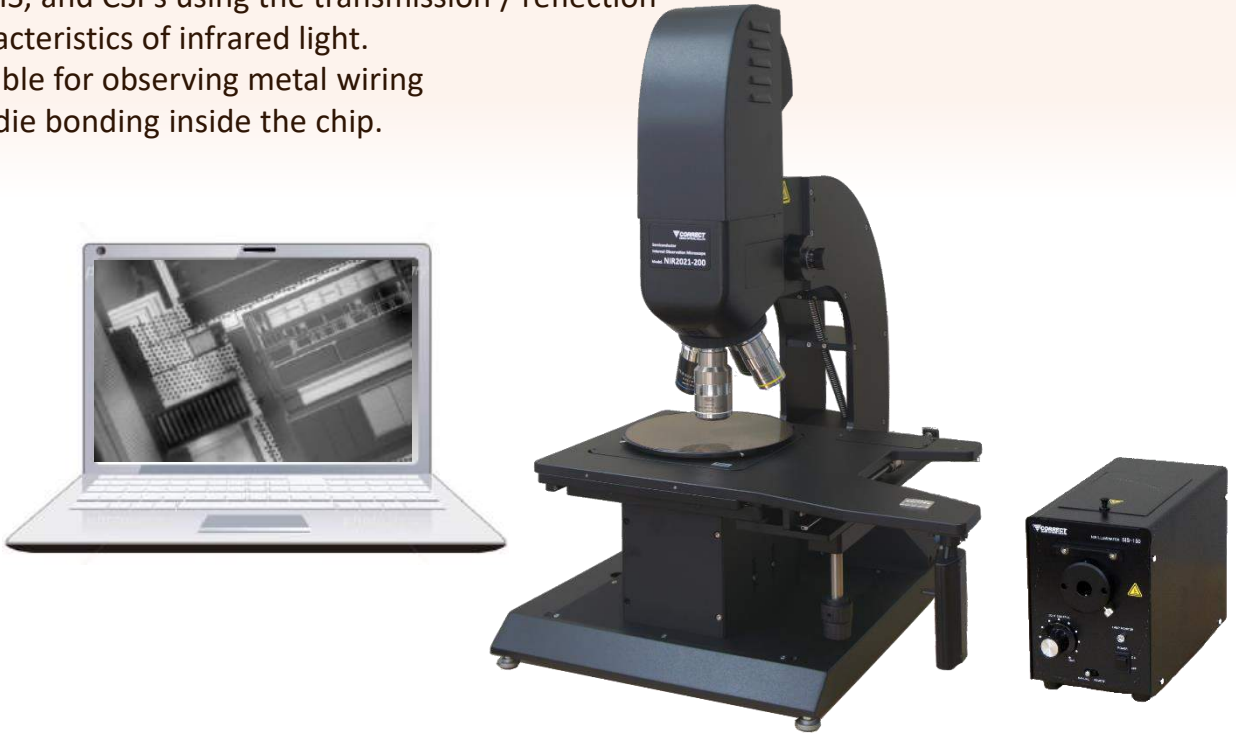


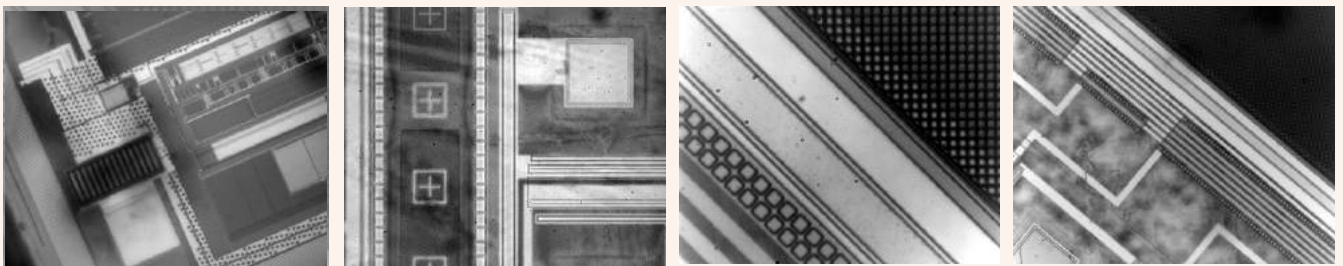
1.3MP SWIR Camera inside Semiconductor Internal Observation Microscope

Model.NIR2021-200

Is a microscope for observing the inside of semiconductor devices such as silicon wafers, chips, MEMS, and CSPs using the transmission / reflection characteristics of infrared light. Suitable for observing metal wiring and die bonding inside the chip.



