IEEE SW Test Workshop
Semiconductor Wafer Test Workshop

BE PRECISION TECHNOLOGY

introduces:

The Probe Card Analyzer M5

Swtw 2011

www.probecardtester.com

Large Probe Cards

- Heavy and cumbersome to handle
- Large card repair is a pain in the back
- Large card repair is a logistical challenge

BE's M5 large probe card analyser - repair tool

- Takes the load of your back
- Boost working pleasure on large probe cards

See how

BE Engineering

- Over 10 years experience in probe card testing equipment
- First with diamant scratch image viewing window as a standard
- First to apply carbon for ultra stiff flipping tabel
- Stuck to its vision on testing and repair, resulting in excellent ergonomics and throughput time

The Probe Card Analyzer M5

- ***Manager 5***

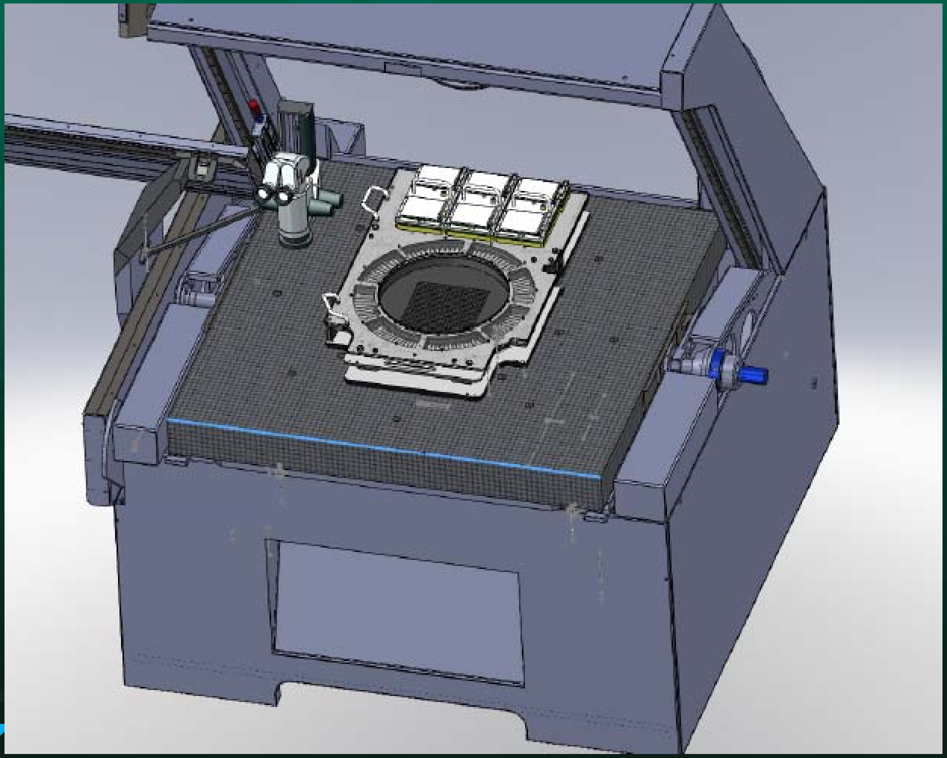
System overview M5

- *Fully dedicated system*
- *High speed*
- *Handle high channel count*
- *High load*
- *Protects your future investments*

The facts of the M5

- *450 mm and smaller*
- *Planarity*
- *Alignement*
- *Contact resistance*
- *Leakage*
- *Open and Short*
- *Contact Force*

