Semight

CT820X

LD Chip Tester

Version 1.3

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Product Description

Semight Instruments CT820X is designed for laser chip LIV and spectral scanning parameter test of bare chip. The system integrates DUT ID recognition, wafer ring loading, transportation, room&high temperature testing, low temperature testing, unloading and sorting. Semight Instruments CT820X has fast test speed, and can complete the whole process of taking and placing materials and testing in two temperature zones within 6s. This system is very suitable for mass production. Semight Instruments CT820X is equipped with high accuracy linear motor, oriental motor with high accuracy modular, so the system has high accuracy and stability.

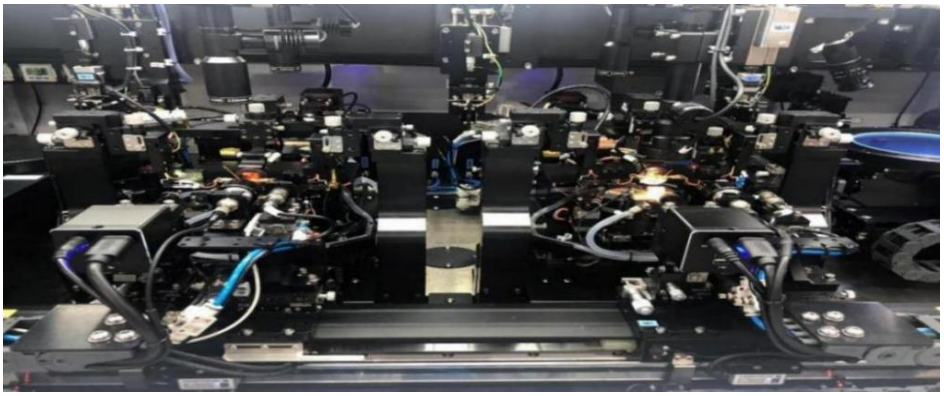
Key Features

- A highly integrated test solution for bare chip, the entire system supports very complex test processes;
- Automatically correcting chip position through vision and positioning system;
- Automatically probing, probe force is adjustable;
- Support dual temperature zones, temperature stability<±0.2℃;
- The chuck is made of high thermal conductivity and high wear resistance materials, with a long service life;
- Collimating fiber and large area PD switching automatically between LIV and spectrum test;
- Automatically DUT sorting after test;
- All mechanics could return to home independently;
- All instruments, test plan, pass/fail criteria could be configured very easily;
- Data will be saved to database and can be queried very easily. MES interface could be provided;
- Automatic alarm and notice to help operators to handle issues;

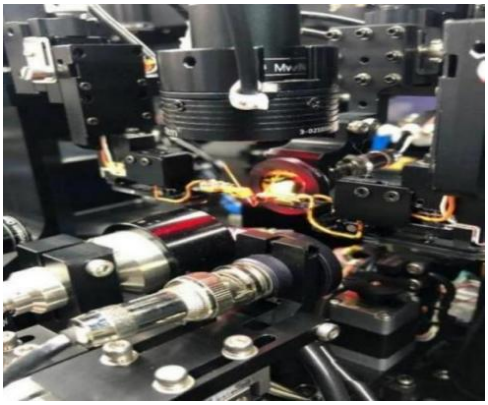
System architecture

- CT8201 bare chip test system consists of 4 sections: loading, transportation, testing and unloading.
- Loading: The thimble mechanism peels off the bare Die from the blue tape;

