POSTER #19

Enhancing High-Density Testing with Laser Bonding and Gripper Technology

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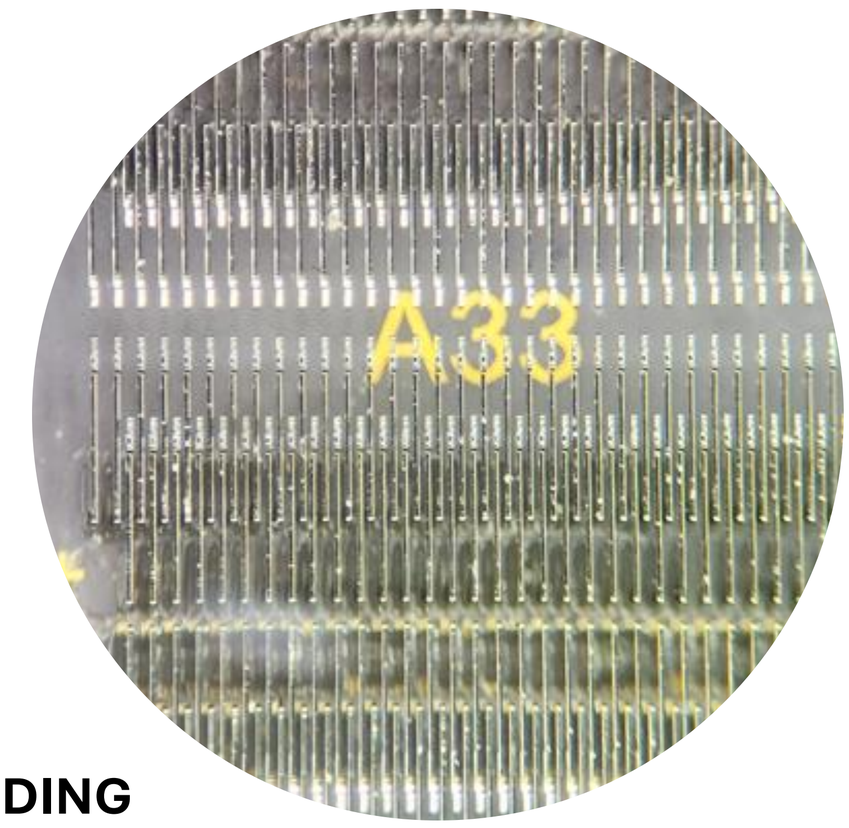
INTRODUCTION

