



CARMAR TECHNOLOGY CO., LTD.

SUPRA Optix 3D Optical Profiler

- ❑ **Scanning White-light Interferometric Microscope**
SWIM Series





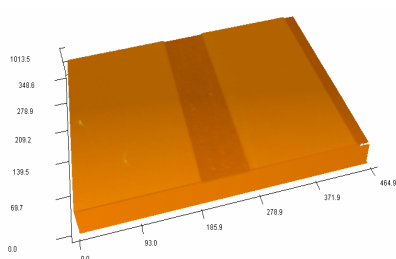
□ Applications

The SUPRA Optix is the latest development in the field of Scanning White-light Interferometry. With the features of compact, flexible design, high speed, user-friendly, 3D measurement and up to 400 μm vertical scanning range with nanometer resolution, the SUPRA Optix supports new applications in quantitative surface analysis:

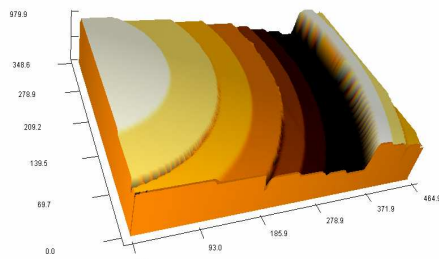
- Wafer
- DVD Disk
- MEMS Structures
- LCD/CF Micro-structures
- High Density Connected PCB
- IC Package

and many other applications in materials and surface research.

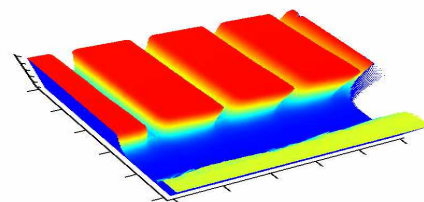
□ Inspection examples



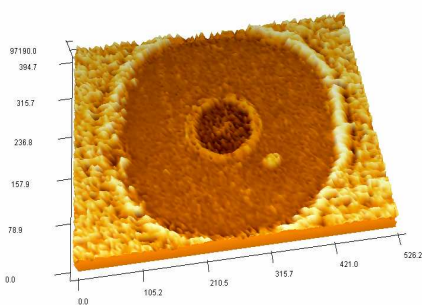
Step-Height Standards
(Depth: 28 nm)



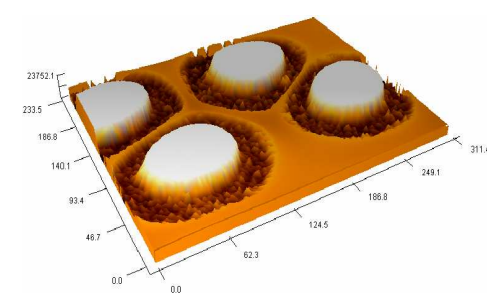
Fresnel Diffractive Micro-lens
(Height: 452 nm)



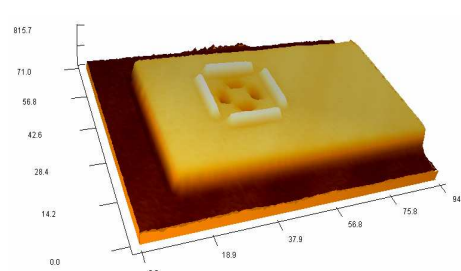
Optical Wave-guide
(Height: 38 μm)



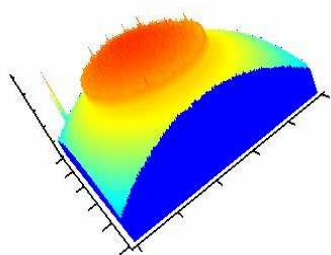
Laser Drilling on PCB
(Depth: 30 μm)



