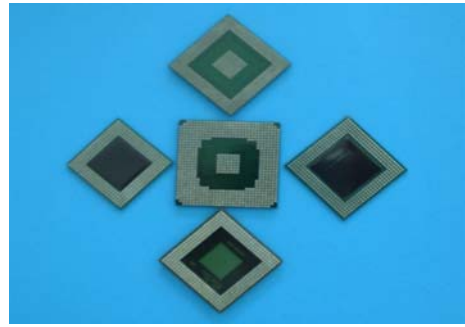


# BGA REBALLING



## **CUSTOMER VERIFICATION**

Our customers have qualified our re-ball BGA based on the following tests:

### **Solder ability Test**

- Our BGA has passed customer tests on specially designed testers and sockets to confirm the solder ability of the joints.

### **Complete Functionality Test**

- Our tested BGA has also been attached to the motherboard and passed a complete testing route begins from ATE, SIT and finally the FQA tester.

### **Reliability Test**

- Temperature Cycling Test
- Humidity Test
- Vibration Test
- Drop Test

•Note: All tests follow IPC standard.

## **REMOVAL & REATTACHMENT PROCESS**

### **SRT Machine For Removal & Reattachment Process**

- Removal of BGA and Micro BGA from PCB.
- Reattachment of BGA and Micro BGA to PCB.

## **OUR CAPABILITY**

- Remove all types of BGA and Micro BGA from PCB.
- Re-balling all types of BGA & Micro BGA. The smallest size is as below:
  - i) Package size: 10x7 mm
  - ii) Ball size: 0.3 mm
  - iii) Pitch: 0.5 mm
- Reattach all types of BGA and Micro BGA to PCB.

## **ADVANTAGES OF RE-BALLING BGA**

### **Cost Saving**

- Save up to 90~95% of the BGA cost (Re-balling cost will be 5~10% of new BGA cost).
- Reduce material inventory that can save millions of dollars in a year
- Shorter turn around time that can save operating cost and ensure on time delivery



### Technical Aspect/Reliability for BGA after re-balling

- The shape and array are exactly similar to new package of BGA.
- Mechanical strength and stability similar to new package of BGA.
- Dimensional uniformity, required volume, height and diameter similar to new package of BGA.
- Electrical conductivity similar to new package of BGA.
- Chemical and metallurgical stability, corrosion resistance and wet ability similar to new package of BGA.
- Experienced Engineering & Quality task force and well-trained operators to handle the re-balling work in order to assure the quality and reliability of BGA.

### **EQUIPMENT/MACHINERY LIST**

<b>Item</b>	<b>Equipment/Machinery</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Country</b>	<b>Qty (Unit)</b>
1	ESD Control Rework System	METCAL	METCAL STSS-PS2V-02	USA	2
2	ESD Control Rework System	METCAL	METCAL MX-500P	USA	1
3	Fume Extractor	XYTRONIC	XYTRONIC 426	Taiwan	3
4	Manual Printer	ATMA	ATMA	Taiwan	2
5	Flux Paste/Solder Ball Height Measurement	LSM	LSM	USA	1
6	Re-Balling Machine	CHIN YUANG FU	BU-500	Taiwan	1
7	Re-Balling Machine	JIT	JT-600	Customized	2
8	Hot Air Reflow Oven (8 zones with Nitrogen Capability)	VITRONICS	SMR-800	USA	1
9	Push-Pull Gauge	AIKOH	ANF-200	Japan	1
10	BGA Rework Station	SRT	TK-C1380U	Japan	1
11	BGA Rework Station	FONTON	FONTON 935	Taiwan	1
12	SMD Desolder & Solder Machine	FONTON	FONTON 9206	Taiwan	1
13	Baking Oven	DESPATCH	DESPATCH	USA	1
14	Thermo Shock Oven	THERMOTRON	THERMOTRON	USA	1
15	Digital Multimeter	SANWA	SANWA CD800	Japan	1
16	Desiccators (Nitrogen Capability)	TERRA UNIVERSAL	TERRA UNIVERSAL	USA	1
17	Humidity Control Chamber	SUNPOD	S038	Japan	1
18	Magnifying Lens (3X)	RAX VISION	RAX VISION	USA	1
19	Microscope (10X)	RAX VISION	RAX VISION	USA	1
20	Vacuum Sealer	PIAB	SF-450	Sweden	1
21	Digital Temperature & Humidity Meter	CENTURY CONCEPT	CENTURY CONCEPT	Japan	1
22	ESD Grounding Tester	DESCO	A98150	USA	1



## PROCESS FLOW:

- \* Raw Material
- \* IQA & QA Inspection Report (Format PR-03)
- \* Baking Oven (125°C,4hrs)
- \* Solder wick (2.0mm)
- \* Flux "Kester" type 186
- \* Metcal Soldering station with ESD temp. (350°C+ - 20°C)
- \* IPA
- \* Baking Oven (125°C,24hrs)
- \* Flux "Kester" type 186
- \* Reballing Machine (BU-500, JT-600)
- \* Hot Air Reflow Oven ( 8 zones )
- \* Profile will be set amounting to different products. (Daily profile record)
- \* Manual Inspection with 10X magnifying lens.
- \* Operator with ESD Control.
- \* QA Sample Size MILSTD 105E, AQL Level II 0.65%
- \* Shear Test (2.5kg force +/- 0.25kg)
- \* Baking Oven (125°C,4hrs)
- \* Vaccuum Sealer Machine.
- \* Anti-Static Bag with Silicagel