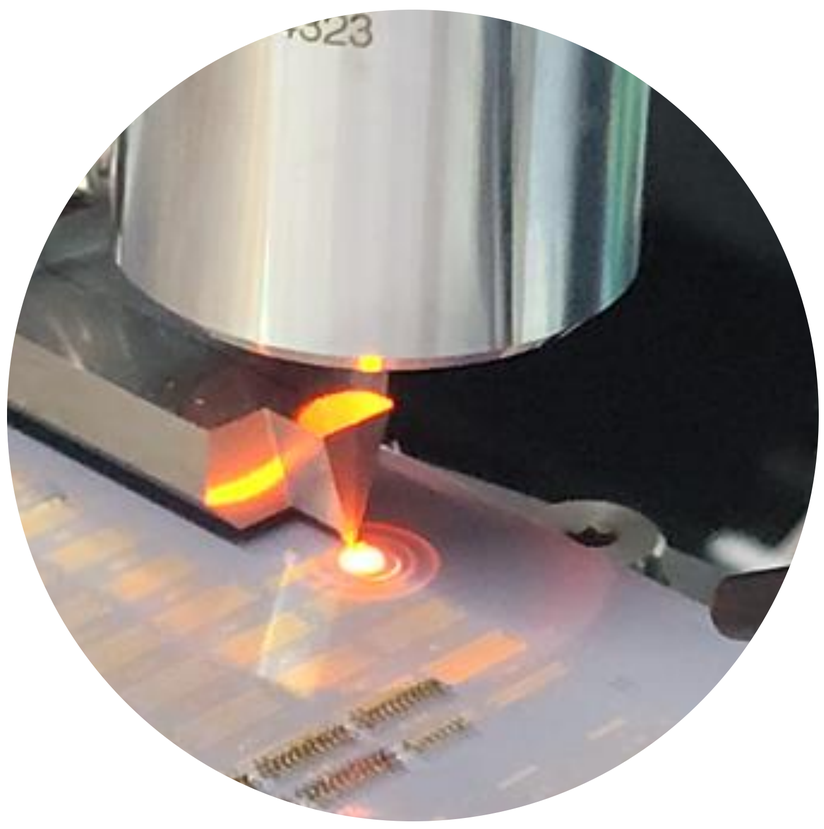
- **INCREASING PARA and PIN COUNTS**

  As market demands for HBM, DRAM, NAND,
  and CIS continue to grow, the need to accommodate
  increasing PARA and PIN counts,
  along with fine pitches below 50㎛, has become critical.



- **TECHNOLOGY TRANSITION FROM 3D TO 2D IN LASER BONDING**

  The 2D approach offers several advantages over the 3D approach.
  - Allowing for the individual optimization of pins and
    probe cards enhances design flexibility.
  - When designing a product, allowing for consideration
    of the differences in the coefficients of
    thermal expansion can reduce stress and deformation
    caused by thermal effects.



- **Results**
  - MEMS PIN One By One Bonding Accuracy ＜ ±5㎛
  - MEMS PIN One By One Bonding UPH ≥ 10,000pin/Day

- **Conclusion**
  - 3D bonding can be replaced with 2D bonding
  - 60,000-pin HBM probe card produced in just 6 days
    with 2D bonding