- *Ergonomic Rework*

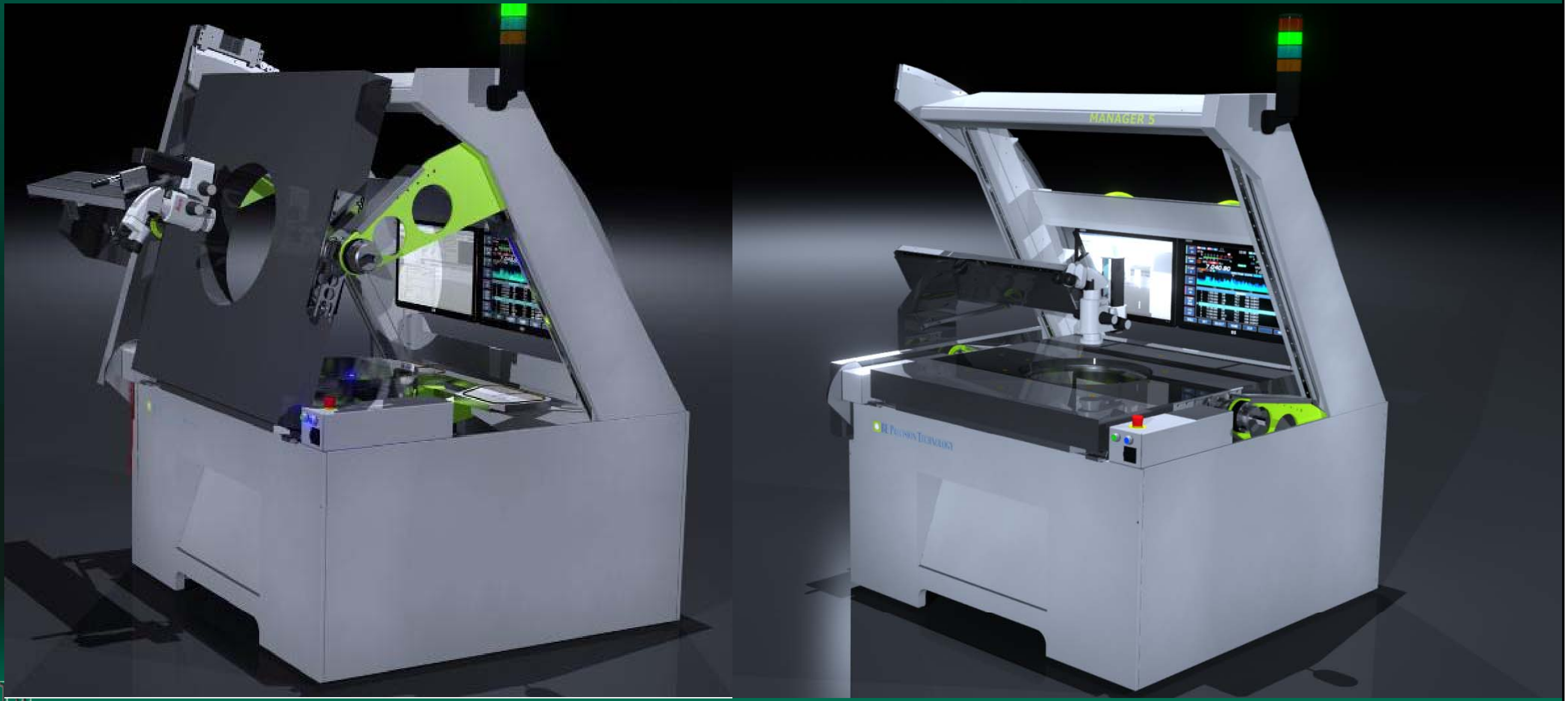


The facts of the M5

- *Z-force 600 kilo pressure*
- *Accuracy in Z 0.1 micron*
- *Alignement 0.1 micron*
- *Cres 10 Milli-ohm*
- *Leakage 0.1 Nano-Amp*
- *Motherboard size max. 1.2 meter*
- *Total max. probe pressure 600 kilogram force*
- *Channel count > 100K*