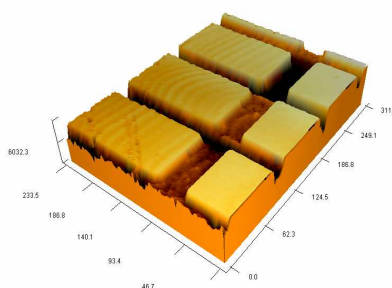
LCD Back-light Plate
(Height: 12 μm)



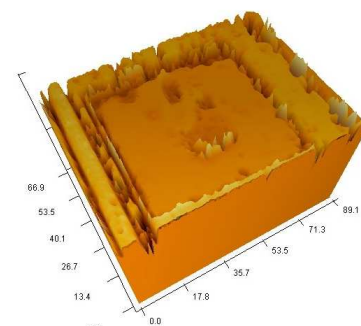
Overlay Mark on Wafer
(Height: 1 μm)



Optical Fiber in Ceramic Ferrule



RGB Layer on LCD Color Filter

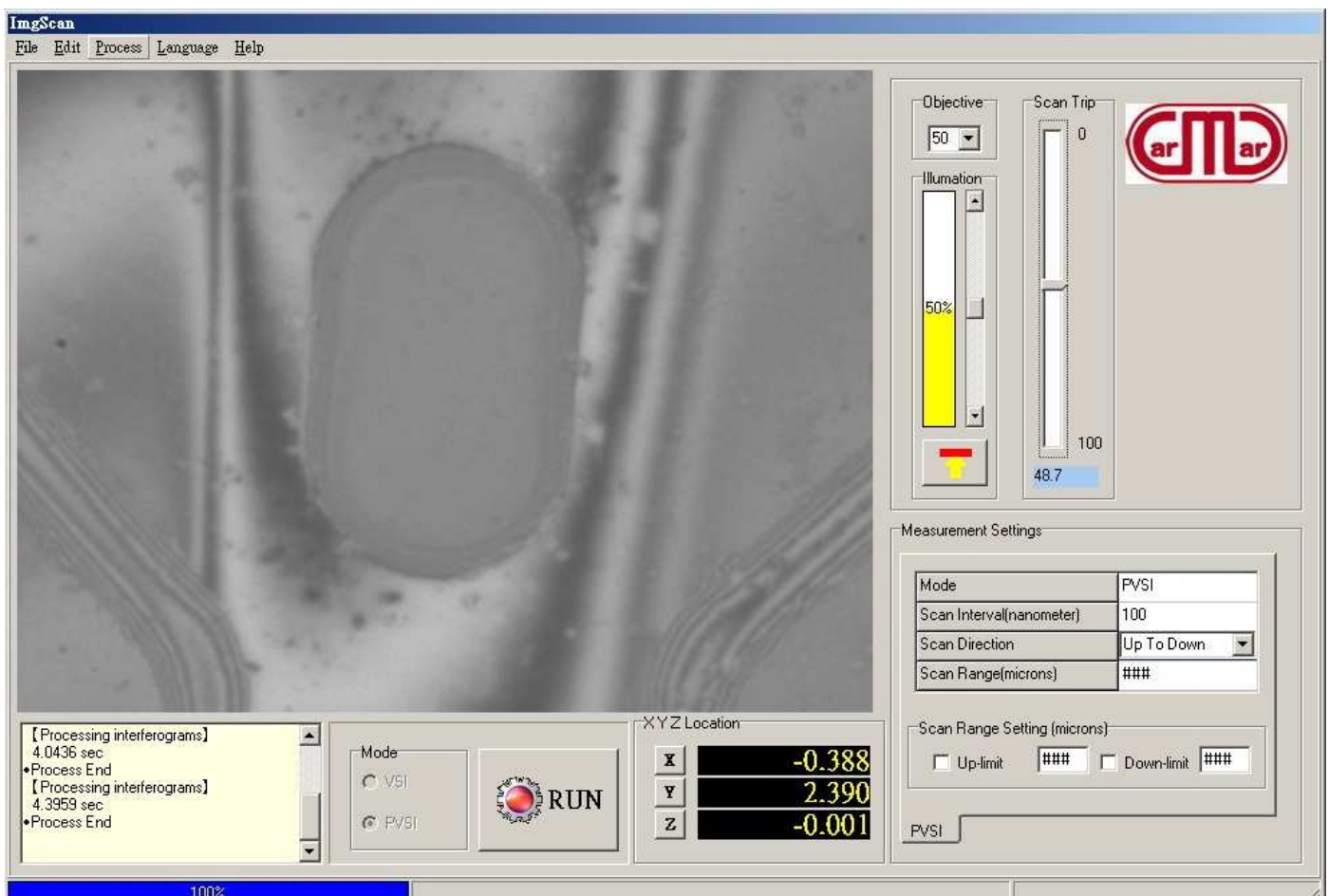


IC Chip Bumper



❑ High-speed Scanning and Processing Software (ImgScan)

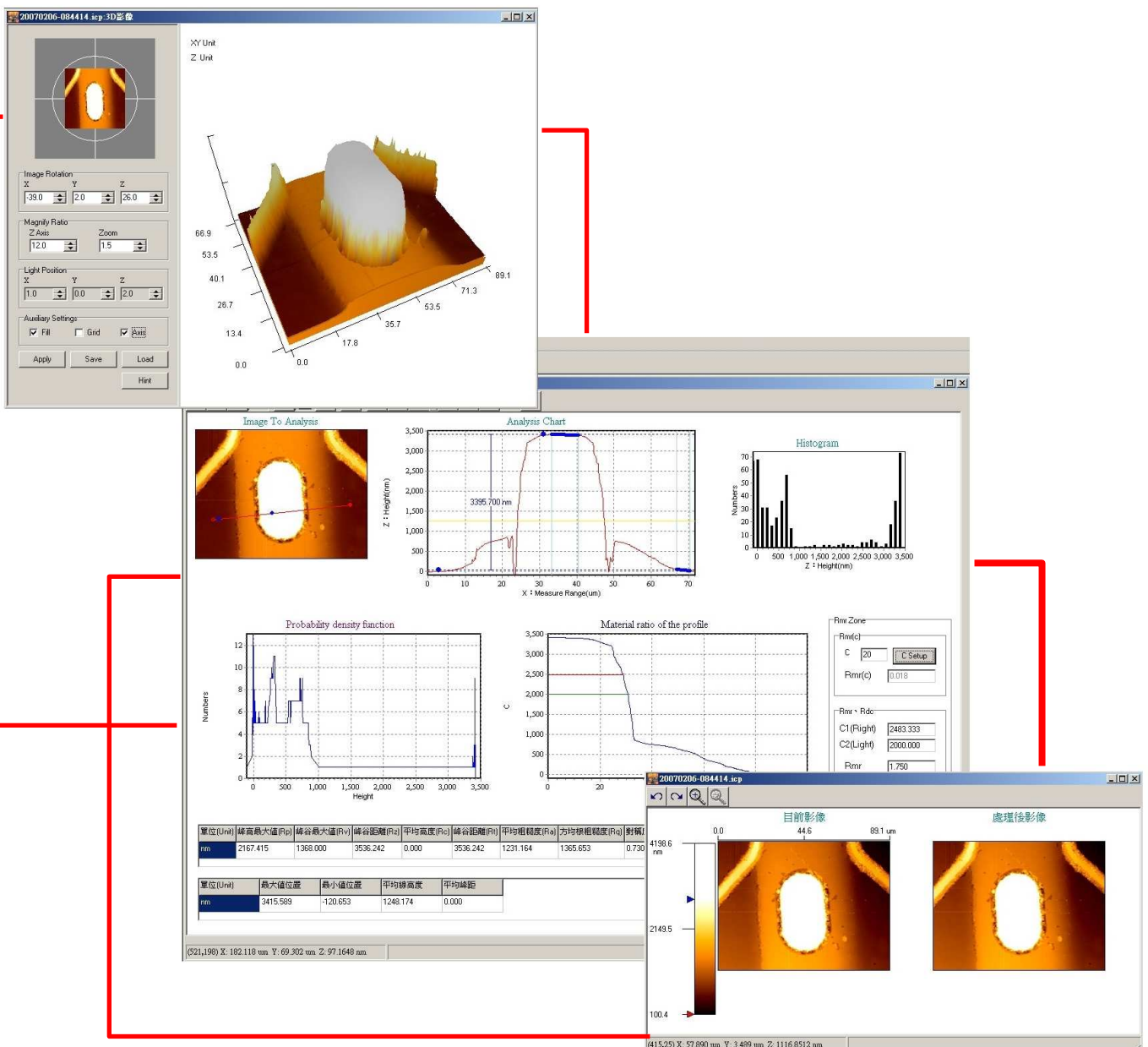
- ImgScan integrated with scanning hardware interpret the interference fringes.
- Innovative patented analysis software with vertical resolution up to 0.1nm.
- High-speed scanning design and algorism.
- Easily selecting vertical scanning range.
- Optional 10X, 20X and 50X interferometric objective lense.
- Easy sample positioning by on-screen digital XYZ coordinates display.
- Manual/Automatic light intensity adjustment for optimal interfering fringe contrast.
- High precision PVSI mode and high speed VXI mode are selectable.
- Patented algorithm are developed to analyze half-transparent sample.
- Automatic patching.
- User selectable scanning directions.