- **Laser Bonding Solution Information**

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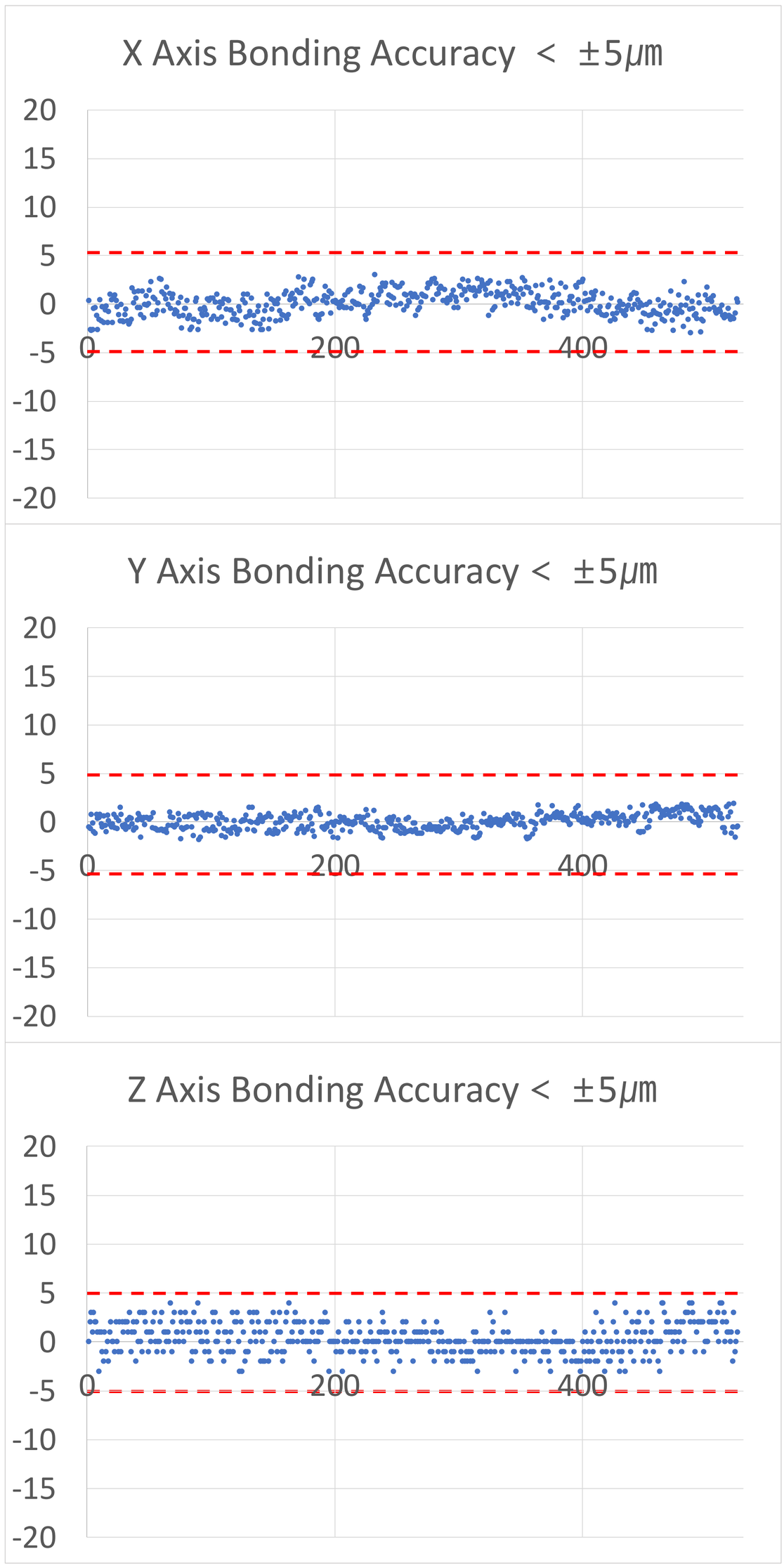
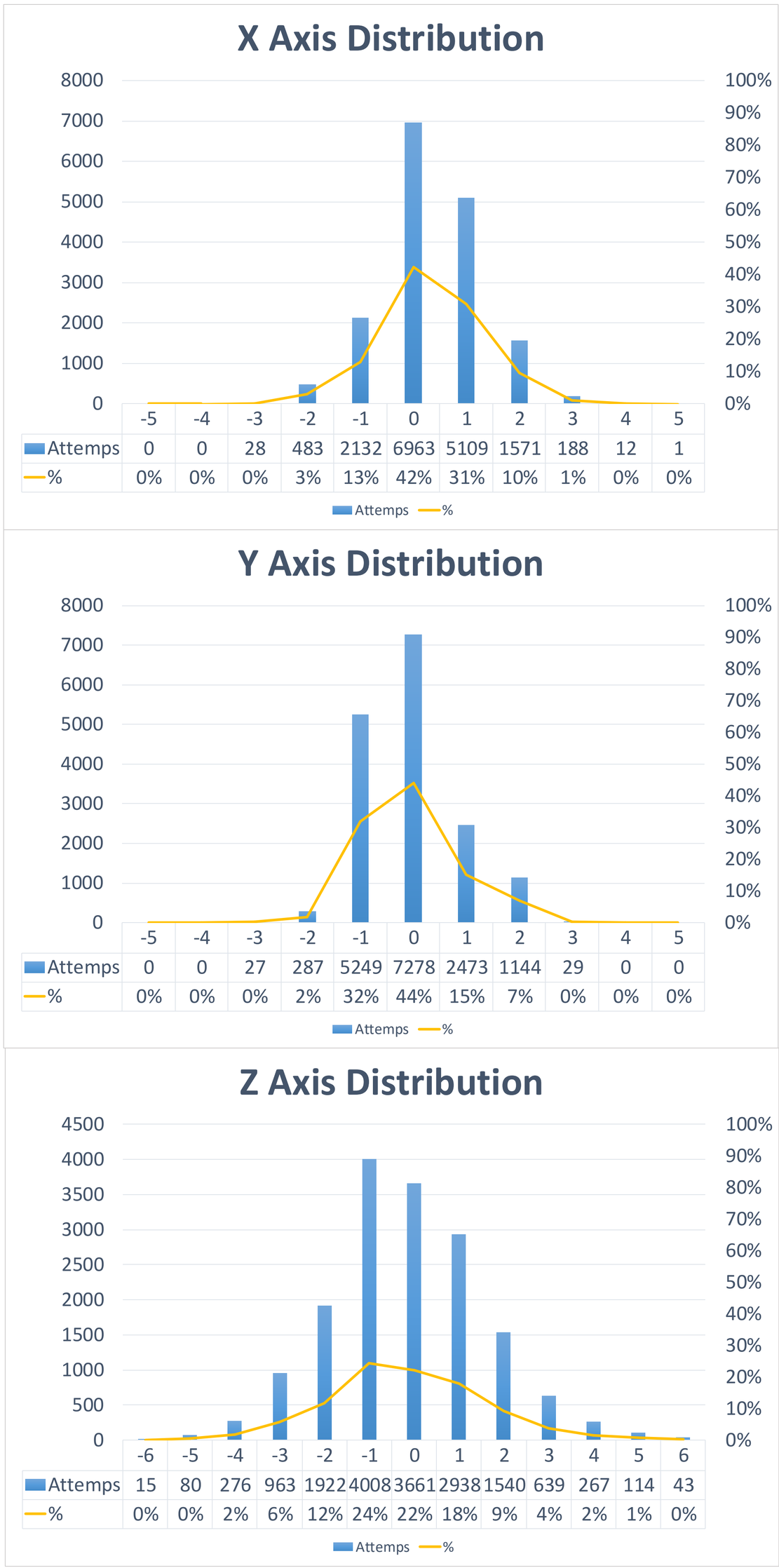