Options for repairs

- *Motorized flipping table*
- *Motorized microscope*

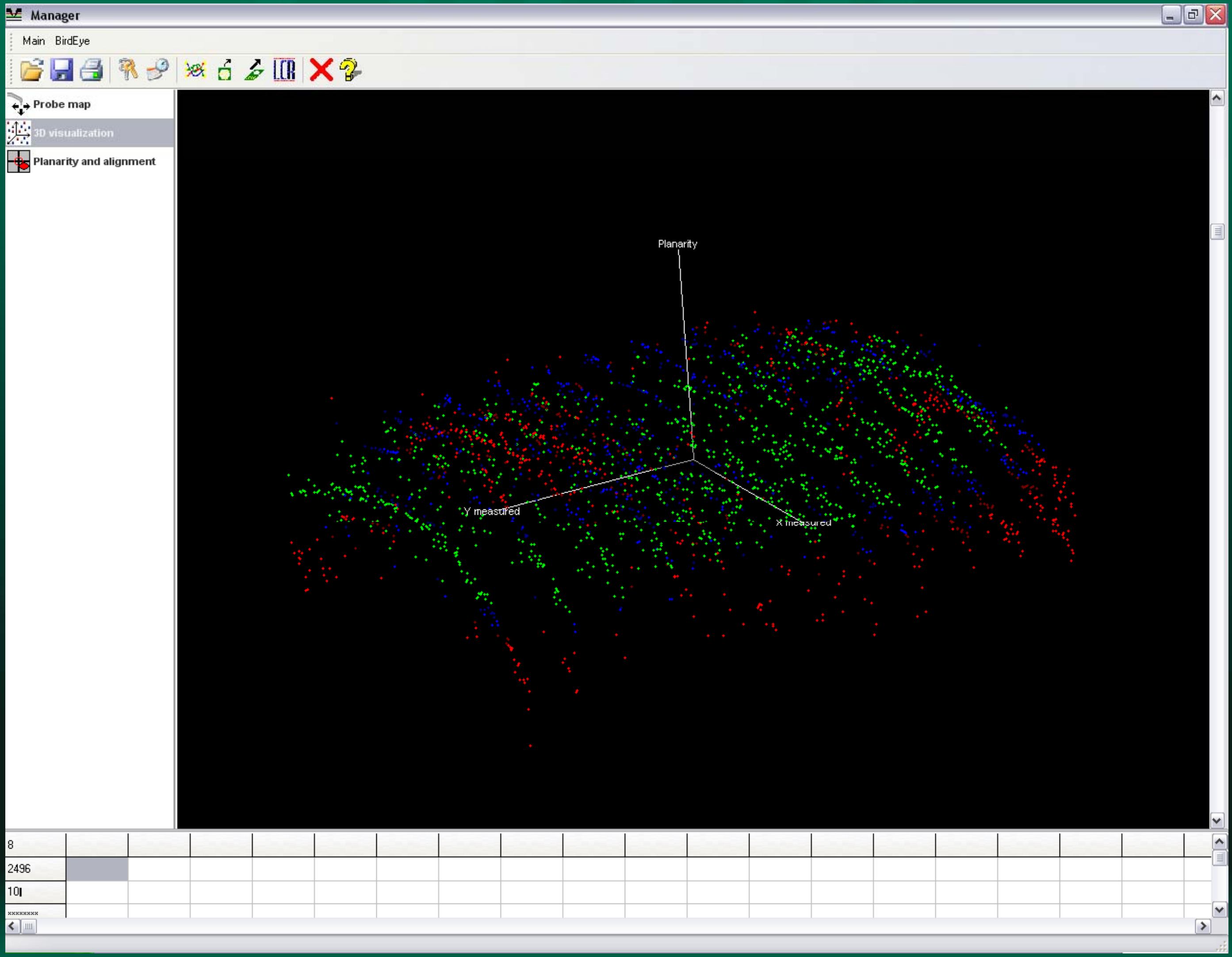


Features for analyzing

- *Optics for MEMS sample photo with resolution less then 0.5 micron*

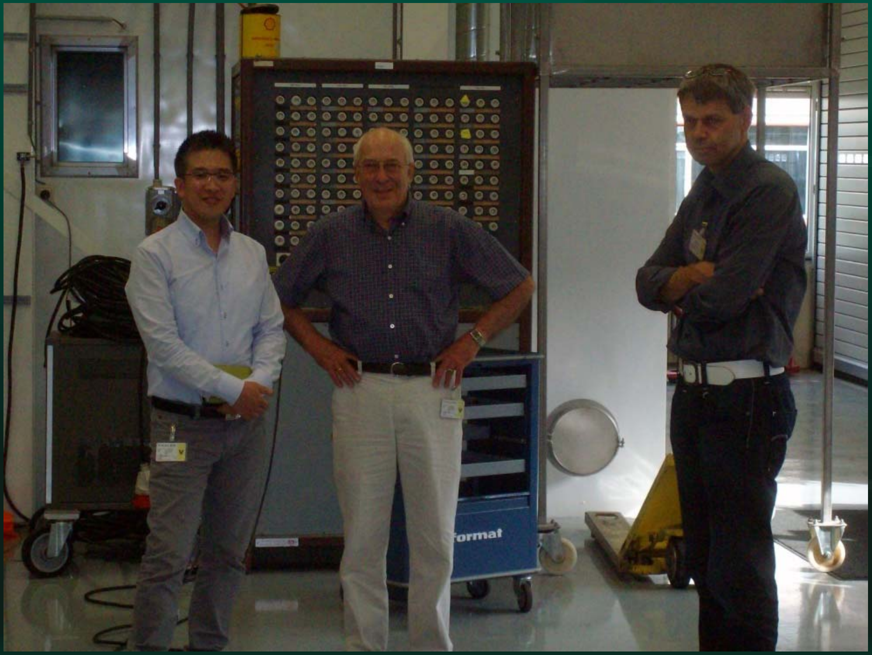
- *Dedicated Wave length*
- *Variable zoom optics*