Professional 3D Graphic Analysis Software (PostTopo)

- Powerful and user-friendly 3D graphic analysis software
- Automatic surface leveling.
- Self-calibration function by step-height standards.
- Supporting depth/height analysis by line or local area.
- Line analysis results on surface roughness, waviness and step height are traced to ISO definition. The 17 ISO-defined parameters and 4 extra parameters are supported.
- Local area analysis supports graphic, statistics, and 2D-FFT analysis tool boxes. The 2D-FFT analysis includes smoothing, sharpening and many kinds of digital filtering.
- Measurement results can be files with different graphic formats or Excel files.



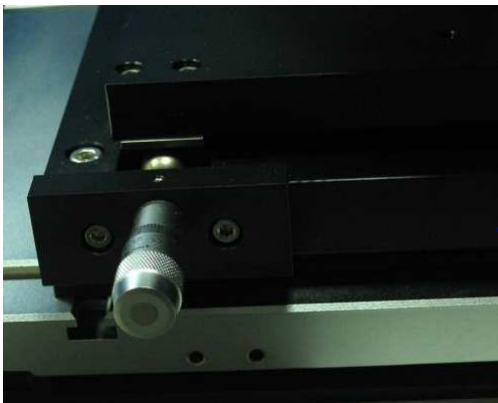


CARMAR TECHNOLOGY CO., LTD.

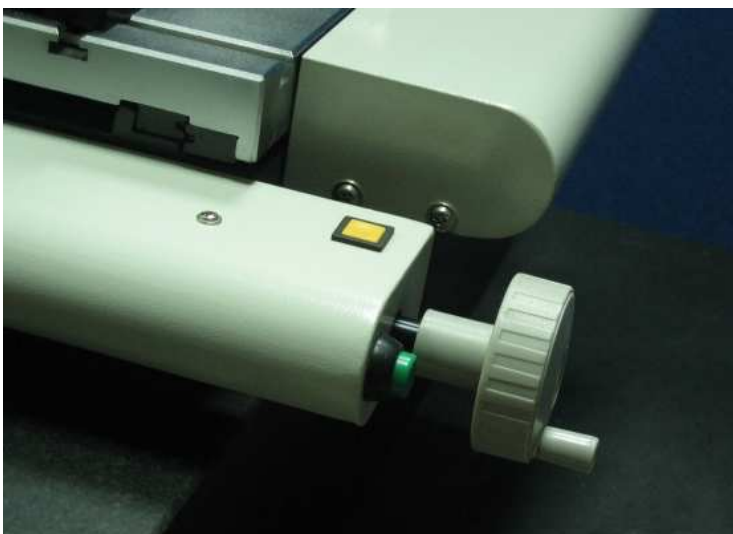
❑ Anti-vibration and easy-operation structure