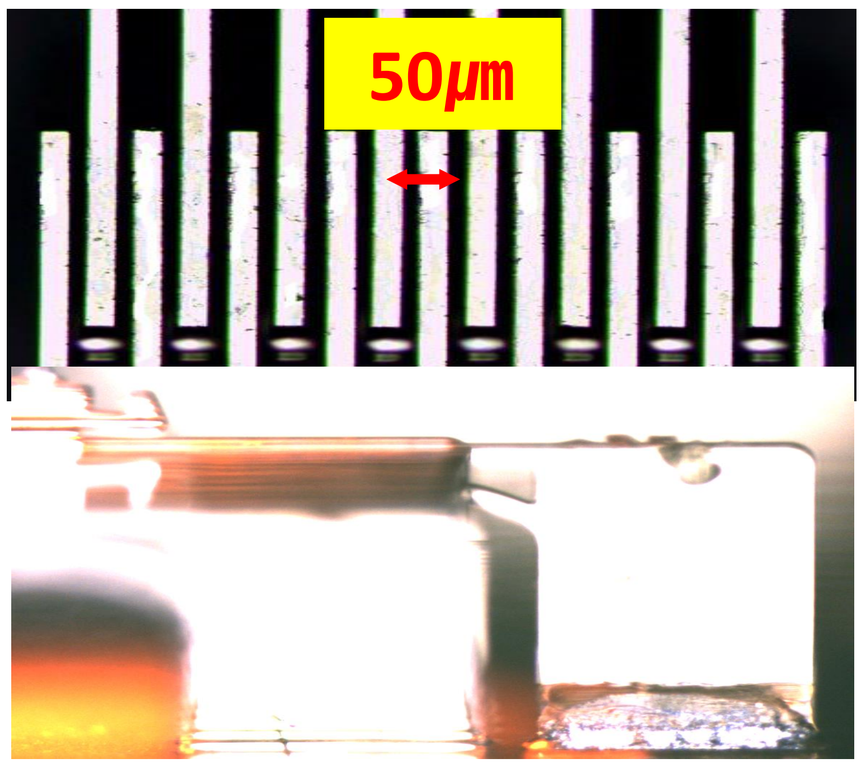
ENHANCING HIGH-DENSITY SEMICONDUCTOR TESTING WITH DUAL-HEAD LASER MICRO BONDING AND VACUUM GRIPPER TECHNOLOGY