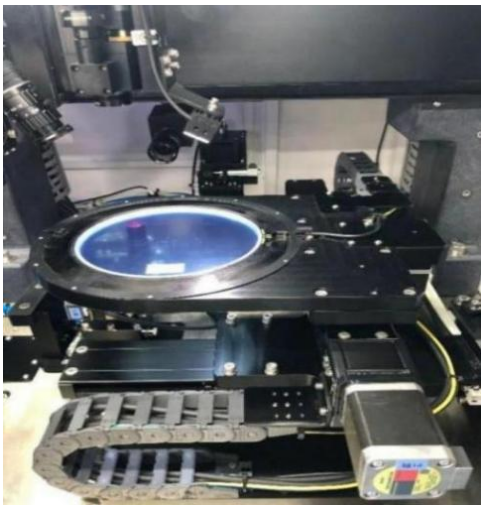
- Transportation: Loading, unloading， transportation, suction nozzle, High precision linear motor (X) and commercial modular(Z)；
- Vision system：loading and test vision system operates independently
- Test Area: support IL measurement (CW/Pulse) Front/back simultaneous measurement,WL
- Loading/Unloading and Sorting：support up to four blue taps, software configurable sorting plan, NG container.



System Internal Overview



Test chuck with high heat dissipation high-abrasion, as well as optical detector and optical coupling system



Loading Sections

Unloading Sections

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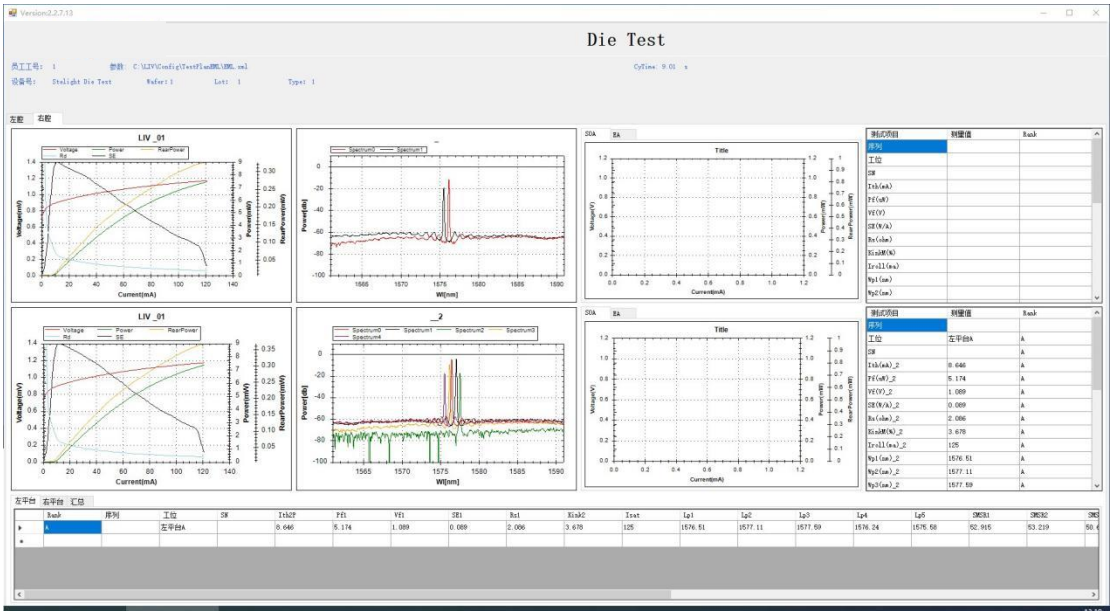
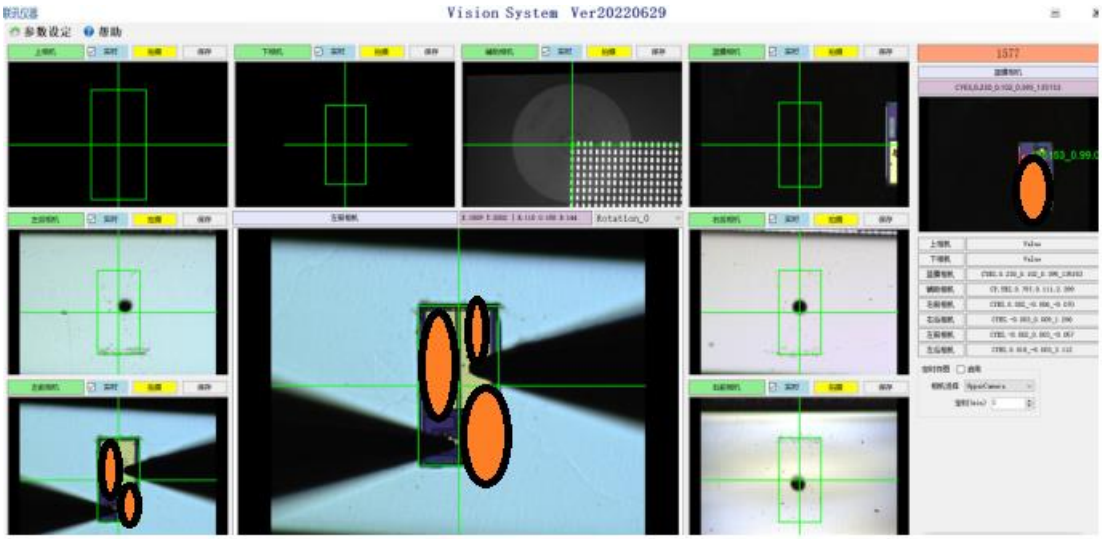
Software function



