AI-Driven Innovation in Optoelectrical Packaging
AI驱动光电封装创新

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MRSI MYCRONIC - Leading Supplier of High-precision Equipment

MORE THAN 50 YEARS OF INNOVATION 50 YEARS

Innovative packaging solutions to meet the rapidly growing demands of the AI industry

Tewksbury, USA

Shenzhen, China

- MRSI is a part of Mycronic Group, Sweden owned company
- Founded in MA, USA in 1984, have entities in both USA & China
- Provide ultra-high precision die bonder, dispenser and AA equipment
- Main market: Photonics industry, Defense & Air Space
- Global sales and service, demo centers in USA & China

Latest Innovation

1 micron

High Force

Active Aligner

High Speed

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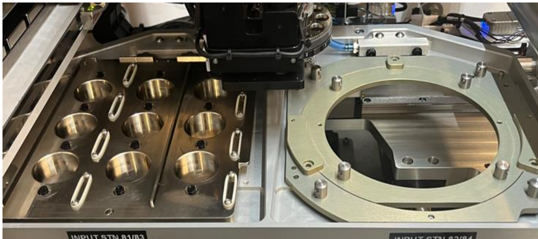
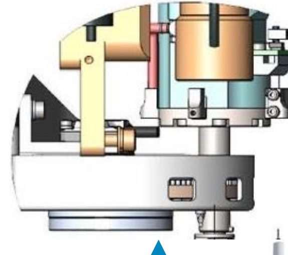
MRSI Flexible High-precision, Multi-die Bonding Solutions

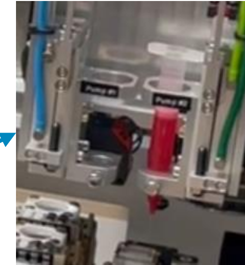
Waffle Pack/Gel-Pak & 8" wafer ring



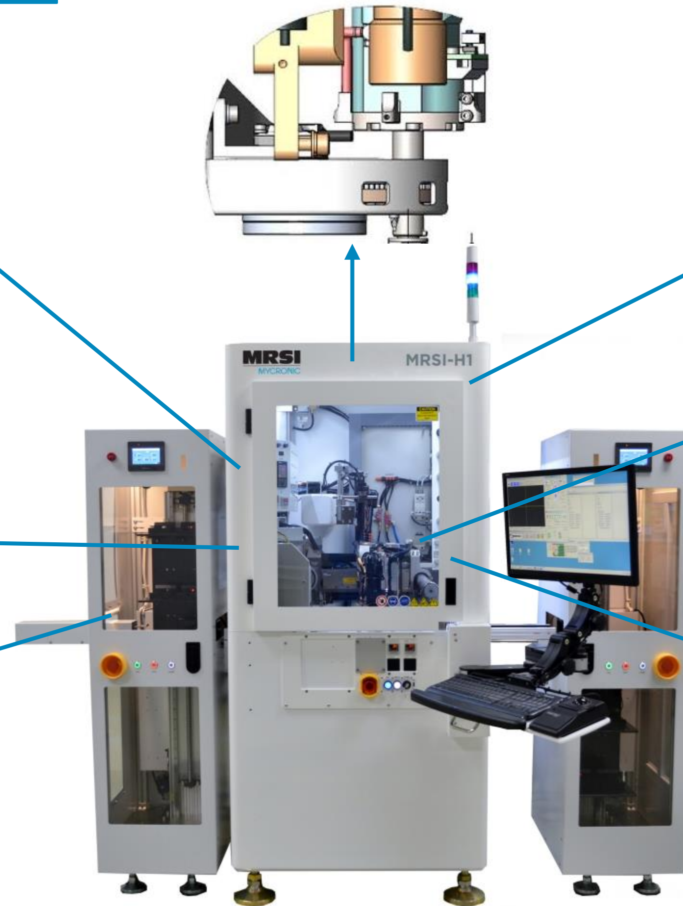
Gantry head with ***patented*** tool changer-12 tips



