

SERVICE MANUAL
Level 1&2

NOKIA

5250

RM-684



Transceiver characteristics

Band:

Quad band GSM : 850/900/1800/1900

Display:

LCM: 16.7M color support, resolution is 640 x 360

Camera:

Camera: 2.0 megapixel, 10x digital zoom

Operating System:

Symbian V5

Connections:

Wireless: Bluetooth

Connector: Wired: Micro USB

Memory:

Internal Memory: total 150MB (59.5MB for end user)

External Memory: Micro SD (up to 16GB)

Talk time	Standby
Up to 7 hours	Up to 420 hours

Note: Talk times are dependant on network parameter settings.

Table of Contents

1.	CHANGE HISTORY.....	3
2.	COPYRIGHT	4
3.	WARNINGS AND CAUTIONS	5
4.	ESD PROTECTION.....	6
5.	CARE AND MAINTENANCE.....	7
6.	BATTERY INFORMATION	8
7.	EXPLODED VIEW.....	9
8.	LEVEL 2 SOLDER COMPONENTS list.....	10
9.	SERVICE DEVICES	11
10.	SW-UPDATE.....	12
11.	DISASSEMBLY INSTRUCTION	13
12.	ASSEMBLY INSTRUCTION.....	23
13.	SOLDER COMPONENTS.....	30

1. CHANGE HISTORY

Status	Version No.	Date	Comments
Published	V 2.0	23.8.2010	

The purpose of this document is to help NOKIA service levels 1 and 2 workshop technicians to carry out service to NOKIA products. This Service Manual is to be used only by authorized NOKIA service suppliers, and the content of it is confidential. Please note that NOKIA provides also other guidance documents (e.g. Service Bulletins) for service suppliers, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist.

If you find any errors or if you have further suggestions, please notify NOKIA using the address below:

Nokia Care Academy

Mail to: service.manuals@nokia.com

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

2. COPYRIGHT

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The availability of particular products may vary by region.

IMPORTANT

This document is intended for use by qualified service personnel only.

3. WARNINGS AND CAUTIONS

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

3.1 Warnings

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES, EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

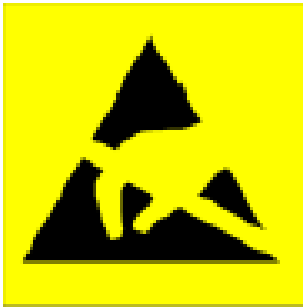
3.2 Cautions

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
3. Use only approved components as specified in the parts list.
4. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly.

4. ESD PROTECTION

Nokia requires that service points have sufficient ESD protection (against static electricity) when servicing the phone.

Any product of which the covers are removed must be handled with ESD protection. The SIM card can be replaced without ESD protection if the product is otherwise ready for use.



To replace the covers ESD protection must be applied.

All electronic parts of the product are susceptible to ESD. Resistors, too, can be damaged by static electricity discharge.

All ESD sensitive parts must be packed in metalized protective bags during shipping and handling outside any ESD Protected Area (EPA).

Every repair action involving opening the product or handling the product components must be done under ESD protection.

ESD protected spare part packages **MUST NOT** be opened/closed out of an ESD Protected Area.

For more information and local requirements about ESD protection and ESD Protected Area, contact your local Nokia After Market Services representative.

5. CARE AND MAINTENANCE

This product is of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years.

- Keep the phone and all its parts and accessories out of the reach of small children.
- Keep the phone dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the phone in dusty, dirty areas. Its moving parts can be damaged.
- Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the phone in cold areas. When it warms up (to its normal temperature), moisture can form inside, which may damage electronic circuit boards.
- Do not drop, knock or shake the phone. Rough handling can break internal circuit boards.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the phone.
- Do not paint the phone. Paint can clog the moving parts and prevent proper operation.
- Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications or attachments could damage the phone and may violate regulations governing radio devices.

All of the above suggestions apply equally to the product, battery, charger or any accessory.

6. BATTERY INFORMATION

Note: A new battery's full performance is achieved only after two or three complete charge and discharge cycles! The battery can be charged and discharged hundreds of times but it will eventually wear out.

When the operating time (talk-time and standby time) is noticeably shorter than normal, it is time to buy a new battery. Use only batteries approved by the phone manufacturer and recharge the battery only with the chargers approved by the manufacturer.

Unplug the charger when not in use. Do not leave the battery connected to a charger for longer than a week, since overcharging may shorten its lifetime.

If left unused a fully charged battery will discharge itself over time. Temperature extremes can affect the ability of your battery to charge.

For good operation times with Ni-Cd/NiMH batteries, discharge the battery from time to time by leaving the product switched on until it turns itself off (or by using the battery discharge facility of any approved accessory available for the product).

Do not attempt to discharge the battery by any other means. Use the battery only for its intended purpose.

Never use any charger or battery which is damaged.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery) for example when you carry a spare battery in your pocket or purse. Short-circuiting the terminals may damage the battery or the connecting object.

Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

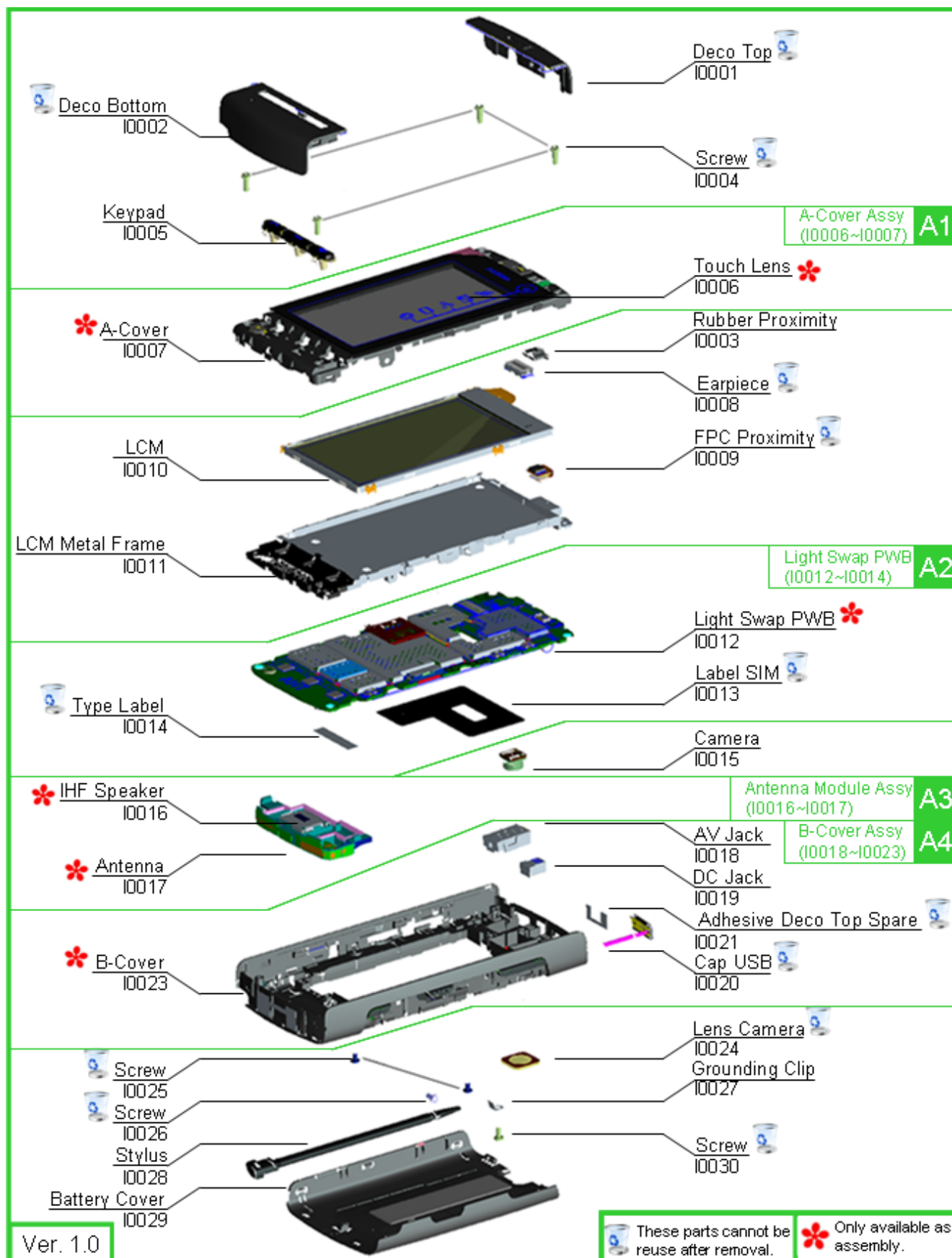
A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged.

Batteries' performance is particularly limited in temperatures well below freezing.

Do not dispose batteries in a fire! Dispose of batteries according to local regulations (e.g. recycling).

Do not dispose as household waste.

7. EXPLODED VIEW



8. LEVEL 2 SOLDER COMPONENTS list

ITEM/ CIRCUIT REF.	QTY	CODE	SPARE PART DESCRIPTION	LEVEL
V2303	1	8002295	LED_WHITE	2
V2304	1	8002296	LED_GREEN_-40~85°C_1.6*0.8*0.4_19-217/GHC	2
V2302	1	8002294	LED_RED_Top_1.6*0.8*0.4mm	2
X2470	1	8002297	50 Pin connector socket	2
X5040	1	8002300	CONN_BTBT_Socket_10PIN_4.7*3.6*1.45mm	2
X2502	1	8002299	CONN_Slide Switch_4PIN_13.2*6.4*4.5mm	2
X2450	1	5469334	CONN_BTBT_Socket_10PIN_4.2*4.6*0.9mm	2
X7401	1	6442619	Spring_Antenna_3.7*1.5*2.6_CLN	2
X6000	1	6443094	Spring_BT_3*1.5*1.45_CLN	2
X2500, X2501,X2503	3	8002298	CONN_Switch Sidekey_5PIN_2.9*3.5*1.35mm	2
F2000	1	5119045	SM FUSE FF 2A 32V 0402	2

9. SERVICE DEVICES

 <p>CA-101</p>	 <p>SS-88</p>	 <p>RJ-230</p>
<p>CA-101 Data Service Cable Service Cable to connect the PC with the Micro USB connector.</p>	<p>SS-88 Camera removal tool This tool is used for unload the camera module from socket</p>	<p>RJ-230 Soldering Jig This tool is used for PWB component de-soldering and soldering.</p>
 <p>AC-3E</p>		 <p>NOKIA Standard Toolkit V2</p>
<p>Travel Charger AC-3E Small and lightweight charger for fast charging of your phone battery.</p>	<p>Internal Battery BL-4D Inserted under the back cover, this Li-Ion battery provides power in a sales package.</p>	<p>Nokia Standard Toolkit V2 For more information refer to the Service Bulletin (SB-011) on NOKIA Online. Supplier or manufacturer contacts for tool re-order can be found in "Recommended service equipment" document on NOKIA Online.</p>

10. SW-UPDATE

Flash Concept – (Point of Sales)

Please check always for the latest version of flash software, which is available on NOKIA Online.



For detailed flashing instruction, please refer to Nokia Care Suite Store version user manual.

Note: The service software used for flashing this product is Nokia Care Suite. The correct name for the store application in Care Suite is "Product Support Tool for Store"

11. DISASSEMBLY INSTRUCTION



1. Nokia 5250 disassembly.



2. You will need the Nokia Standard Toolkit version 2 as shown and camera removal tool SS-88.



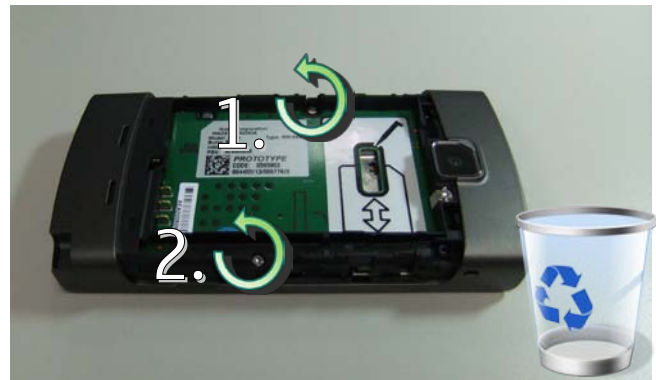
3. First remove the STYLUS.



