AREAL CONFOCAL 3D MICROSCOPE
CODE ISM-A7000

NON-CONTACT ROUGHNESS MEASUREMENT

SUB-NANOMETER Z-RESOLUTION

FOCUS STACKING

MOTORIZED STITCHING

WHITE LIGHT AREA CONFOCAL

- Used to wafers, substrates, HDI boards, flexible printed circuits, glass wafers, glass substrates, microprisms, PV panels, Li batteries and etc.
- Suitable for critical dimension measurement of semiconductor wafer patterns, solder ball, probe indentation and MEMS device
- Using structured light illumination and vertical axial scanning to realize micro-surface 3D topography
- Sub-nanometer vertical resolution
- Motorized XY stage
- The Z-axis motor driver and piezoelectric ceramic (PZT) are adjustable
- Including mountains analysis software; measurement results can be exported as reports
- The 3D tilt measurement angle is up to ±60°
- Supportint focus stacking, motorized XY stitching, and measurement after stitching
- Capable of measuring workpieces with a maximum aspect ratio of 1:10
- Supporting color imaging and 2D/3D observation, synchronously outputting 3D point cloud data, 2D color images and focus-stacked images
- Single-field-of-view measurement of multi-material and multi-color surfaces, compatible with reflective, metallic, highly reflective and transparent substrates

SPECIFICATION

Measuring principle		white light area confocal
Vertical scanning device		PZT, motor
Light source		white light
Resolution of camera		1920×1200
Travel of Z-axis		30mm
Scanning range of Z-axis		500μm (PZT), 30000μm (motor)
Resolution of Z-axis		0.01μm (PZT), 0.1μm (motor)
XY stage	**size**	160×110mm
	range	100×100mm
	resolution	0.1μm
	control method	motorized
Accuracy		±(0.1+L/200)μm (L is measured height and μm is the unit)
Environmental requirement		temperature: 5~40°C, relative humidity: 5~80%, isolation class: >VC-C
Power supply		220V
Dimension (L×W×H)		750×380×410mm
Net weight		55kg

OBJECTIVES SPECIFICATION

Objective	5X **(optional)**	10X **(optional)**	20X (included)	50X **(optional)**	100X **(optional)**
Numerical aperture	0.15	0.3	0.45	0.8	0.9
Working distance	23.5mm	17.5mm	4.5mm	1mm	1mm
Field of view	2.24×1.4mm	1.12×0.7mm	0.56×0.35mm	0.22×0.14mm	0.11×0.07mm

STANDARD DELIVERY

Main unit	1 pc
20X objective	1 pc
Industrial computer	1 pc
Computer	1 pc
Handheld controller	1 pc
Acquisition software	1 pc
Analysis software	1 pc

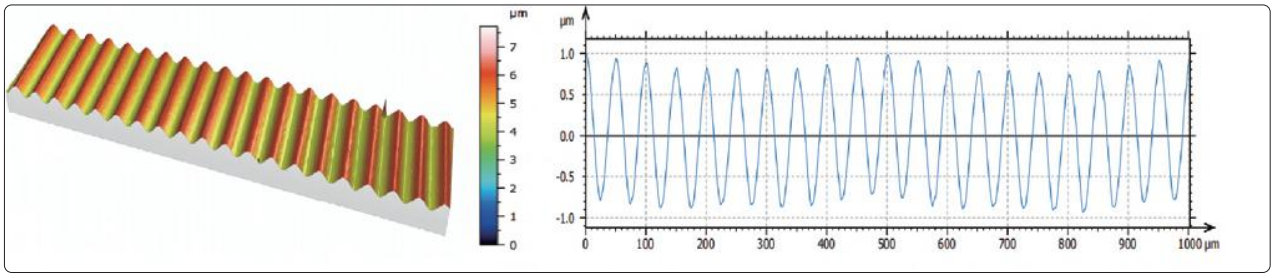
OPTIONAL ACCESSORY

5X objective	**ISM-A7-5X**
10X objective	**ISM-A7-10X**
50X objective	**ISM-A7-50X**
100X objective	**ISM-A7-100X**

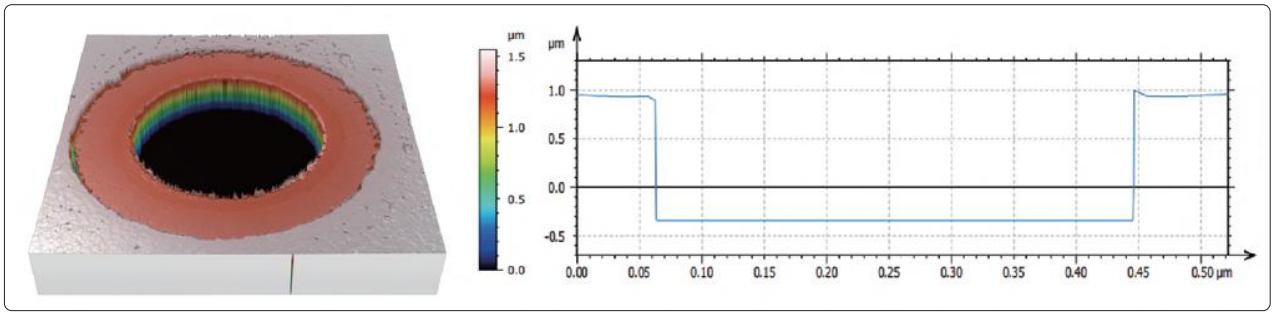
ANALYSIS FUNCTION

Software function	auto focus, focus stacking, image stitching, confocal imaging
Measurement fuction	automatic roughness software measurement module, capable of measuring Ra, Rq, Rz, Rp, Rv, Sa, Sq, Sz, Sp, Sv
	profile height analysis module, vertical distance, horizontal distance, Pa, Pq, Pt
	laser vias, back-drilled vias, transparent coated vias, solder mask roughness, copper width, copper spacing, copper height, height difference
Chart & report output	point clouds, 3D topography chart, chromatogram height chart, cross-section profile, analysis chart, grayscale chart

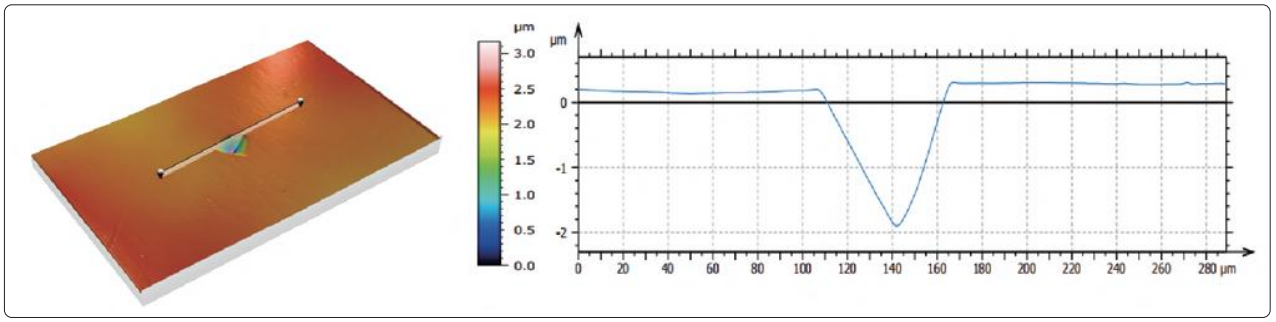
APPLICATIONS



roughness measurement



IC carrier board laser vias measurement



wafer dislocation measurement

SOFTWARE (INCLUDED)