Epoxy dispensing + UV Curing



Conveyor



Eutectic Stage

Stamp well

Cassette Loader/Unloader

Flip chip bonding

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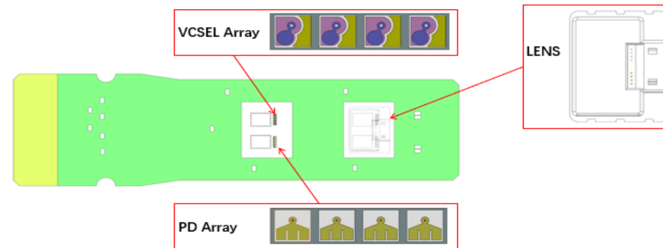
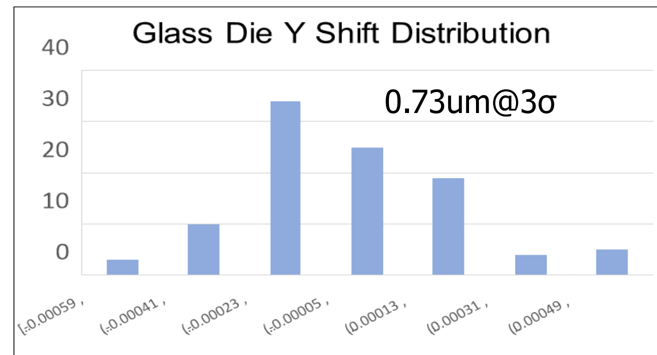
GaAs Based AI Transceivers Assembling Results

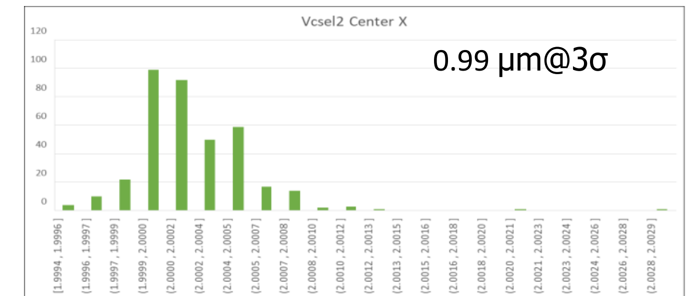
MRSI-LEAP achieved < ±2.5 μm epoxy process post bonding accuracy

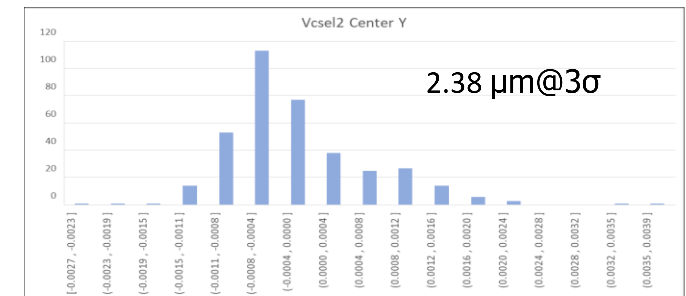
MRSI-LEAP

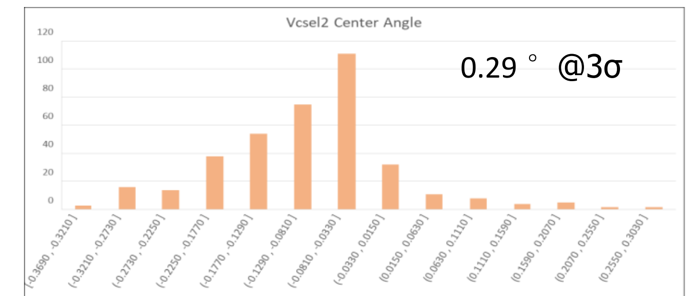




375 pcs AOC production data







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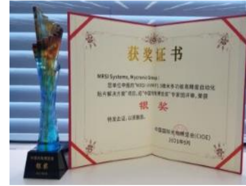
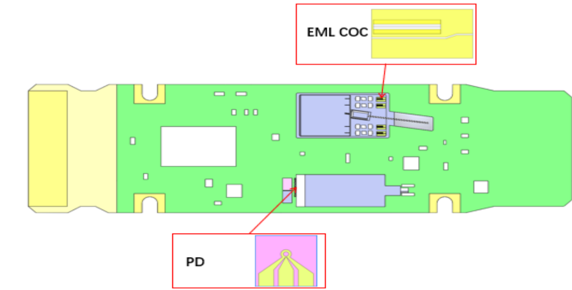
InP Based AI Transceivers Assembling Results