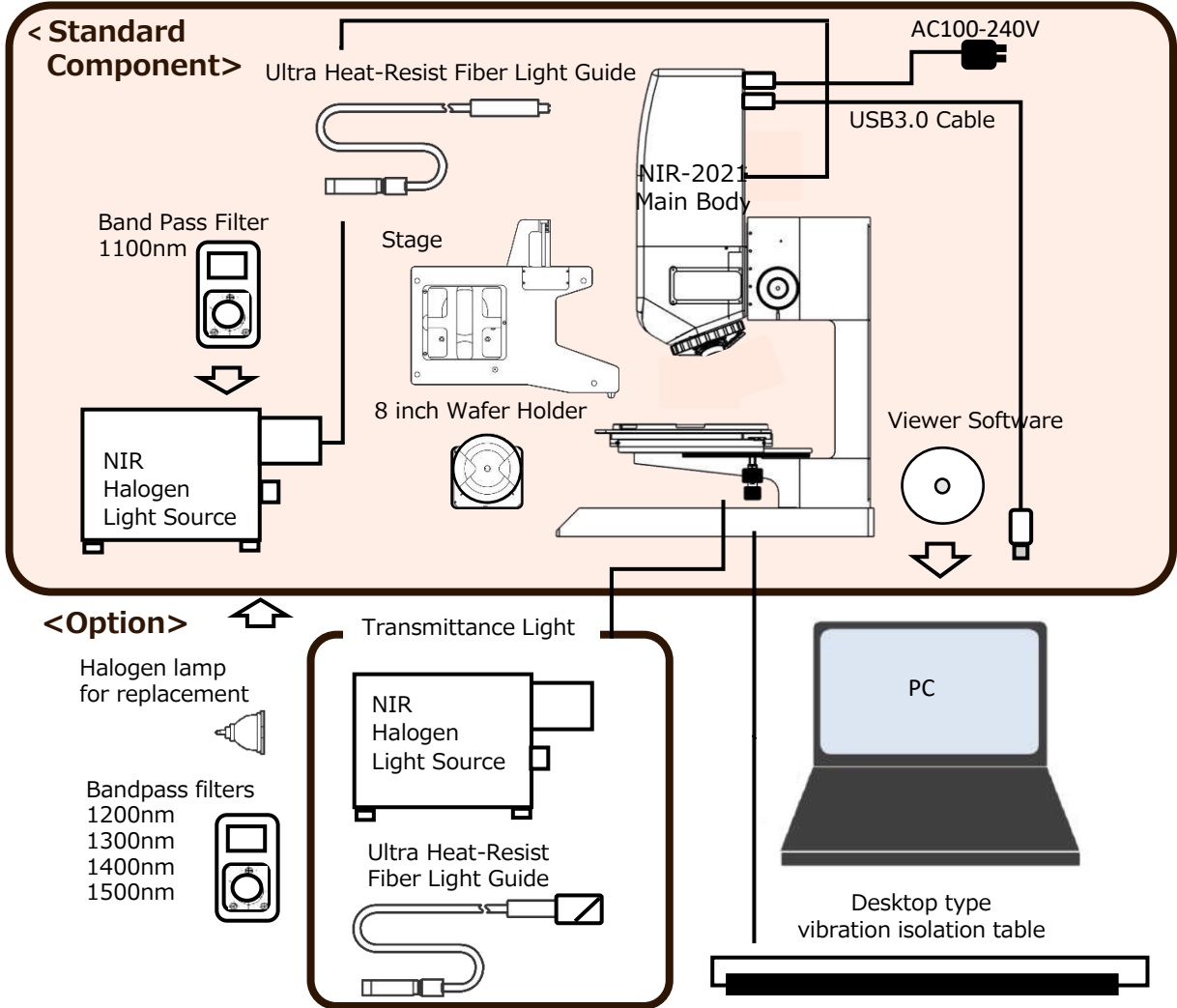
makes it possible to observe the inside of mounted IC chips that do not pass through the visible light.



Feature

- Built-in SWIR camera equipped with a 1.3MP SONY IMX990 with a pixel size of $5\mu\text{m}$ enables acquisition of high-resolution near-infrared images.
- The imaging lens barrel and PEIR objective lens series specially designed for the near-infrared region of 1100-1700 nm, which has high sensitivity of SWIR cameras, acquire high-contrast images even on thick wafers and high-density wafers.
- A high-power near-infrared halogen light source is standard equipment, and a sufficiently bright image can be obtained even when using an 100x objective lens.
- Equipped with an 8-inch wafer mounting stage. There are options such as vibration isolation table, wafer loader, etc.