4. Use the opening notch to release the BATTERY COVER.



5. Remove the BATTERY COVER. If there is a battery inserted, remove it as well.



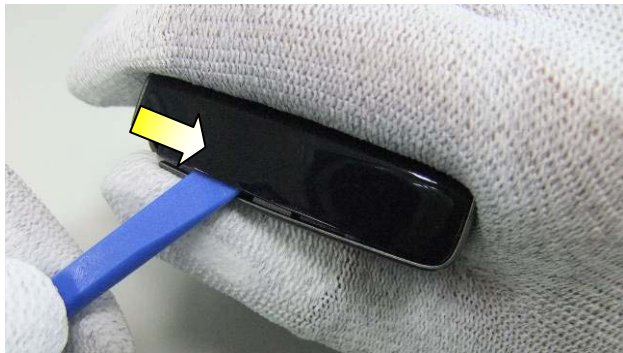
6. Unscrew the two TORX+ size 5 screws in order as shown. Remove them with the tweezers.



7. Unscrew the TORX+ size 5 screw at the side as shown. Remove it with the tweezers.



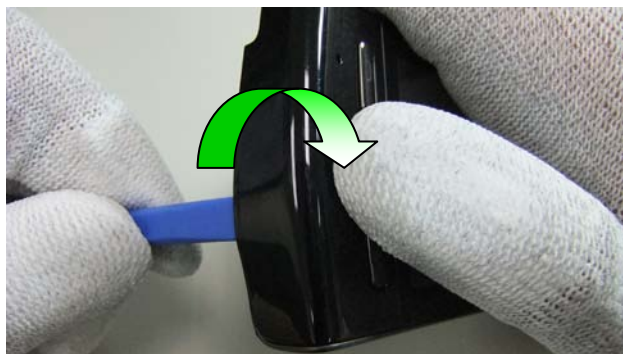
8. To remove the BOTTOM DECO, first insert the SS-93 into the gap between the BOTTOM DECO and B-COVER ASSY as shown.



9. Slide the SS-93 between the BOTTOM DECO and B-COVER ASSY as shown till encountering an obstacle.



10. Re-insert the SS-93 as shown.



11. Turn over the SS-93 to separate the BOTTOM DECO and the B-COVER ASSY.



12. Remove the remaining adhesive on A-COVER ASSY.



13. The BOTTOM DECO can now be separated. The above operations will damage the BOTTOM DECO. Do not use it again. Discard it.



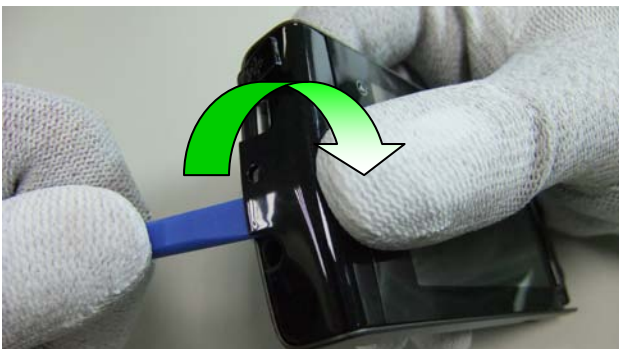
14. To remove the TOP DECO, first detach the USB cap.



15. And then insert the SS-93 into the gap between the TOP DECO and B-COVER ASSY as shown.



16. Slide the SS-93 between the TOP DECO and B-COVER ASSY as shown.



17. Turn over the SS-93 to separate the TOP DECO and the B-COVER ASSY.



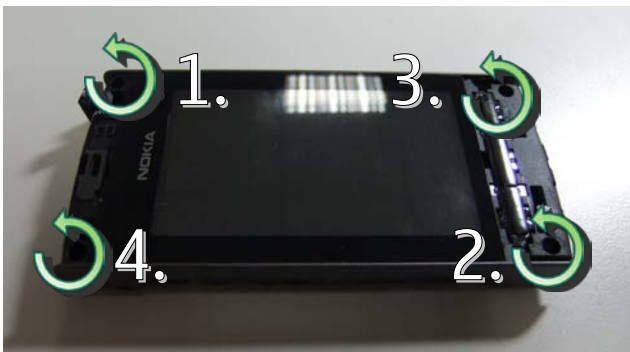
18. Remove the remaining adhesive on A-COVER ASSY.



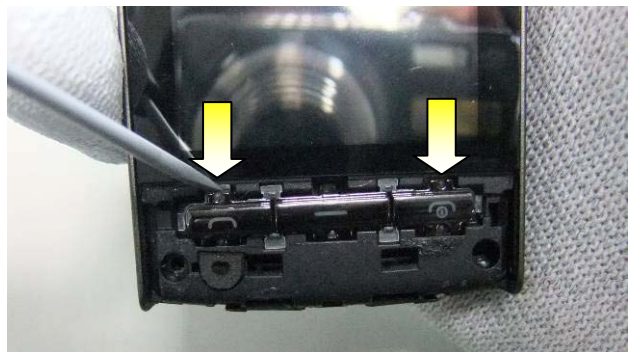
19. The TOP DECO can now be separated. The above operations may damage the TOP DECO. Do not use it again. Discard it.



20. Remove the adhesive on B-COVER ASSY with the tweezers as shown.



21. Unscrew the four TORX+ size 5 screws in order as shown. Remove them with the tweezers.



22. Release the two clips above the KEYMAT with the flat-head screwdriver and then remove the KEYMAT.



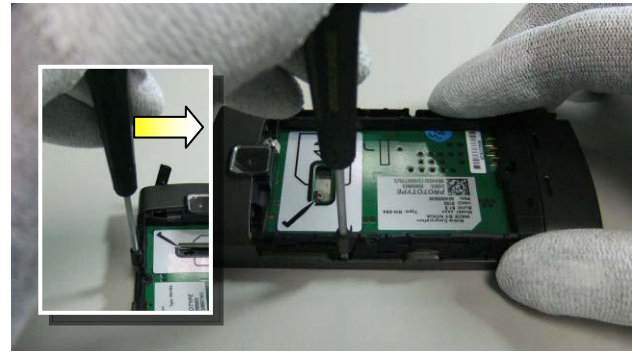
23. In order not to damage the surface of B-COVER ASSY in the following operations, find a protective sponge for the screwdriver and cover the flat-head screwdriver with sponge as shown.



24. Release the snap between A-COVER ASSY and B-COVER ASSY as shown by flat-head screwdriver. Be careful not to damage the structure of the housings.