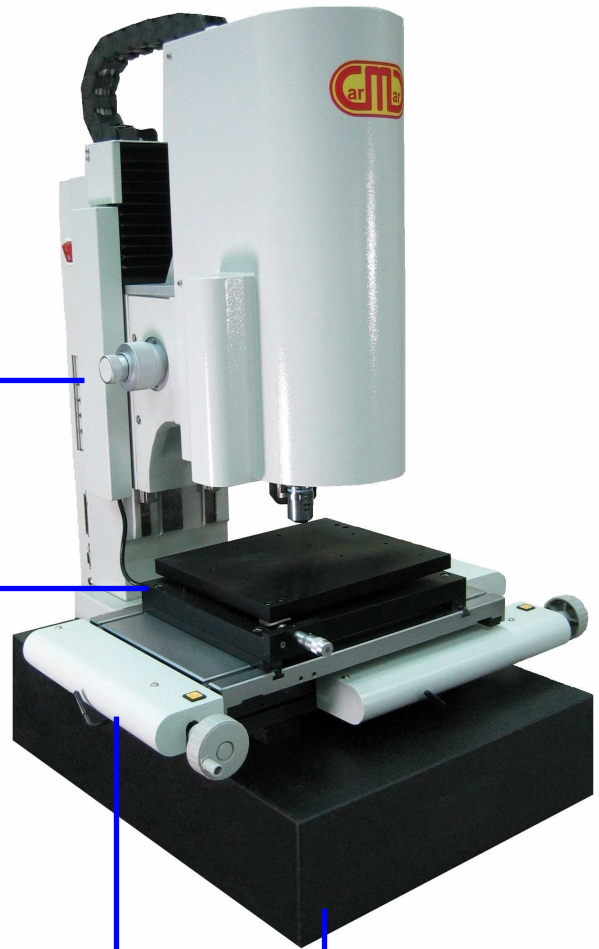
➤ Two-step up/down adjusting knob



➤ Two-direction level adjusting stage



- XY sample stage with micrometer-resolution linear scales
- Anti-vibration granite base





□ Specifications:

Model	SWIM 1510MS		
Configuration	Microscope, Scanning controller, Stage, Imaging unit, Computer		
Microscope body	Mono microscope (standard)		
Interference objectives (optional)	Magnification	FOV (mm)	Optical resolution (μm)
	10X	1	1.12
	20X	0.5	0.84
	50X	0.2	0.61
Vertical scanning controller	Scanning range	100 μm (400 μm, optional)	
	Scanning resolution	0.1 nm	
	Scanning mode	Automatic	
	Light intensity adjustment	Automatic / Manual	
Sample Stage	X-Y stage	150 mm x 100 mm, manual (standard) with linear scale (1 μm)	
	X-Y position counter	Linear scale exchanger with USB interface	
	Z stage	80 mm , manual (standard)	
	Tilt stage	Manual	
Imaging unit	Image sensor	Area CCD (standard)	
	Sensor resolution	640 x 480 pixels (standard)	
Computer	Pentium-computer, 17" LCD Monitor, 200 GB Hard disk driver		
Analysis Software	MS-Windows compatible data acquisition and analysis software, including: ISO roughness/step-height analysis, FFT and filtering, various 2Dand 3D views, profile analysis, zooming, conversion to standard image formats, etc.		
Step-height standards (optional)	50 nm 、 170 nm 、 230 nm 、 470 nm 、 1800 nm		

CARMAR TECHNOLOGY CO., LTD
No.6, 23rd Road., Taichung Industrial Park,
Taichung City 408, Taiwan (R.O.C.)
TEL: 886-4-23592289
FAX: 886-4-23598060
E-mail: carmar.tech@msa.hinet.net
<http://www.carmar-tech.com/>