Testing GUI



Vision GUI

Technical Specification

System Parameters	Chip type	Support DFB, EML and EML+SOA chips
	Chip size	L&W≥150 μm, H≥80~150 μm
	Test temperature zone	2
	Test Items	Front/back IL, WL
	Test parameters	Ith， Se， Iop， Pf， Vf， Kink， Rs， IRoll， λc， SMSR etc.
	OCR	Auto OCR
	Nip	Specially designed suction nozzle structure, which is stripped from the cartridge first, and then sucked up
	Loading container	1 6-inch blue tap
	Unloading container	4 6-inch blue taps
	Sorting	Support any requirements customer need
	Standard sample control	The software supports the standard sample control function. If the standard sample is tested on the local machine unit exceeding the time cycle (configurable), the system will automatically give an alarm
	Test configuration control	The software supports test configuration control, including test instruments, test algorithms, test sequences, test results judgment, etc.
	Test data	Support all test data required by users/support MES related requirements
Electrical Indicators	SMU type	Standard source/Measurement unit
	DC current	3 A
	I/V source resolution	10 fA/100 nV
	I/V measurement resolution	10 fA/100 nV Minimum power supply resolution （6.5 Bit）
	Voltage range	70 V
	Pulse current	10A
	Overshoot under normal operation	NO EOS
	Undershoot under normal operation	NO EOS

	Overshoot under abnormal operation	NO EOS
	Undershoot under abnormal operation	NO EOS
Optical Indicators	Optical power measurement detector type	Ge
	Optical power wavelength range	800-1700 nm
	Optical power measurement range	10 μW-25 mW（>25 mW with attenuation plate ）
	Optical power measurement accuracy	0.1 dB
	Optical spectrum measurement range	1250-1650 nm （850 is an option）
	Optical spectrum measurement accuracy	0.1 nm
	Optical power coupling efficiency	Coupled power >-15 dBm
Temperature Control Indicators	Temperature control method	TEC
	Temperature range	25~95°C@CT8201 -45~95°C@CT8203
	Temperature area	2 independent temperature control areas (dual load platform)
	Ramp up speed	30 °C/ min
	Ramp down speed	30 °C/ min
	Temperature accuracy	±0.5 °C
	Temperature stability	±0.2 °C
Test Parameters Indicators	Ith repeatability	±1%
	Power repeatability	±2%
	Wavelength repeatability	<±0.2nm
	SMSR repeatability	<3 dB
	OCR success rate	99%
	Test time	<6 s (1 IL +3 WL)

Ordering information

CT8201	25 to 95 ℃ room& high temperature bare chip tester
CT8203	-45 to 95 ℃ industrial low temperature bare chip tester

Contact us

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Visit www.semight.com for more information.

*This information is subject to change without notice.