

Micronic Product Line



FLYING PROBE TESTERS
JOE GARCIA



Supplier of professional test solutions





MK2 – MK2 Plus

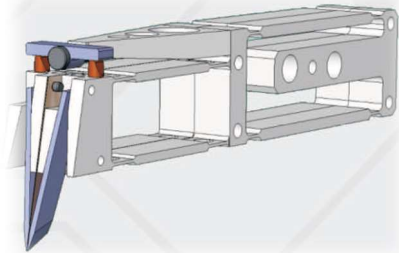


- 1000V High Voltage Test
- 10GH High Isolation Test
- Hi-Pot Test
- 4WK Kelvin Test
- *Minimum four-wire resistance low of 0.15mΩ*
- Buried Resistance Test / Buried Capacitance Test
- Micro network, super detection capability
- Work under WIN10 Operating System
- Granite Base
- Micro Short Detection Function (RSE)
- 6 million digital CCD (supports 4x zoom)
- Supports Industrial Code Reader
- Laser Marking Function
- Spark testing

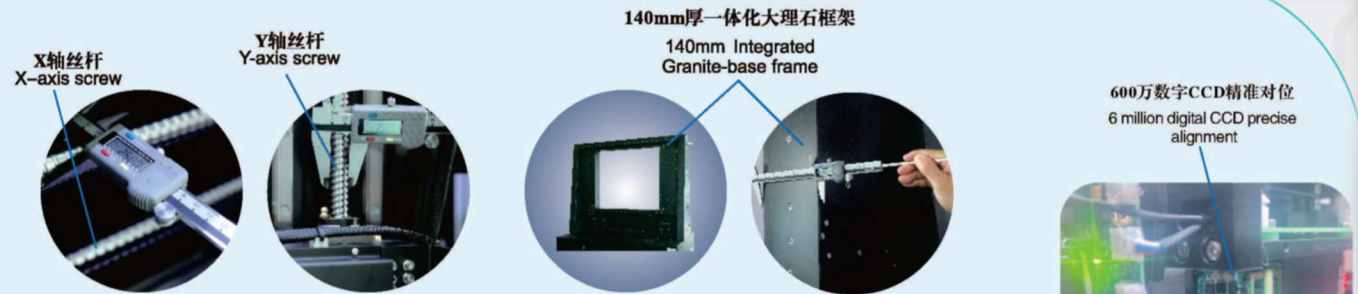


4 WIRE KELVIN INCLUDED

Four wire test probe structure diagram (Patent Design)



The test result of four wire low resistance is calculated using Ohm's law: $R=U/I$. When the resistance R_{pcb} we test is only in the milliohm level, the voltage generated at both ends of R_{pcb} is only in the microvolt level. Therefore, the larger the current I , the stronger the anti-interference ability, and the higher the accuracy and stability of the four wire test resistance value.



性能 Performance		Model 机型	MK2	MK2 Plus
测试面积 (x/y)	Test area (x/y)		610mm x 510mm	710mm x 610mm
最小测试面积	Min. test area		5mm x 5mm	5mm x 5mm
测试板厚度	Board thickness		0.2–6.0mm	0.2–6.0mm
最小焊盘尺寸(两线)	Min. pad size(2-wire)		50μm(2-wire)	50μm(2-wire)
最小焊盘间距	Min. pitch size		100μm	100μm
外形尺寸(长x宽x高)	Dimensions(L x W x H)		1760mm x 785mm x 2000mm	1860mm x 785mm x 2000mm
重量	Weight		1100kg	1200kg
探针压力	Probe pressure		5g(由压力感应控制) 5g(Controlled by pressure sensor)	
四线低阻测试功能	Four-wire test function		标配(最小阻值可测试0.15mΩ) Standard(The min. actual four-wire resistance accuracy low to 0.15mΩ)	
测试电压	Test voltage		10 – 1000V(可调, 软件自动切换) 10-1000V(Software adjustable)	





THE MK2 CAN BE CUSTOMIZED TO 2 DIFFERENT SIZE VERSIONS FOR LARGE AND EXTRA LARGE PANEL TESTING

Large size flying probe tester

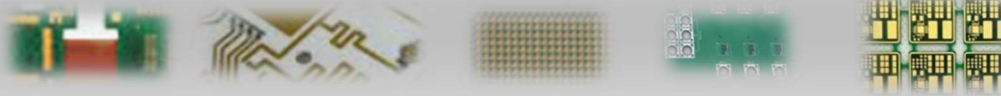
Customized special size available



- Flex board, rigid board, Flex-Rigid, Ceramic, Server board, Mini LED, Back Panels, 3D boards
- Multi Panel Test, Rotation test, Mirror Test
- Upgrades available:
 - 1000 Volt
 - Hi-Pot Test
 - MES
 - 4-wire Kelvin Test