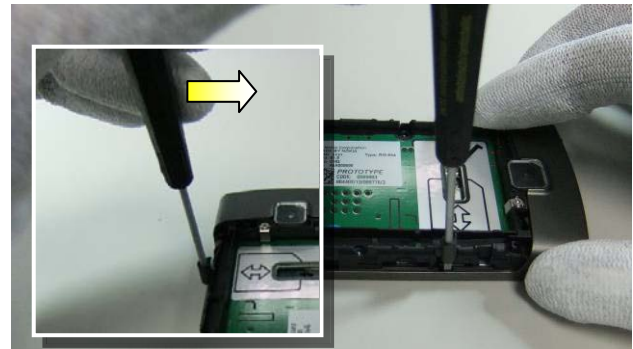
25. Insert the flat-head screwdriver into the gap between A-COVER ASSY and B-COVER ASSY as shown and then rotate the screwdriver to release the clip between them as the arrow shown.



26. Insert the flat-head screwdriver into the position as shown and then turn it to release the clip between A-COVER ASSY and B-COVER ASSY near it.



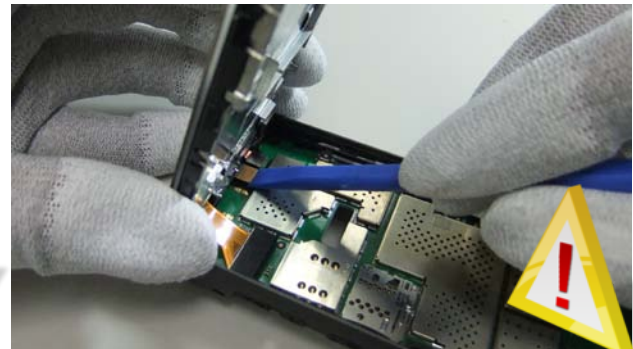
27. Insert the flat-head screwdriver into the position as shown and then turn it to release the clip between A-COVER ASSY and B-COVER ASSY near it.



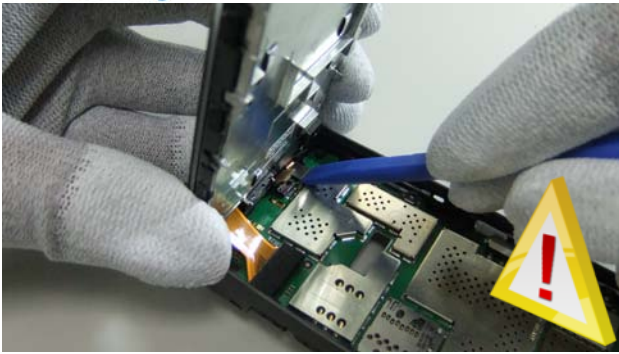
28. Insert the flat-head screwdriver into the position as shown and then turn it to release the clip between A-COVER ASSY and B-COVER ASSY near it.



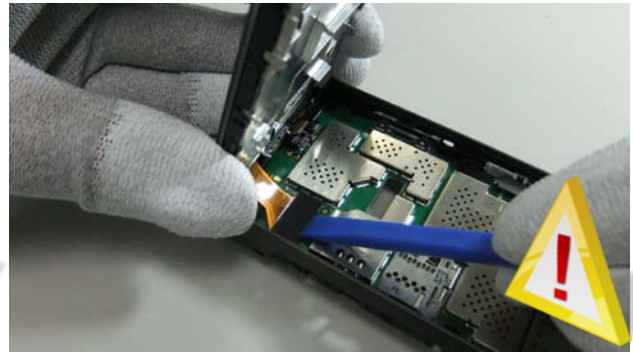
29. Lift up the bottom of the A-COVER ASSY. Be careful not to break the flex of LCM, A-COVER ASSY, and FPC PROXIMITY!



30. Open the FPC PROXIMITY connector with the SS-93 as shown if it still connects. Be careful not to damage the connector – or any nearby components and flex!



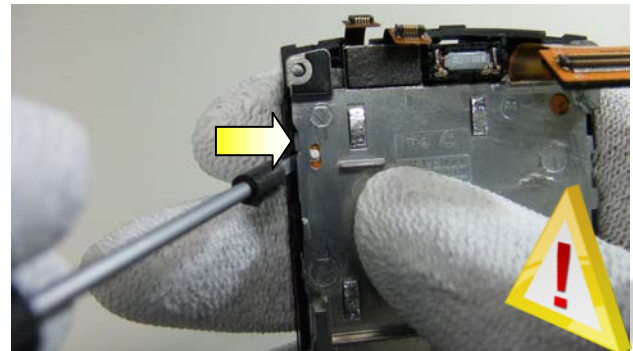
31. Open the A-COVER ASSY connector with the SS-93 as shown if it still connects. Be careful not to damage the connector – or any nearby components and flex!



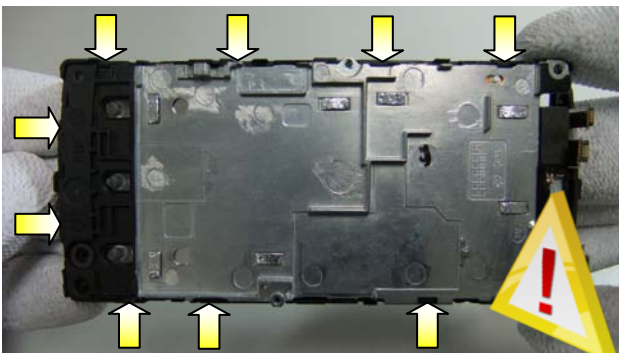
32. Open the LCM connector with the SS-93 as shown. Be careful not to damage the connector – or any nearby components and flex!



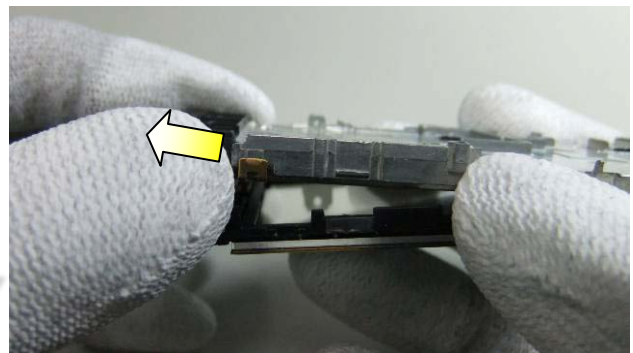
33. The upper and lower modules can now be separated.



34. Release the clip between LCM METAL FRAME and A-COVER ASSY by inserting the flat-head screwdriver into the gap near it. Be careful not to damage the structure of the housings.



35. Continue to release the remaining clips by inserting the flat-head screwdriver into the gaps as shown above. Be careful not to damage the structure of the housings.



