Working Instruction, Electrical

Applicable for K790, K800

Contents

1 Moisture Sensitivity and Component Baking

Some components in this product are moisture sensitive and must be baked prior to use if they have been exposed to air. These components and their moisture sensitivity levels are specified in the Electrical Component Placing document. Below is a brief description of moisture sensitivity levels, but repair centers should visit the JEDEC website for more details before reworking moisture sensitive components. Search for the most recent version of the IPC/JEDEC J-STD-033A standard online at http://www.jedec.org/

Level 1 **unlimited floor life**; does not require dry pack or re-baking.

Level 2 **1 year floor life**; </=30° C; 60% relative humidity (rh); shipped in dry pack; must be re-baked after being opened if floor life is exceeded.

Level 2A **4 weeks floor life**; </=30° C; 60% rh; shipped in dry pack; must be re-baked after being opened if floor life is exceeded.

Level 3 **168 hours floor life**; </=30° C; 60% rh; shipped in dry pack; must be re-baked after being opened if floor life is exceeded.

Level 4 **72 hours floor life**; </=30° C; 60% rh; shipped in dry pack; must be re-baked after being opened if floor life is exceeded.

Parts shipped from the Sony Ericsson Parts Warehouse are most likely NOT shipped in dry pack. This means the time elapsed between placing the order and receiving the parts must be considered as time exposed to the environment.

Different moisture sensitivity levels and exposure times create the need for different baking temperatures and times. More detailed information may be found in the most recent version of the IPC/JEDEC J-STD-033A standard. The standard is available online at http://www.jedec.org/.

2 Lead-free Rework

2.1 Lead-free Symbol

NOTE!

- This is a lead-free product!
- All solder wire or paste used with this product must be lead-free.
- All rework tools that directly contact the solder must remain lead-free. They must only be used for lead-free repairs.

2.2 Hot air gun temperature requirements

The air temperature shall not exceed 360°C. The temperature shall be measured 5 mm from the nozzle outlet.
If it's not possible to remove and/ or solder with 360°C a BGA Rework Station or another repair process shall be considered to ensure high process control.

Too high temperature can cause damage and cracks due to thermal stress on sensitive components, e.g. ceramic components like capacitors.

2.3 Soldering tip temperature requirements

The soldering tip temperature shall be minimum 310°C and maximum 360°C.

Too high temperature can cause damage and cracks due to thermal stress on sensitive components, e.g. ceramic components like capacitors.

2.4 Bottom heat requirements

In the chapter 8 "Replacement of components" there are components which require to us a bottom heater during repair to pre-heat the board and to level out the ΔT on the PBA. It will also minimize thermal stress.

The temperature on the PBA surface shall not exceed 150°C to minimize inter-metallic growth and thermal stress on PWB.