High-speed and large size flying probe tester MK2-XXL
Test size:900mm x 600mm

High-precision and large size flying probe tester MK2-XXXL
Test size:1200mm x 800mm

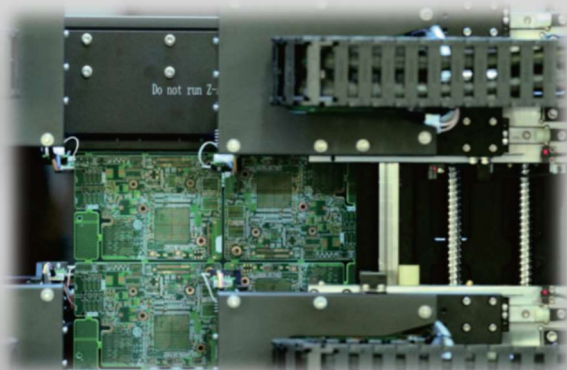
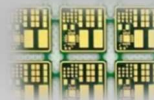


MK6 – MK6 Plus

The 8 probe head machine



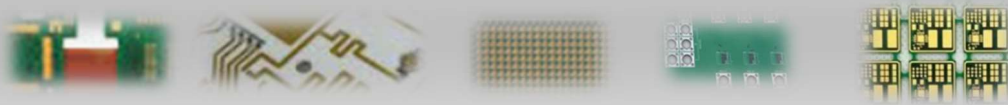
- 1000V High Voltage Test
- 4WK Kelvin Test
- *Minimum four-wire resistance low of 0.15mΩ*
- Buried Resistance Test / Buried Capacitance Test
- Micro network, super detection capability
- 28 axes built on Granite Base
- 4 heads each side reaching any location
- Dual X axis mechanism
- SOC control FPGA
- Modular Z axis design
- Octastar Software



TECHNICAL SPECS



性能 Performance	机型 Model	MK6	MK6 Plus
测试面积 (x/y) Test area (x/y)		610mmx510mm	710mm x 610mm
测试板厚度 Board thickness		0.2–6.0mm	0.2–6.0mm
最小焊盘尺寸(两线) Min. pad size(2-wire)		50µm(2-wire)	50µm(2-wire)
最小焊盘间距 Min. pitch size		100µm	100µm
外形尺寸(长x宽x高) Dimensions(L x W x H)		2120mm x 995mm x 1910mm	2320mm x 1240mm x 2010mm
重量 Weight		1600kg	1700kg
探针压力 Probe pressure		5g(由压力感应控制) 5g(Controlled by pressure sensor)	
四线低阻测试功能 Four-wire test function		标配(最小阻值可测试0.15mΩ) Standard(The min. actual four-wire resistance accuracy low to 0.15mΩ)	
测试电压 Test voltage		10 – 1000V(可调, 软件自动切换) 10-1000V(Software adjustable)	

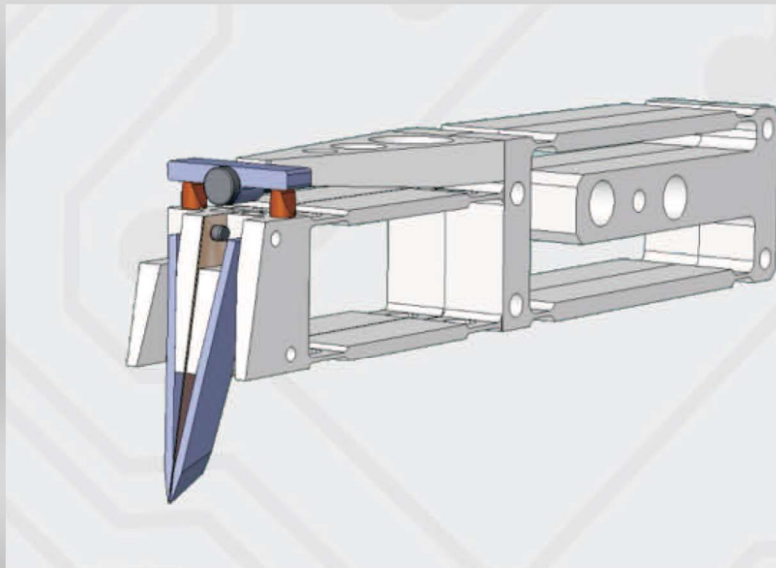


4 WIRE-KELVIN SPECIFICATIONS

TEST TYPE	TEST RANGE	RESOLUTION	CURRENT
Low Resistance test	0.15mΩ	0.001mΩ	210-1100 mA
Buried Resistance test	2Ω - 1MΩ	0.5Ω	0.1 – 100 mA