36. Lift up the bottom side of the LCM METAL FRAME and remove it to the direction shown above.



37. Protect the inner side of the lens of A-COVER ASSY with a protective tape.



38. Protect the LCM with a protective tape.



39. The A-COVER ASSY can now be separated.



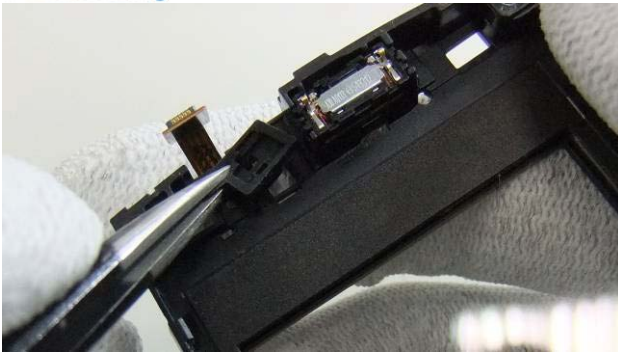
40. Lever out the LCM with SS-93 as shown. Be careful not to bend the LCM.



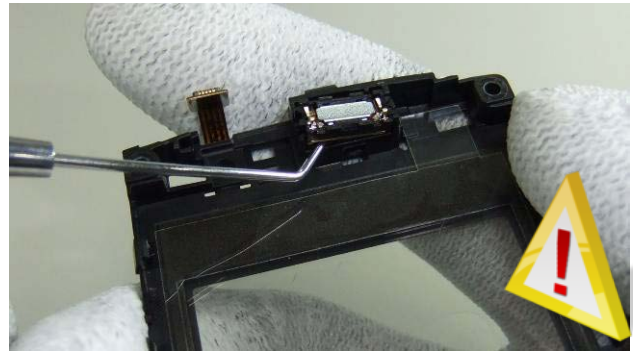
41. The LCM and LCM METAL FRAME can now be separated.



42. Lever out the FPC PROXIMITY with the dental tool. Discard the FPC PROXIMITY. Be careful not to injure yourself.



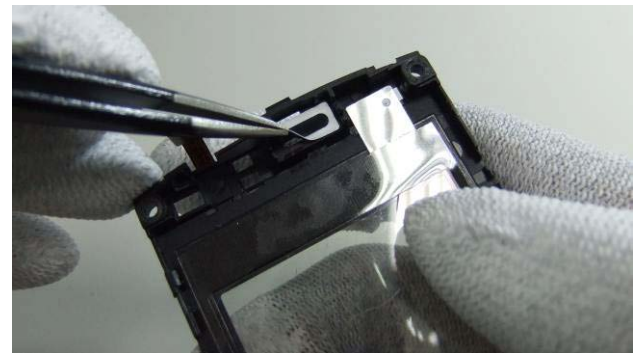
43. Remove the RUBBER PROXIMITY with the tweezers.



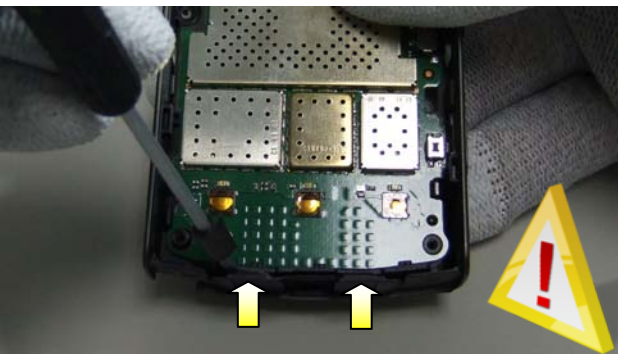
44. Lever out the EARPIECE on A-COVER ASSY with the dental tool. Be careful not to injure yourself.



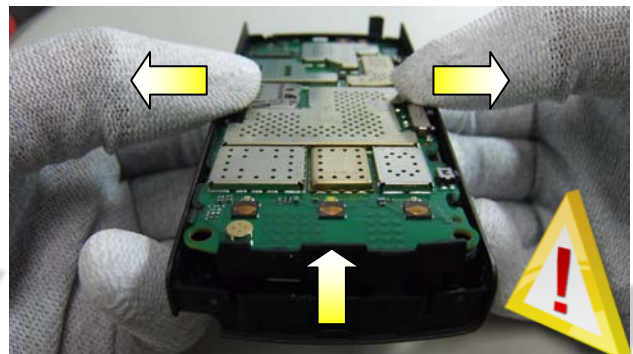
45. Remove the EARPIECE with the tweezers. Discard it. Do not use it again.



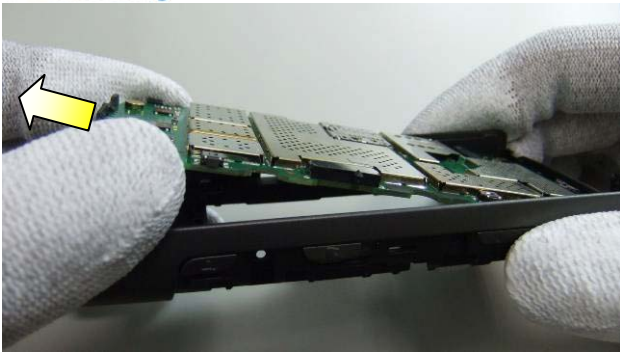
46. Remove also the remains of the mesh of the EARPIECE from A-COVER ASSY.



47. Release the two clips as shown between IHF SPEAKER and B-COVER ASSY by inserting the flat-head screwdriver into the gap near them. Be careful not to damage the housing structure.



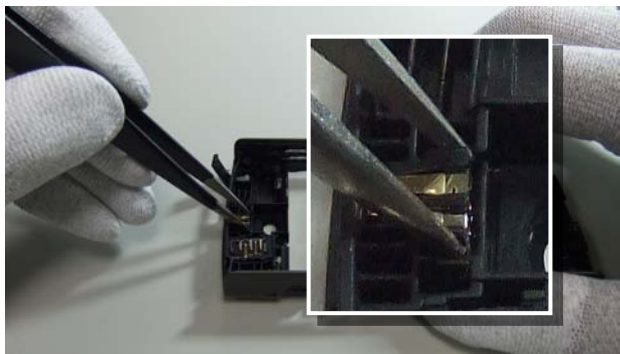
48. Pull the side wall of B-COVER ASSY out with thumbs and push the PWB up with other fingers as shown. Be careful not to damage the side switches on PWB.