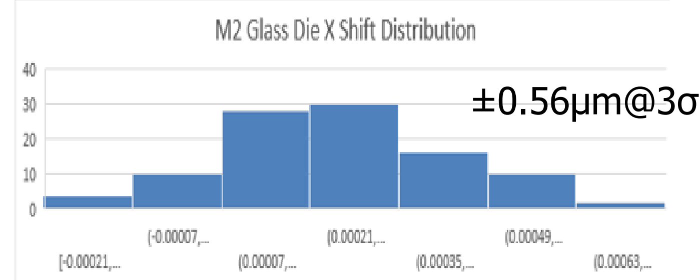
MRSI-HVM achieved < ±2.5 µm eutectic process post bonding accuracy

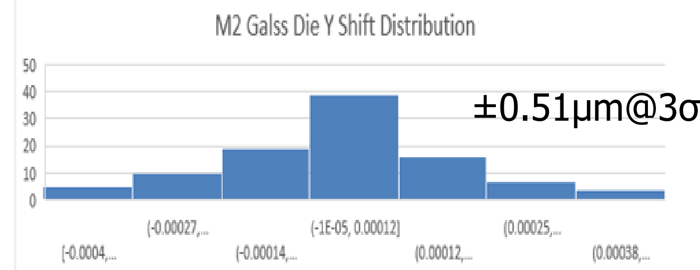
MRSI-HVM1



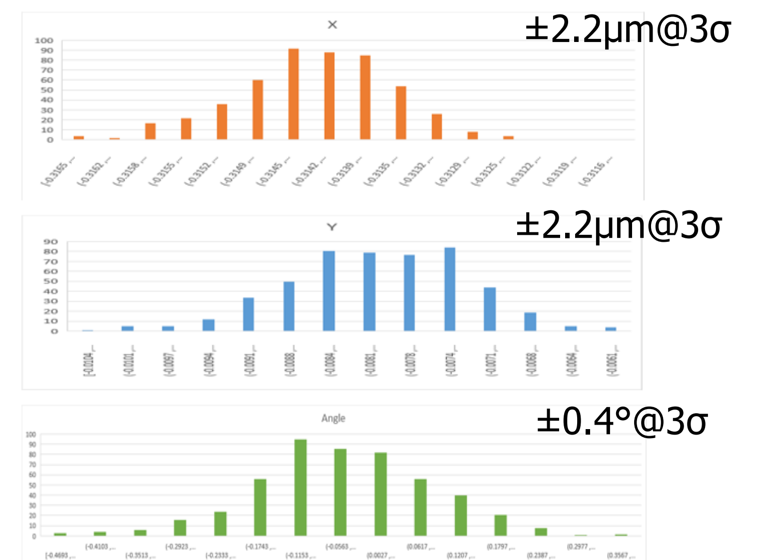


100 Glass Dies Test Results





500 CoC Production Results



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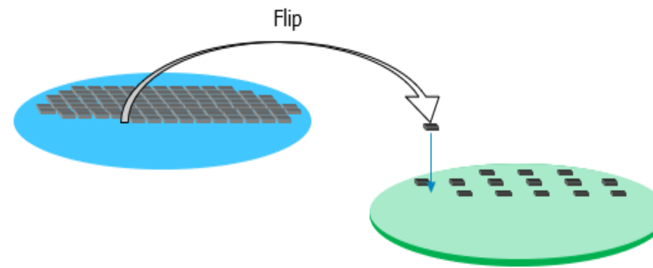
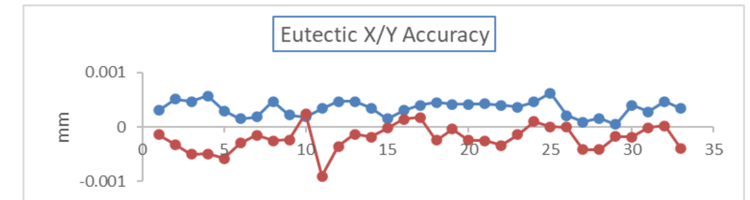
Wafer-level Packaging For SiPh LAB Process Results

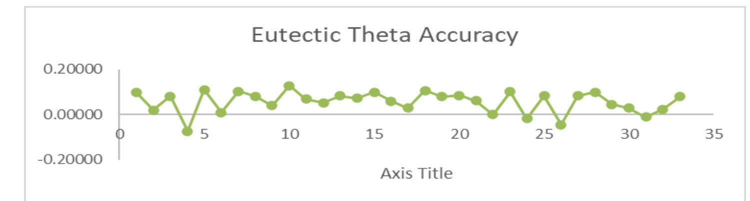
LAB process have short process time to prevent double reflow