3D-view op probe positions



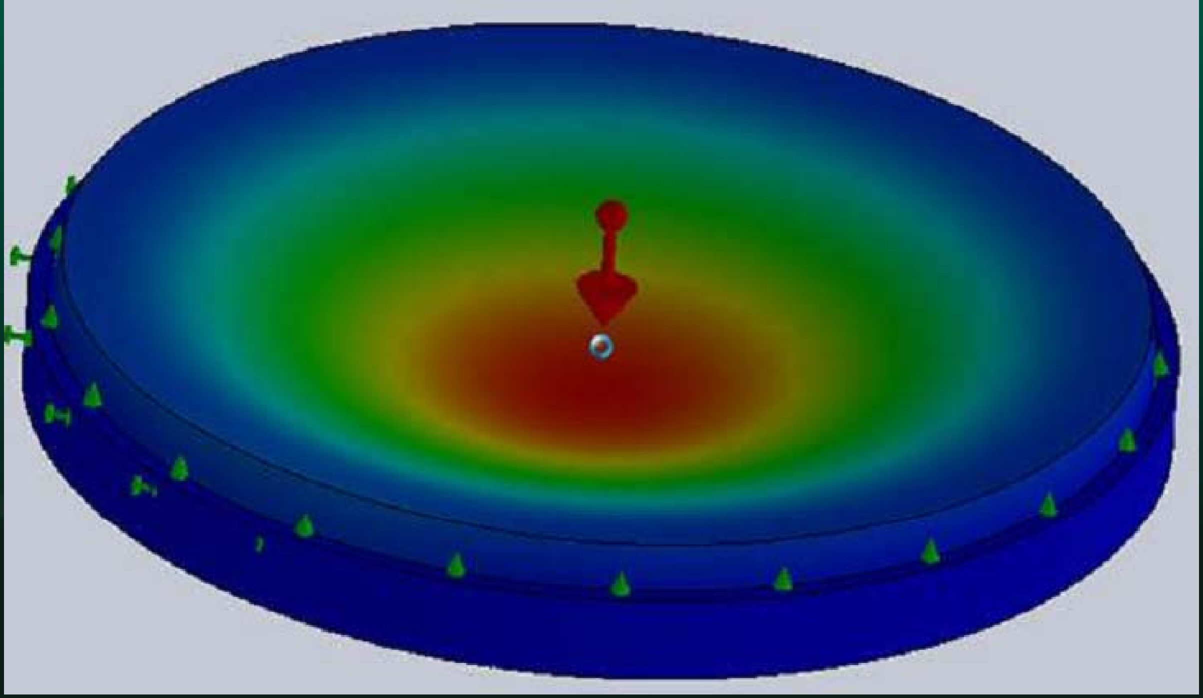
System under test

- ***Independant inspection of specs. with the customer at Thales Netherlands***



System deformation

- ***Glass plate for pressure measurement***