Four-wire test probe structure diagram (Patent Design)

Four-wire test waveform

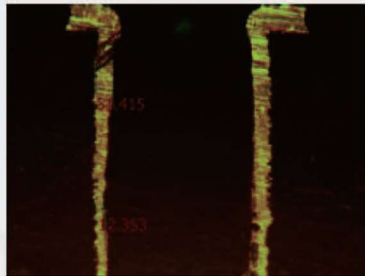




Four-wire low resistance test examples

Hidden Problem!!

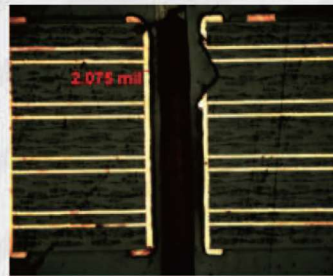
Thin copper in holes



Thin Copper can happen from Etching

Measured	Standard	Deviation
2.1mΩ	1.8mΩ	0.3mΩ

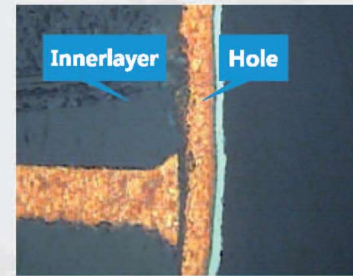
Air Hole in Copper



Normal Electrical Test can't find such problem from the small Deviation

Measured	Standard	Deviation
3.61mΩ	2.6mΩ	1.01mΩ

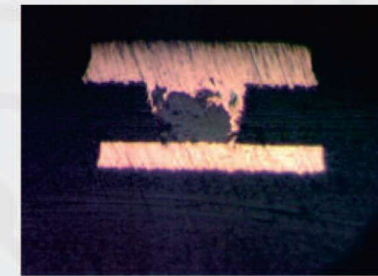
Hole separates with Innerlayer



Improper de-smears process after Drilling

Measured	Standard	Deviation
23.8mΩ	2.3mΩ	21.5mΩ

Smear in Blind via

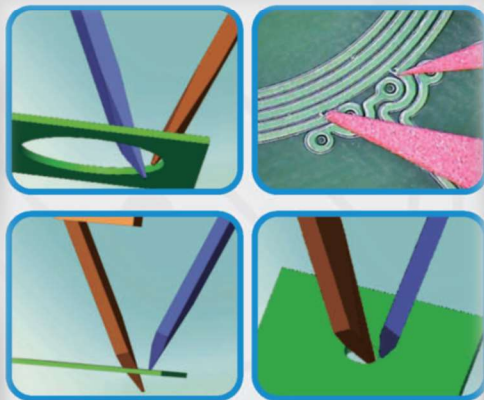
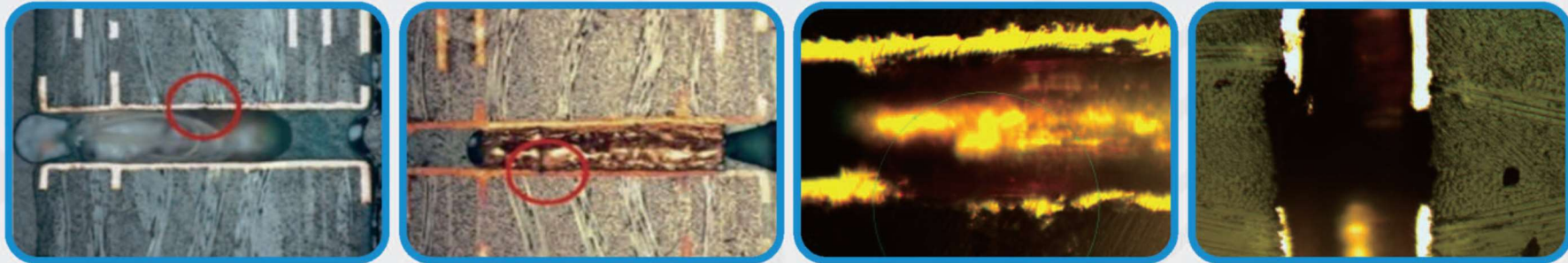