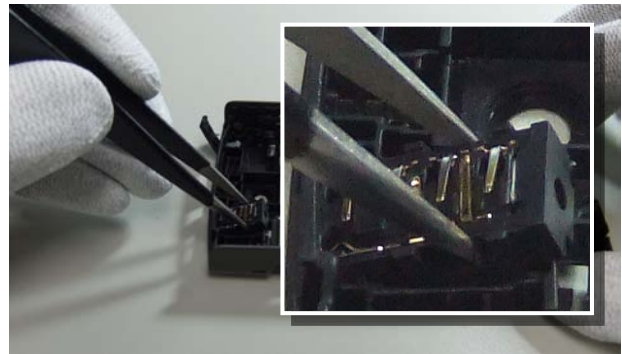
49. Lift up the bottom side of the PWB and remove it as the direction shown above.



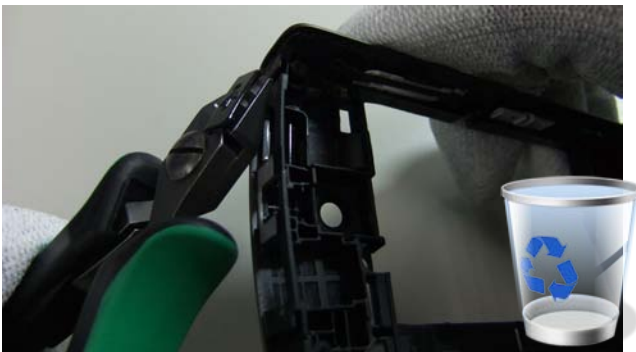
50. The PWB and B-COVER ASSY can now be separated.



51. Remove the DC JACK with the tweezers.



52. Remove the AV JACK with the tweezers.



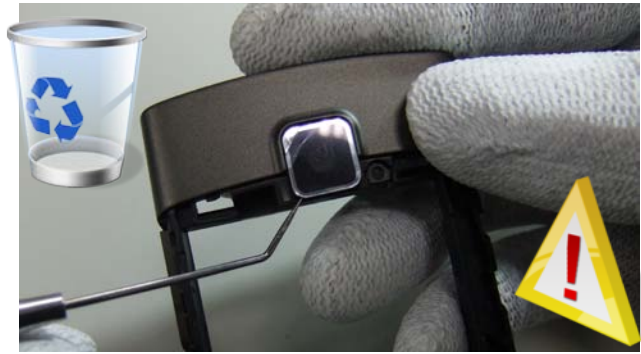
53. Cut off the USB CAP. Discard it. Don't use it again.



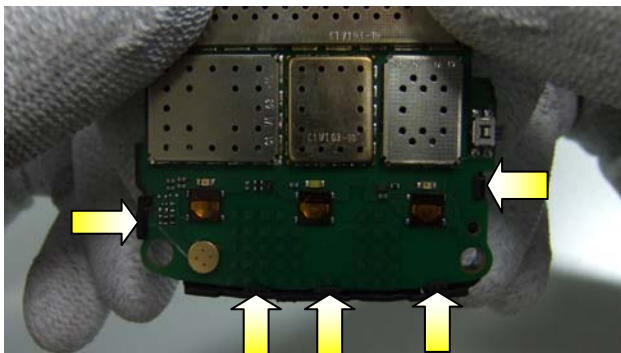
54. Unscrew the TORX+ size 5 screw on B-COVER ASSY as shown. Remove it with the tweezers.



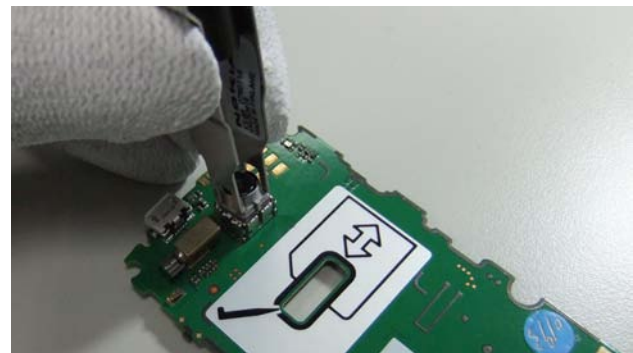
55. Remove the GROUNDING CLIP with tweezers as shown.



56. Lever out the CAMERA LENS with the dental tool. Discard the CAMERA LENS. Be careful not to injure yourself.



57. Release the snaps of IHF SPEAKER. Side clips first and then bottom clips.



58. Use the camera removal tool SS-88 to lever out the camera.



59. Nokia 5250 disassembly is now complete.

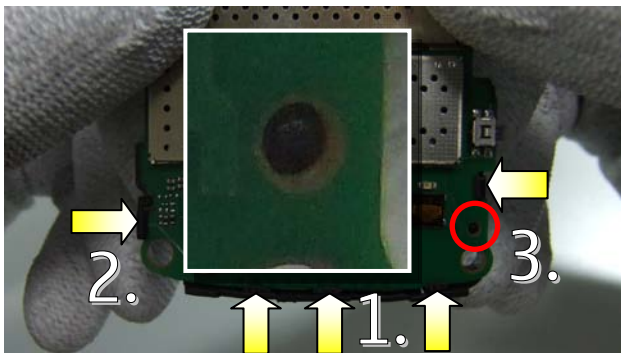
12. ASSEMBLY INSTRUCTION



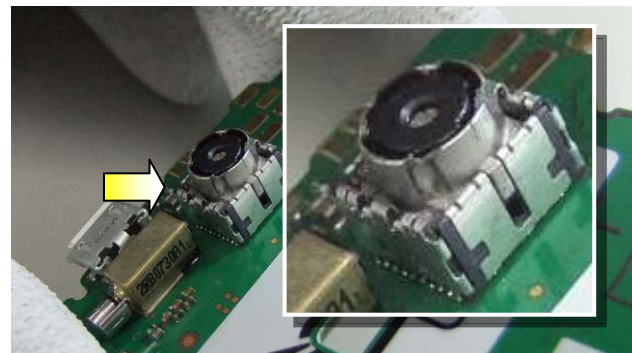
1. Nokia 5250 assembly.



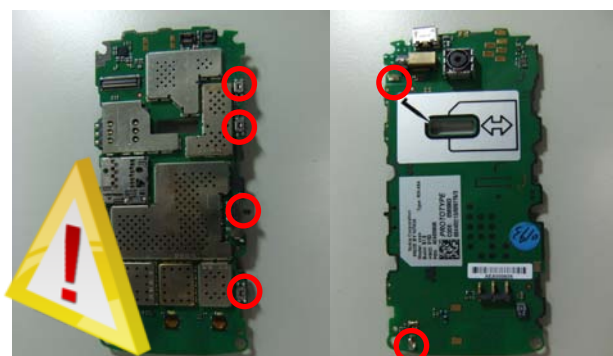
2. You will need the Nokia Standard Toolkit version 2 as shown and camera removal tool SS-88.