System configuration



Near IR lens for Photo emission application

MODEL #	M	N.A	WD(mm)	FOV(HxVmm)
PEIRPlan1X	1x	0.03	12	6.4X5.12
PEIRPlan2.5X	2.5x	0.1	28	2.56X2.048
PEIRPlan10X	10x	0.27	30.4	0.64X0.512
PEIRPlan20X	20x	0.5	12	0.32X0.256
PEIRPlan50X	50x	0.6	10	0.128X0.1024
PEIRPlan100X	100x	0.71	9.5	0.064X0.0512



Near IR 2000nm Objective Lens

MODEL #	M	N.A	WD(mm)	FOV(HxVmm)
PEIRPlan20X2000HR	20x	0.6	10	0.32X0.256
PEIRPlan50X2000HR	50x	0.7	10	0.128X0.1024



In case of magnification with 20X or more, Correction caps can be supported as option to correct aberrations caused by silicon layers.

Specification of standard configuration

Main body

Imaging optical unit	f =200mm Built in imaging lenses coated with NIR	
Revolver	4 position with function of adjusting center	
Coaxial light port	With adjustment knob of aperture	
Foucas	Stroke	±25mm
	Flutter	4mm / per rotation of knob
	Fine	0.1mm / per rotation of knob
Stage	Stroke	205 x 205mm
	Transmitted illumination range	150 x 150mm

1.3MP InGaAs camera

Output pixels	1280 x 1024
Cell size	5um x 5um
Area size	6.4 x 5.12mm
Frame rate	70fps(12bit)
Interface	USB3

Software functions

Camera control	Control an exposure time	
Screen display	LUT	Contrast enhancement
	Zoom	Resize the live & still image
	Scale	Display a digital scale on screen
	Inversion of mirror	Invert the mirror vertically and horizontally
	Tool of displaying cross line	Display a cross line on screen
Image processing & Measurement	Measurement of distance	Distance between two specified points.
	Contrast enhancement	Histogram correction
	Profile	Display a graph of brightness values on specified line
Save image	Image format	TIFF, BMP, JPEG, AVI
Camera control	Windows7 or later	

NIR halogen light

Model	SIS-150-AIR
Rated voltage	AC100-240V
Rated input frequency	50/60 Hz
Lighting methods	DC lighting
Adjustment of light intensity	Variable output voltage
	Variable range of voltage DC2V-15V
	Variable range of light volume:0.1%~100%
Protection	Overcurrent circuit(Power shutdown and recovery)
	Overheat circuit(Auto recovery)
Cooling methods	Forced fan cooling
Operation temp / Humidity	0°C-40°C / 20%-80%rh (No condensation)
Functions	Lamp burnout signal output : Open collector, Emitter
	Analog signal voltage control :DC0-5V input
	Turn lamp On/Off remotely by inputting DC5V
Dimensions	W124 x H165 x D224mm (Excluding protrusions)
Wavelength range	400-1700nm
Light guide	Heat resistant type 2M
Bandpass filter	With a detachable plate 1100um

Recommended PC specification

Intel ICH series (6 or later)	
CPU	Intel Core I7 6700
Available memory	1024MB or more



Optional product

Transmitted illumination unit



Transmitted illumination unit

NIR light source	SIS-150-AIR
Light guide	Heat resistant type
Lens for transmitted illumination	Built in right angle lens for NIR

Bandpass filter



Band pass filter

1200nm	SIS-BPF-1200
1300nm	SIS-BPF-1300
1400nm	SIS-BPF-1400
1500nm	SIS-BPF-1500

Vibration isolator with air spring



Long pass filter

All over 1100nm	SIS-LPF-1100
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Vibration isolator with air spring

Model No	SPB-5AA-5060-SPCC
Natural frequency(Hz)	About 2.5Hz
Attenuation effect	Diaphragm type air spring
Levelling method	Auto levelling with air supply (0.4-0.7MPa)
Surface plate	SUS304
Dimension	W500xD600xH61mm
Weight	27Kg
Loadable weight	Up to 120kg
Accessories	Urethane tube φ6x3 m, RT 1/8 male coupler

Wafer loader



Wafer loader

Supported wafer size	6 inch or 8 inch
Cassette	SEMI standard 25 pcs set
Number of cassette	1
Transport sequence	Surface macro inspection Backside macro inspection Backside macro re-inspection
Oriental flat / Notch position	Non-contact setting method
Dimension	W 620mm x D 550mm x H 308mm
Weight	47Kg
Utility	Power :AC100-240V 2A-1A 50/60Hz Vacuum :-80kpa Connection diameter:6mm