Improper de-smears process

Measured	Standard	Deviation
95.36mΩ	13.3mΩ	82.06mΩ



- Cover the shortage of traditional O/S test to measure the specific resistance of line
- Micro - Open
- Thinner track/line (Over-etching)
- Bad Plating for the copper hole causing thinner inner ring or hole crack



4-wire low resistance test capabilities

Test speed: MAX.1300 holes / min.

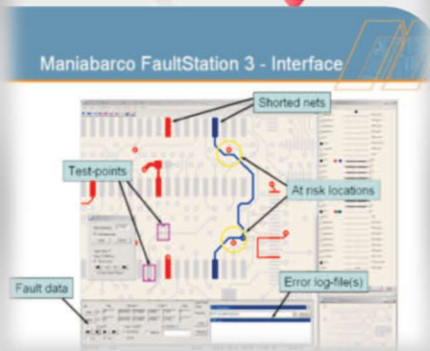
Range of continuity resistance measurement **0.1mΩ-35Ω**

Resolution of resistance measurement: **0.001mΩ = 1μΩ**

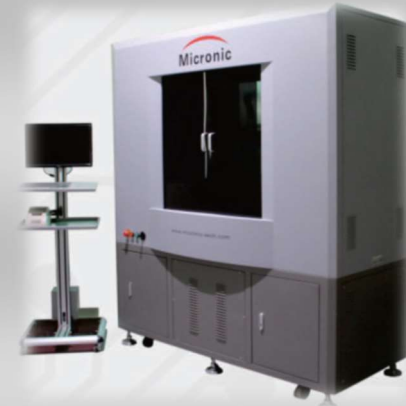
Test current: 800mA



NG PCB data collection on grid tester



TFI - TEST FLOOR INTEGRATION



NG test points transfer and display on fault-staton

Verification on flying probe tester



Industrial code reader for automatic reading/barcode scanning or manual input

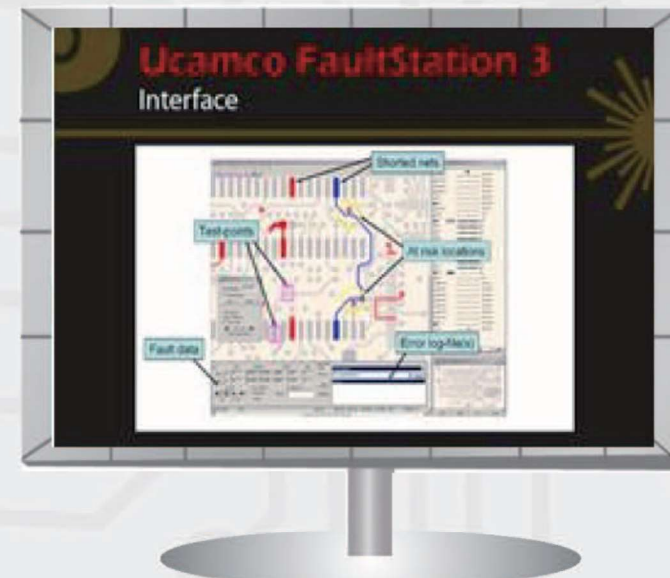


CAM and Fault station software

CAM processing software specifically developed for the Micronic flying needle testing machine, capable of outputting MNF/IPC-D-356/ATG format/EMMA format/Hioki flying needle testing machine data.



Ucam-micronic Seat



Faultstation 3



Micronic Overseas SLU
C/Ponent 8 – 08188 – Vallromanes
Barcelona – Spain
joe@micronic-tech.com

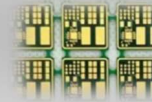


Shirai

ProCircuito

HT HYUNDAI TECH

Micronic has been engrossed in forming a competitive working team for creating a “Community of Destiny”. Great effort is put in place to support our sales agents for broadening the range of co-operation and win-win situation amongst customers. As a result, Micronic is in possession of a strong and efficient global marketing team.



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C/Ponent 8 – 08188 – Vallromanes
Barcelona – Spain
joe@micronic-tech.com

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