MRSI-S-HVM
Auto-switched dual-accuracy Die Bonder

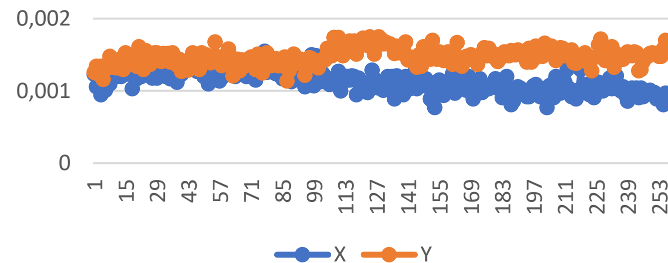
High Density & Wafer Level LAB Eutectic







Glass die with NFC



X=0.44μm@3σ Y=0.34μm@3σ

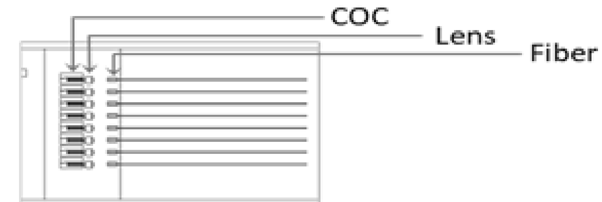
LAB Eutectic post bonding results

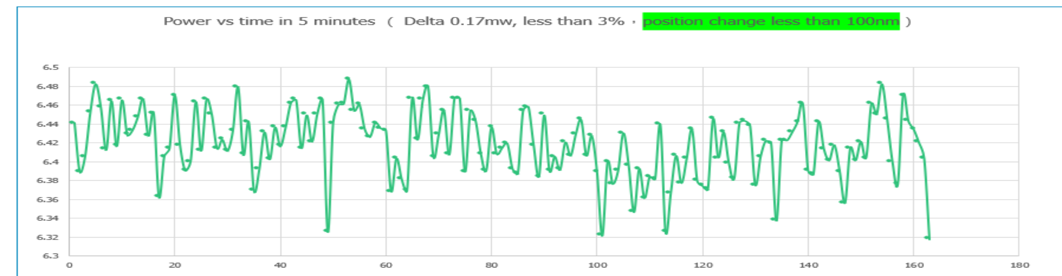
Averages	*X*	*Y*	T
MIN	0.000050	-0.000900	-0.073000
MAX	0.000620	0.000250	0.129000
ave	0.000347	-0.000202	0.056758
Range	**0.000570**	**0.001150**	**0.202000**
stdev	0.000141	0.000238	0.047531
3*stdev	**0.000423**	**0.000713**	**0.142593**

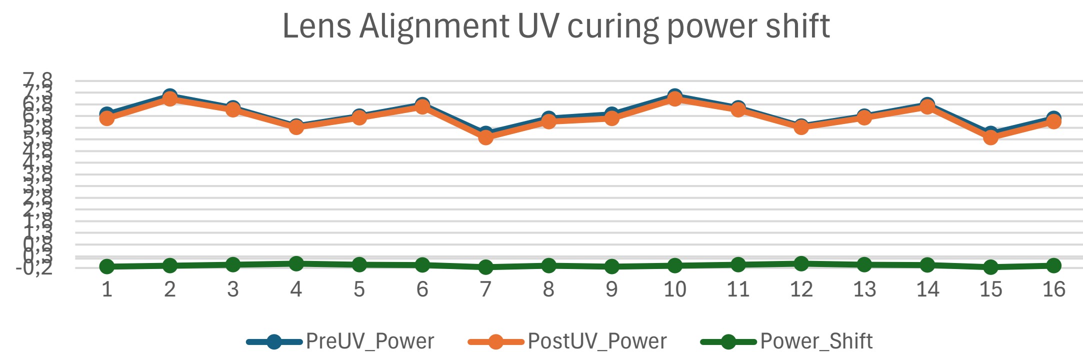
AI Transceivers Lens Active Alignment Coupling Results

High-flexibility, high-precision, high-speed and high-reliability active aligner

MRSI-A-L







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Q&A

THANK YOU!

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