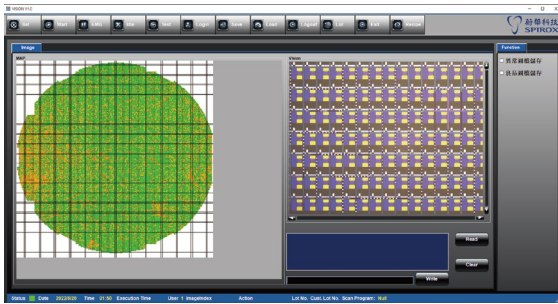# SPIROX

SPIROX MA6500
Macro Inspection System

MA6500 is a high quality image wafer inspection system with features of auto-storing defects image and position coordinate records to replace IQC visual inspection on surface defects, including particles, scratches, etc.

MA6500 Operation Screen

Features

- 65 Megapixel Camera with High FOV and High Recognizability
- Use RGB Particular Algorithm to Process Color Information and Increase Defect Characteristics Inspection
- 10μm Defects Inspection Items: Particles, Scratches, Pad Defects, Bump Defects
- Auto Wafer-level Chuck with ±1.7μm Accuracy to Processshigh Accuracy Wafer Coordinate Alignment
- Zoning Parameter Setting to Realize Accurate Inspection Requirement by Zones

● Inspection Process

Alignment & Capture

- ▸ Pre-aligner
- ▸ Wafer Alignment
- ▸ Image Capture Alignment

Photo Process

- ▸ Color Transfer
- √ Color to Gray   √ Gray to R/G/B

- ▸ Image Process
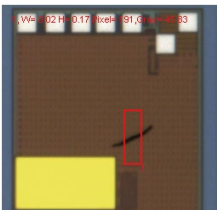- √ Fuzzification   √ Filter X/Y Discrepancy

Inspection Mode

- ▸ Comparison Check
- √ Compare Golden with Relative Grayscale

- ▸ Grayscale Check
- √ Compare Absolute Grayscale

▸ Mask Function: It is used to differentiate inspection zone (black) and non-inspection zone (white).
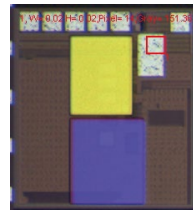
● Defect Inspection Application
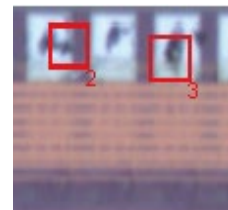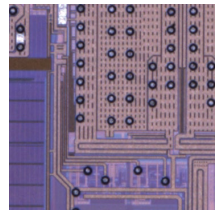

Particles on Surface

Particles on Surface

Process Contamination

PAD Inspection

PAD Inspection

Bump Inspection

MA6500 Specification

Function	• Replace IQC Visual Inspection on Surface Defects (Including particles, scratches, etc.) • Auto-storing Wafer Surface Defects Image and Position Coordinate Records
Wafer	• Compatible with 8-inch and 12-inch Wafer • Wafer Thickness: 300μm ~ 2000μm
Wafer Handling	• Support Automatic Opening Function for 12-inch FOUP Cassette • Wafer ID Scan • Pre-aligner (Notch Location)
Optical	• Camera: 65 Mega Pixel and Telecentric Lens • FOV: 29mm x 22mm
Chuck	• Support Wafer Leveling Function • Stage Flatness < 15μm • X/Y Axis Accuracy: ±1.7μm • Wafer Alignment
Image Auto-Inspection	• Defect Size: > 10μm • Discoloration Inspection • Scratches Inspection • Contamination Inspection • Process Defects Inspection
Software	• Compatible with Wafer ID OCR • Output Format: .bmp or .jpg • Online Review System • Storing Operation Logs
Inspection Time	• 90 seconds / 8-inch Wafer • 150 seconds / 12-inch Wafer * Exclusive of Photo Shooting and Equipment Loading / Unloading Time
Options	• Offline Review System • Customized Report