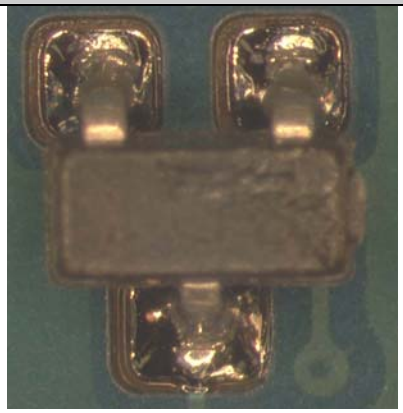
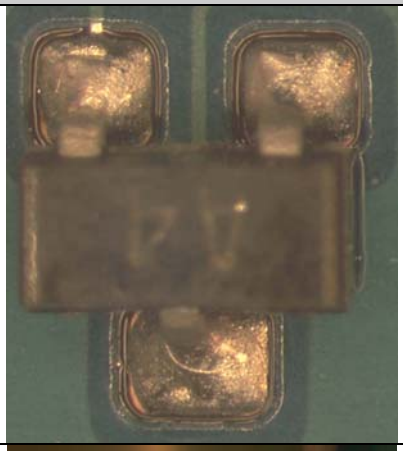
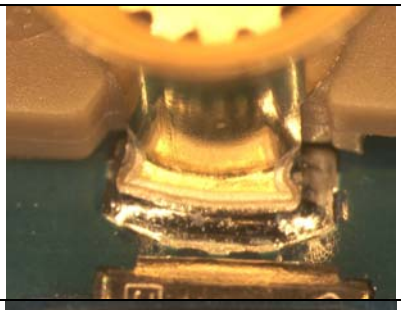
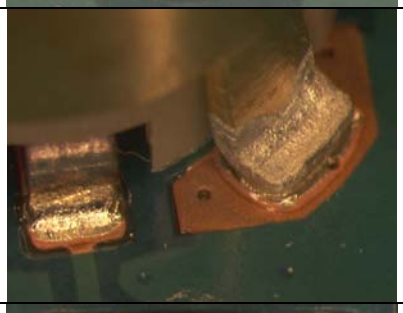
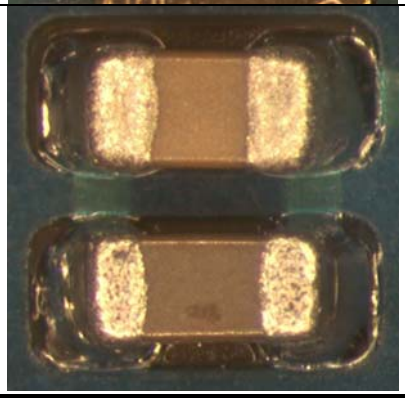
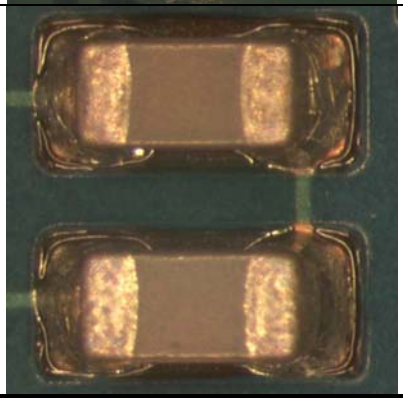
2.5 BGA rework specifications

For all components that is required to be replaced by using BGA Rework Station follow Technical Requirement, Generic document, Space ID:1207-2949 and

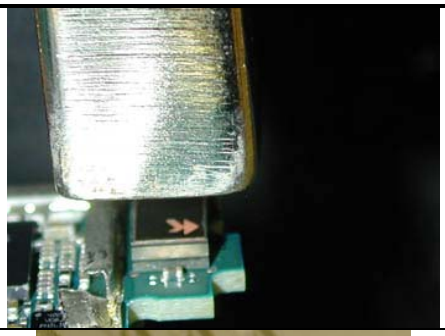
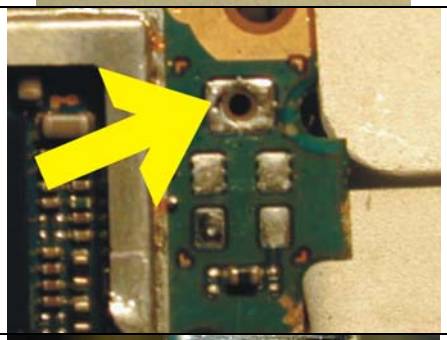
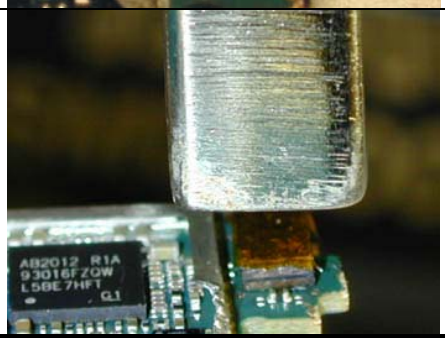
Heat treatment document Space ID: 1208-1916