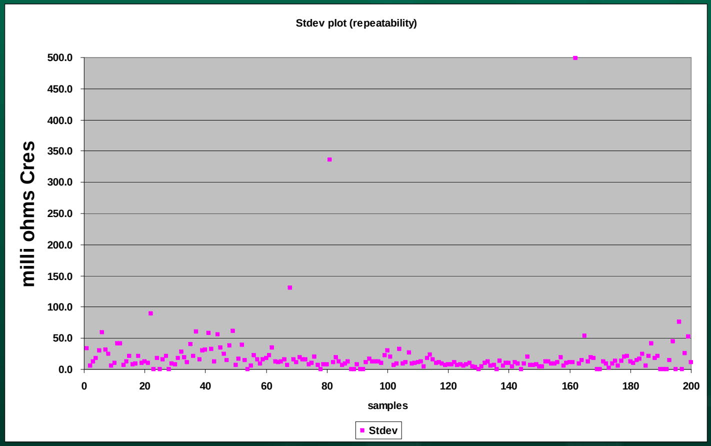


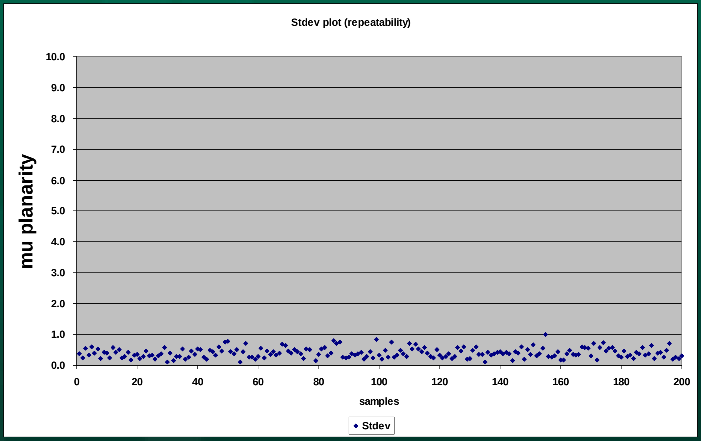
System deformation

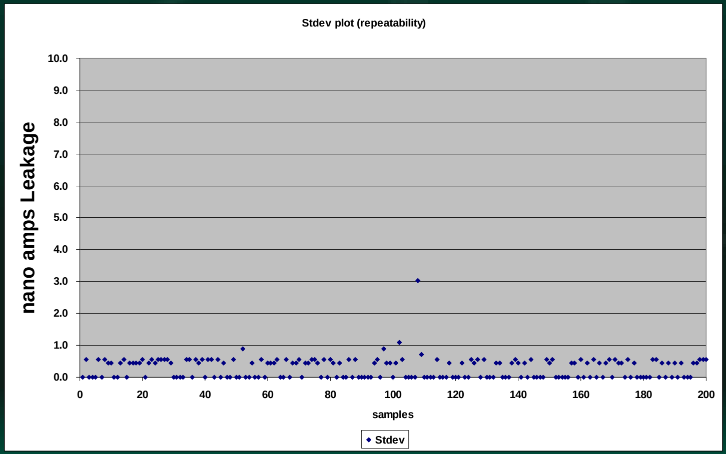
- ***Extreme high stiffness carbon flipping table***