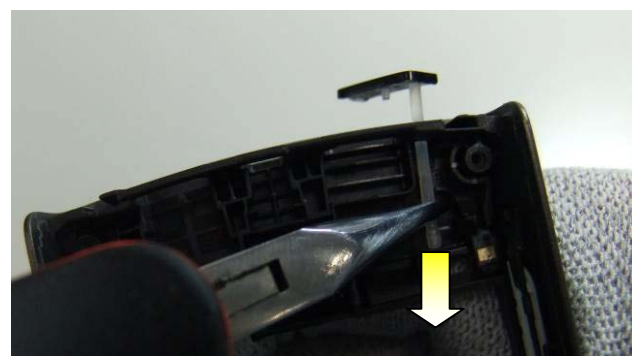
3. Lock the clips of IHF SPEAKER onto the PWB in order shown. Note that the positioning pin of IHF SPEAKER should be fitted into the corresponding positioning holes of PWB.



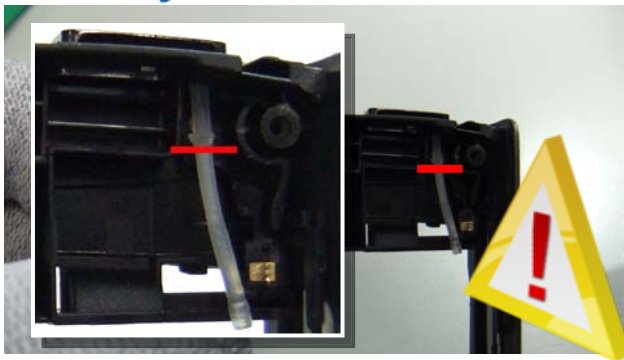
4. Put the CAMERA into the camera socket as shown. Note that there are camera direction features on both CAMERA and camera socket to prevent mis-alignment.



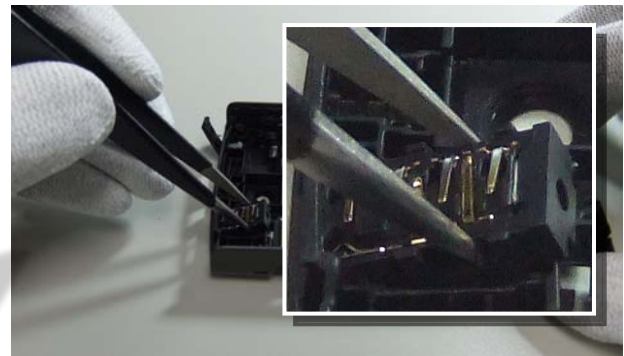
5. The PWB assembly is now complete. During the operations, please be careful not to damage the springs and side switches on PWB.



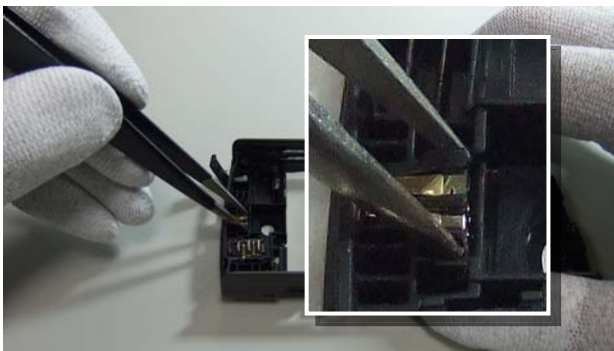
6. Take a new USB CAP. Let the rubber bar go through the fixing hole of B-COVER ASSY and pull it down as shown until its fixing feature go through the fixing hole on B-COVER ASSY.



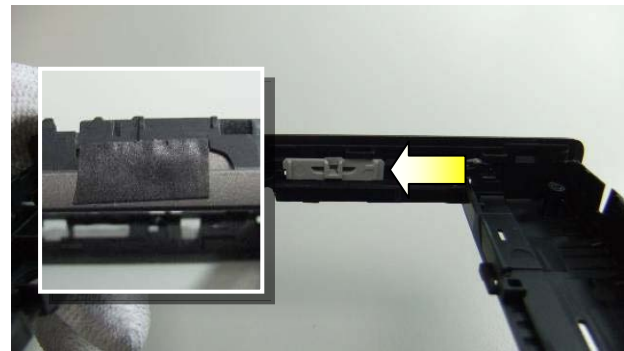
7. Cut the rubber bar tail as shown. Note that the cutting position has to be as close to the fixing feature of rubber bar as possible. Otherwise the tail of the rubber bar will interfere with the vibrator.



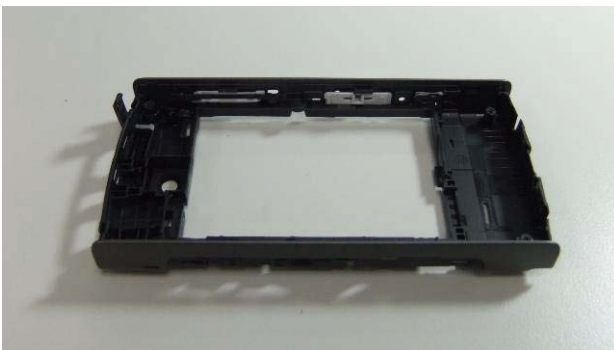
8. Assemble the AV JACK into the B-COVER ASSY with the tweezers.



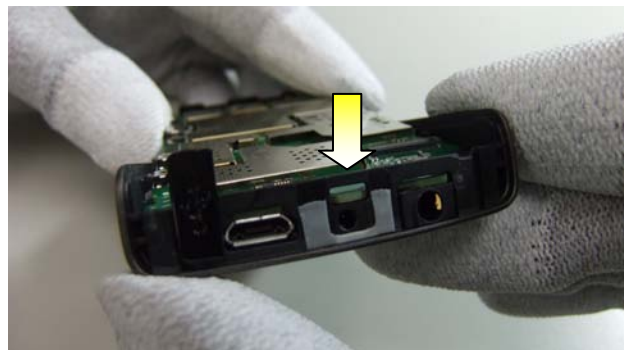
9. Assemble the DC JACK into the B-COVER ASSY with the tweezers.