- **MEMS Pin Bonding Accuracy at Fine Pitch (@50µm) : < ±5 µm**





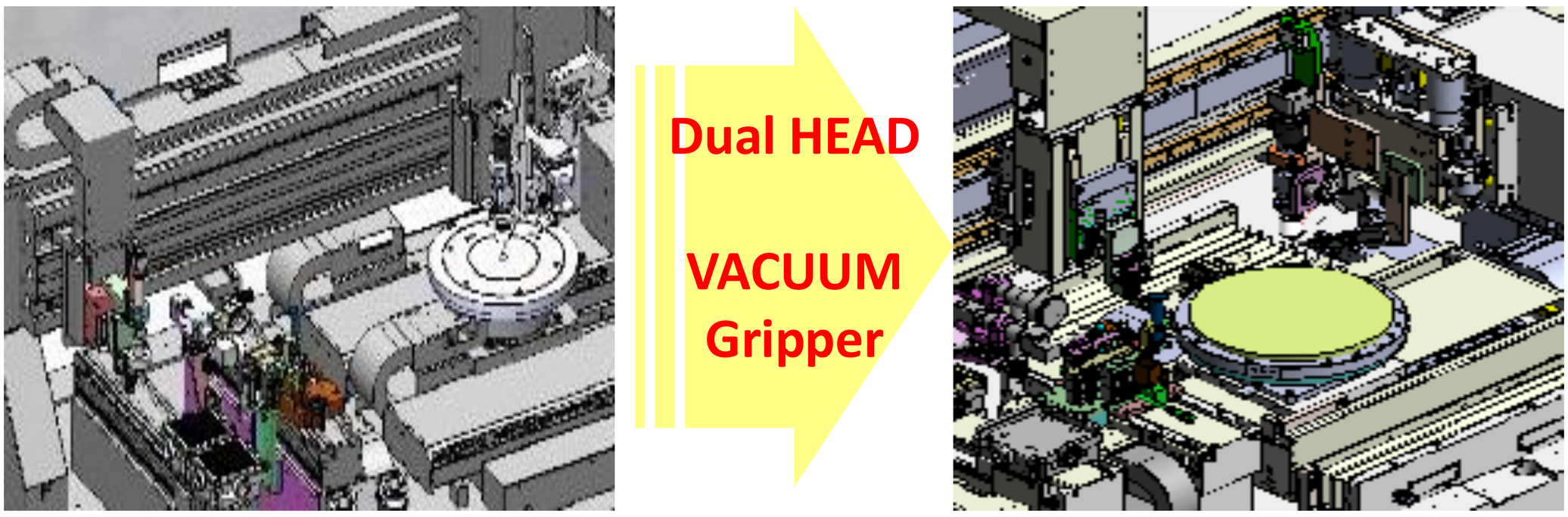
- Support for pitches smaller than 58µm is also available



Bonding Accuracy	X µm	Y µm	Z µm
MIN	-2.17	-2.17	-3
MAX	3.46	2.51	5

ENHANCING HIGH-DENSITY SEMICONDUCTOR TESTING WITH DUAL-HEAD LASER MICRO BONDING AND VACUUM GRIPPER TECHNOLOGY

- **High-Speed Mems Pin Laser Bonding : UPH ≥ 10,000 pin/Day, T/T ≤ 6.3sec/Pin**



HBM probe card with 60,000 pins bonded in just 6 days

High Speed Bonder

Final Check List

√	GUIDELINES CHECKLIST
	Microsoft PowerPoint 365
	Follow Filename Convention **Session##_Paper in Session##_(Last Name)_Revision Date** **Example: P01_01_Broz_06-05-2024**
	Use Portrait Orientation **(File - Page Setup - Slides - Portrait)**
	Use the PPT Template provided and Custom Page (Panel) Size **(File - Page Setup - Custom – Width = 24 in, Height = 36 in)**
	Company Affiliation, Company Logo & SW Test Logo on First Panel ONLY
	Maximum of Three Panels (Slides) per Poster Presentation
	Appropriate Font Size for Readability
	AVOID "busy" graphics and text heavy sections
	Avoid a "Sales Pitch" and focus on the technical aspects
	Confirm Readability and Quality of Graphs / Illustrations
	Information MUST BE Non-Proprietary / No Copyright ***Make sure that your company's Legal department*** ***has approved your presentation!***
	Print your poster and bring to the conference for display.

Questions ?

If you have any questions, please Bonding

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