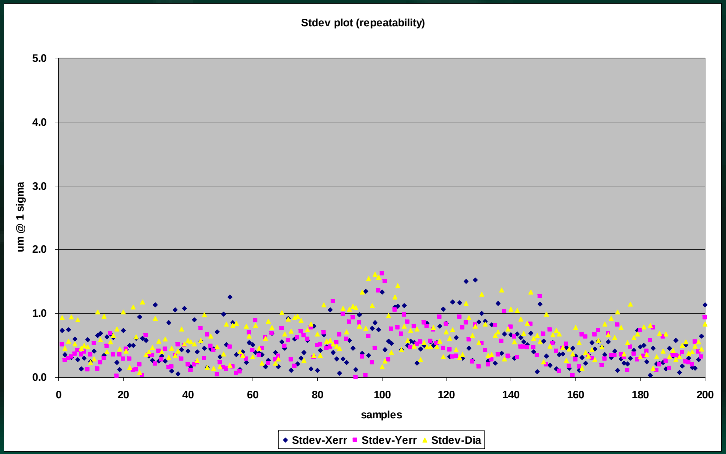
Repeatability

- ***Graphics of some measurement results***



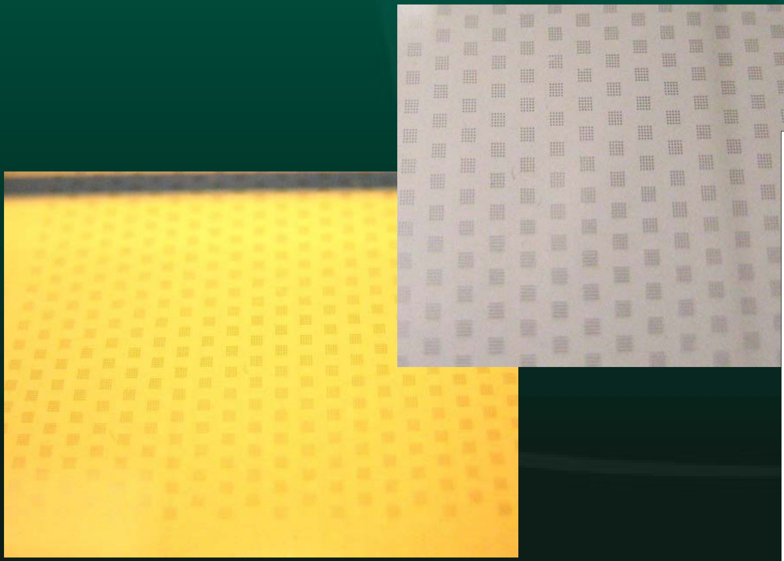


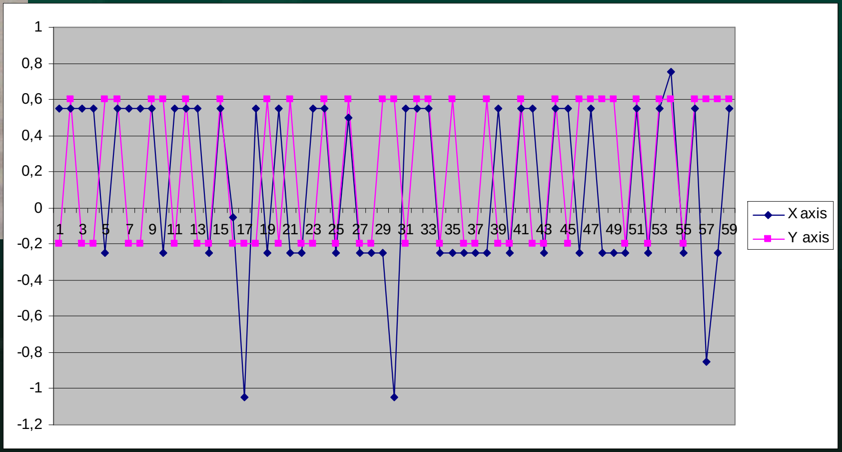




Absolute measurement

- ***Values measuring glass mask***



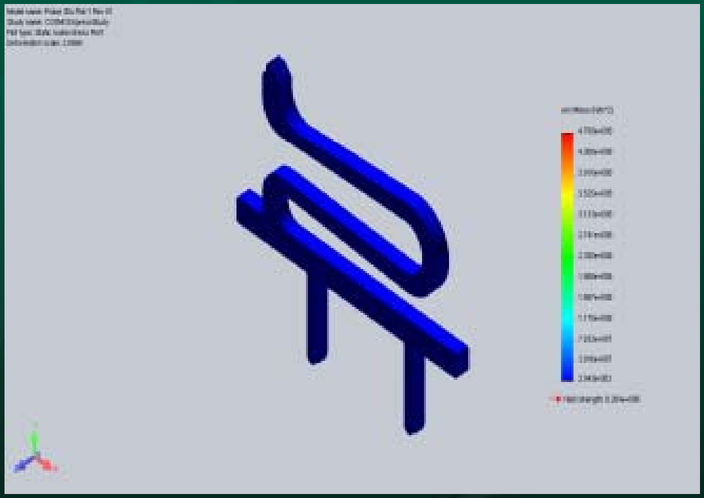


PROBE ARRAY™

In cooperation with for lending their probecard

"The M5 is an analyzer that can truly test our MEMS probe heads- Thanks BE"