2.6 Inspection

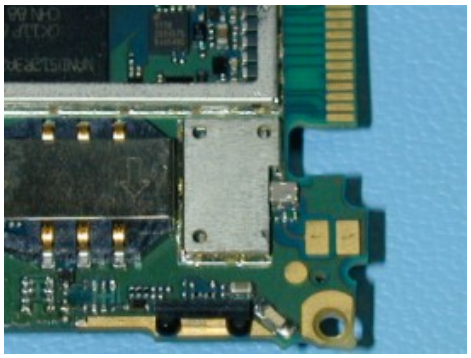
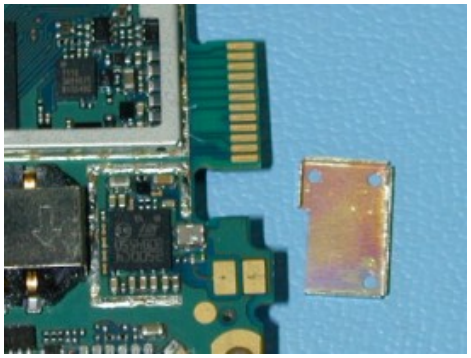
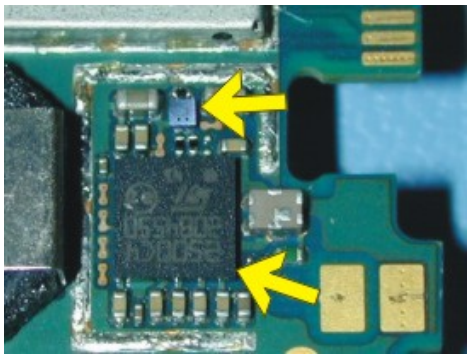
Lead-free solder joints are more difficult to inspect because they do not have shiny surfaces like leaded solder joints. Also, lead-free solder does not flow as well as leaded solder, so some of the solder pad area may remain exposed.

Good Leaded Solder Joints	Good Lead-free Solder Joints
	
	
	

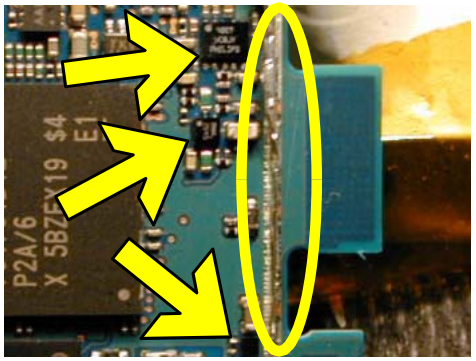
3 B4100

Use a hot air device to remove the old part.	
Apply a small piece of heat resistant tape to the top of the new part.	
Make sure the sound hole is clean.	
Use a hot air device to place the new part. **NOTE: Use as little flux as possible to place the new part. Make sure flux does not get into the sound hole.**	

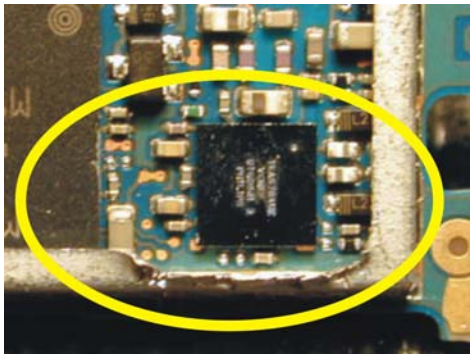
4 D1400, N2204

Use large hot air device to remove the shield and gain access to the parts.	  

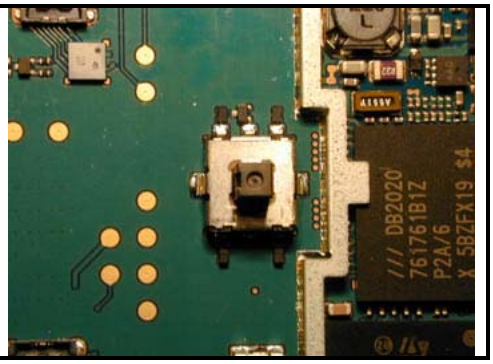
5 N2203, N4100, N4202

Cut the edge of the fence to gain access to the part.	

