

MV-9SiP (System in Package)

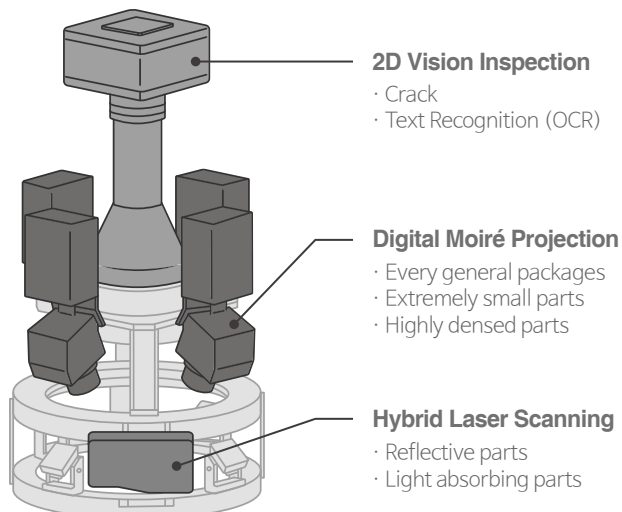
The way to Industry 4.0
MIRTEC

Best 3D Inspection Solution for improving SiP manufacturing quality



Hybrid SiP Inspection Solution

The best inspection quality is implemented in any environment by selecting and applying the most suitable solution among 3 inspection methods with different optical properties depending on the size, shape, and surface material of the object that's being inspected.



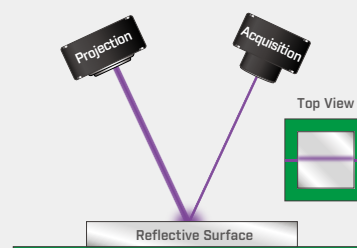
Digital 12 Projection Moiré

- 3 types of long, medium, and short wavelength patterns are generated from 4 projectors
- Precise 3D Profile based on massive measurement data
- 3D inspection that is not affected by the direction and position of the part

Frequency	1 st Projector	2 nd Projector	3 rd Projector	4 th Projector
High				
Medium				
Low				

Hybrid Laser Scanning

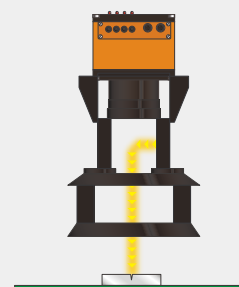
- 3D inspection using high straightness of the laser / strong light intensity
- Minimize the surface reflectance with the part's material
- Selectively apply Moiré and laser based on the material's characteristics



※ To help the viewer understand with ease, the example details such as sensor shape, installation angle, light source color, and reflectance do not match the actual equipment

Coaxial Light

- Inspect lighting with the same angle as the main camera
- Special for reflective materials surface damage inspection
- Completely removes the shadow caused by adjacent parts

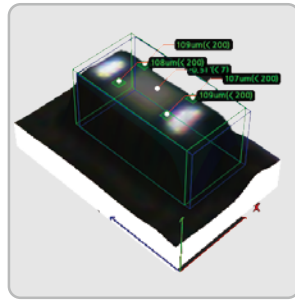


Examples of Moiré technology application

Extremely Small Parts

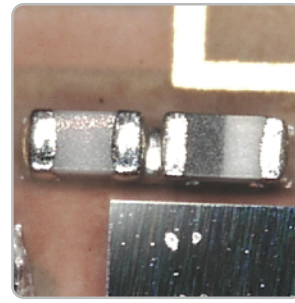


〈 Microscope Image 〉

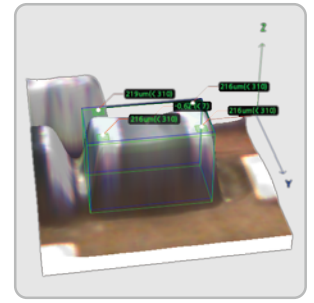


〈 3D Image 〉

Adjacent and Conjested Parts



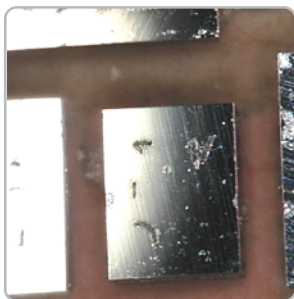
〈 Microscope Image 〉



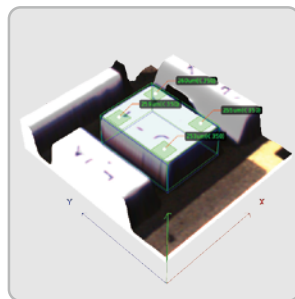
〈 3D Image 〉

Examples of laser technology application

Reflective Parts

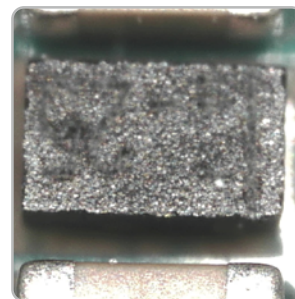


〈 Microscope Image 〉

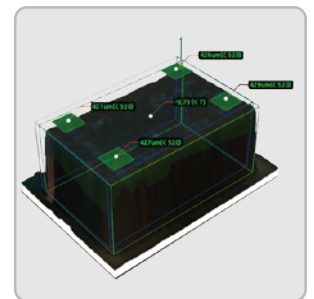


〈 3D Image 〉

Light Absorbing Parts



〈 Microscope Image 〉



〈 3D Image 〉

Examples of image matching technology application

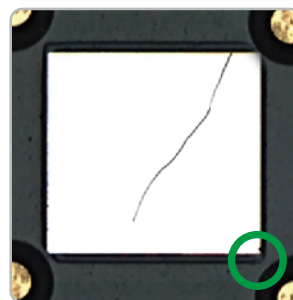
Coaxial Lighting CSP Crack Inspection



〈 Microscope Image 〉



〈 Vertical Light 〉



〈 Coaxial Light 〉

Character Recognition (OCR) Inspection



〈 Compound Light + OCR 〉

Specifications

Camera / Lens	Inspection Area	Substrate Thickness	Max. Substrate Weight
25 Megapixels / 7.7μm	50 x 50 ~ 510 x 280	0.1 mm ~ 3.0 mm	1 Kg
Dimension	Machine Weight	Power Requirements	Air Requirements
Machine : 1,250(W) x 1,500(D) x 1,600(H) mm Width (Machine & Conveyor) : 1,300mm	Approx. 1,200 Kg	Single Phase(s) 200~240V 50~60Hz, 1.1kw	5 Kgf / cm ² (0.5 MPa)

• Data subject to change without notice.



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