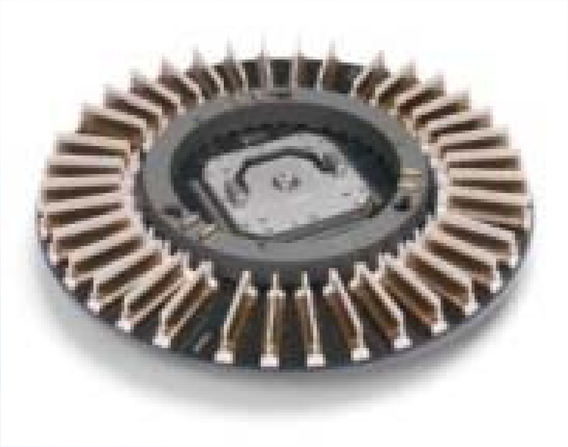
- **MEMS MicroBlade Probe**
    - Prefabricated & Assembled
    - Low Force (<2grams)
    - Long Life (>1,000,000 cycles)
    - Coaxial Matched Impedance
    - Replaceable in the field
- **MEMS Photolithographic Probe**
    - Mask Generated Arrays
    - Tiled Assembly
    - Carbon Nano Hook & Loop
    - Low Force (<2grams)
    - Long Life (>1,000,000 cycles)
    - Replaceable in the field

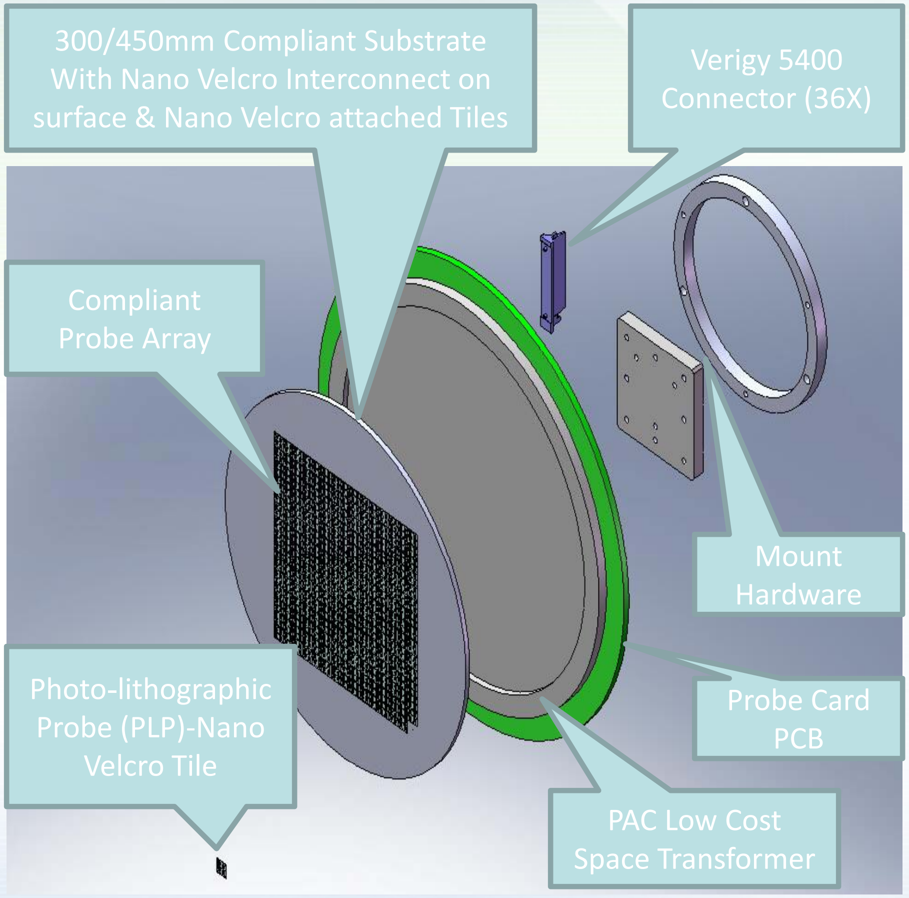


PROBE ARRAY™

Probe Card Assembly

Compliant 300 & 450mm Single Touchdown





300/450mm Compliant Substrate With Nano Velcro Interconnect on surface & Nano Velcro attached Tiles

Verigy 5400 Connector (36X)

Compliant Probe Array

Mount Hardware

Probe Card PCB

Photo-lithographic Probe (PLP)-Nano Velcro Tile

PAC Low Cost Space Transformer

System overview M5

- ***Fully dedicated system*** *(designed for 450 mm MEMS)*
- ***Speed*** *(direct rework and testing)*
- ***Channels*** *(over 100K)*
- ***Load*** *(over 600 kgf)*
- ***Protects your future investments*** *(300 mm mems and higher)*

Questions?