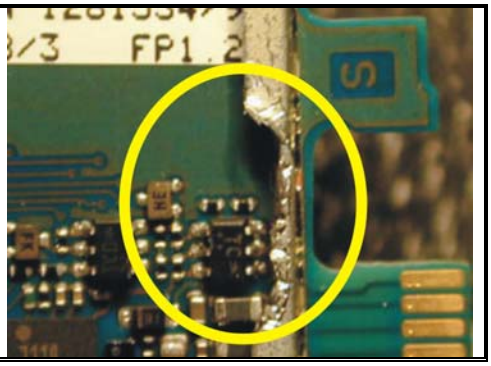
6 N2600

Cut the edge of the fence to gain access to the part.	

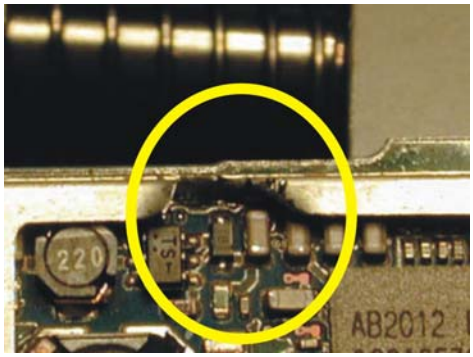
7 S2504

NOTE: Use as little flux as possible to place the new part. Make sure the flux stays only on the pads. If flux gets inside the part, it will cause the switch to fail.	

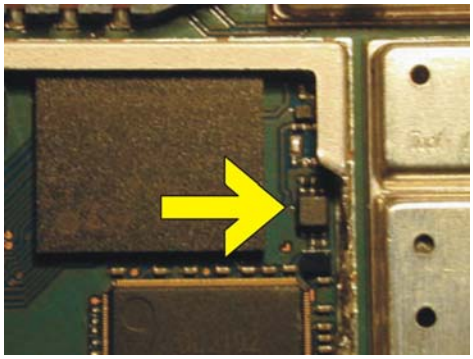
8 V2220

Cut the edge of the fence to gain access to the part.	

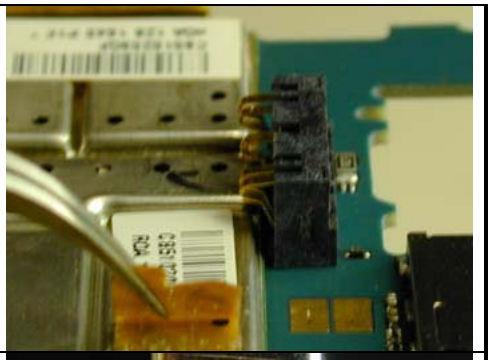
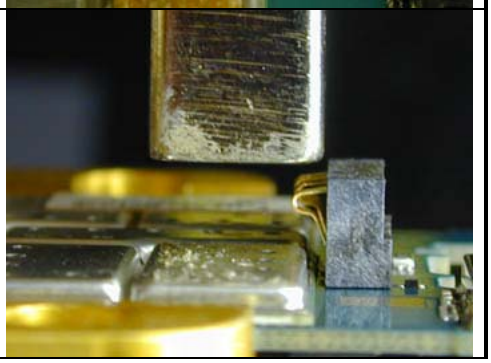
9 V3102

Cut the edge of the fence to gain access to the part.	

10 V3103 – K800 ONLY

Cut the edge of the fence to gain access to the part. This part is located in a different place on the K790.	

11 X2200

Remove the label from the part in from of X2200.	
Position the hot air nozzle in front of the part instead of over it.	

12 Revision History

Rev.	Date	Changes / Comments
A	2006-June-06	Initial Release
B	2006-July- 17	Added support for K790
C	2006-Sep-01	Added D1400 and N2204
4	2008-01-24	BGA rework specifications added in Chapter 1