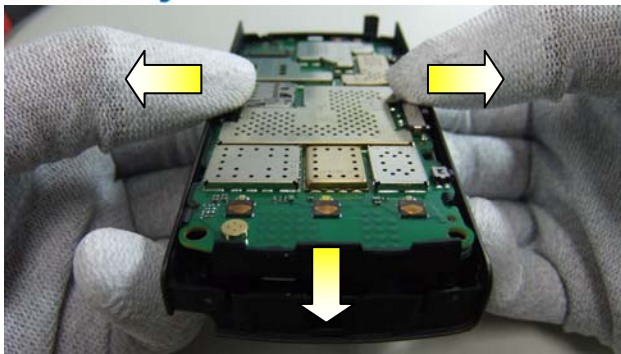
10. Push the lock key to the end of the direction as shown and fix it on the outer surface with a tape.



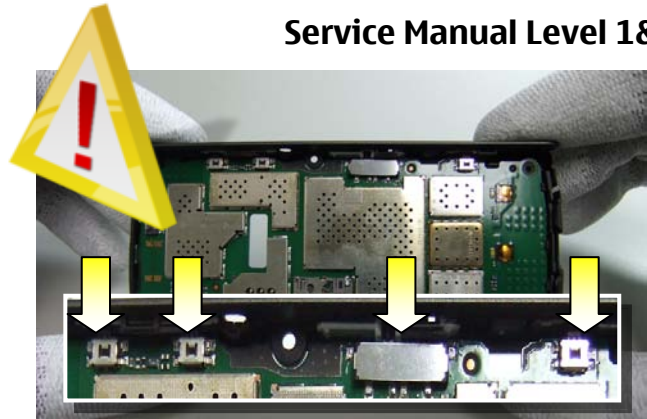
11. The B-COVER ASSY is now complete.



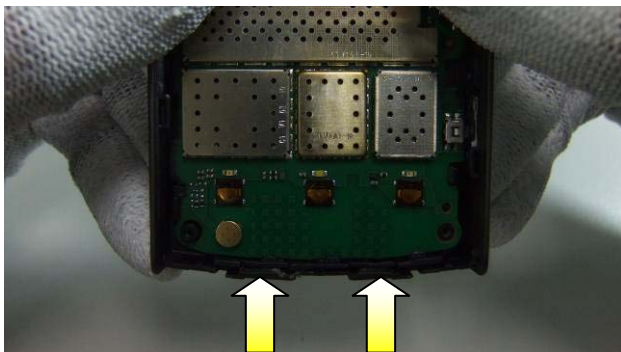
12. Fix the top side fixing feature on PWB into the corresponding holes of B-COVER ASSY as shown. USB has to be aligned in the hole (important) to be able to correctly assemble the PWB



13. Pull the side walls of B-COVER ASSY out with thumbs and push the PWB down as shown.



14. Be careful not to damage the side switches on PWB.



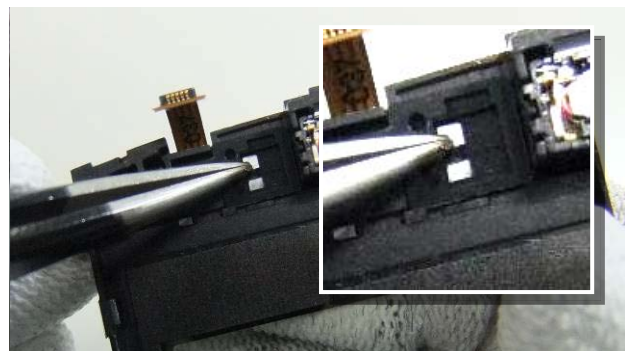
15. Fix the two clips as shown between IHF SPEAKER and B-COVER ASSY.



16. The lower module assembly is now complete.



17. Remove the protective tape of the EARPIECE adhesive and assemble it to the A-COVER ASSY as shown.



18. Assemble the RUBBER PROXIMITY with tweezers as shown.



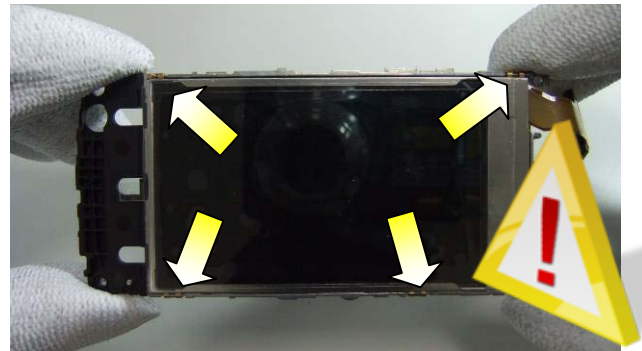
19. The A-COVER ASSY is now complete.



20. Remove the protective tape of the FPC PROXIMITY and fix it on LCM METAL FRAME as shown. Note the two positioning pins on LCM METAL FRAME.



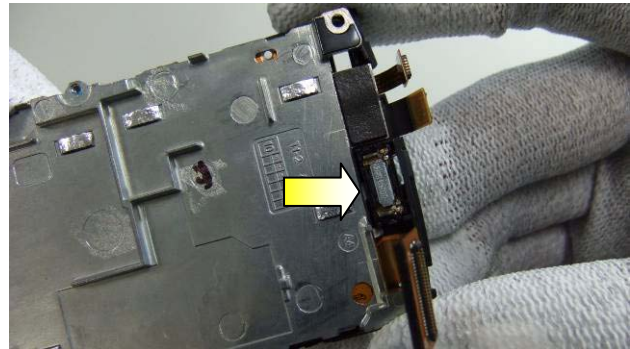
21. The LCM METAL FRAME is now complete.



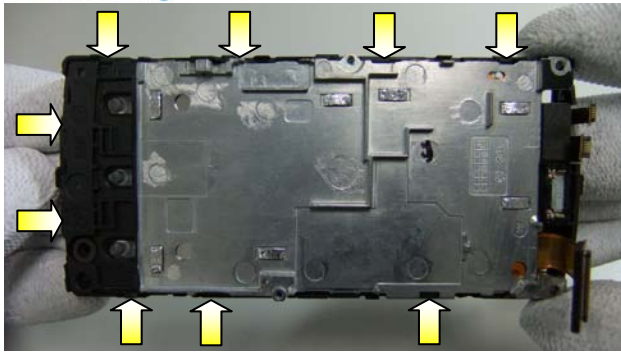
22. Put the LCM into the LCM METAL FRAME and fix the four grounding snaps as shown. Be careful not to bend the LCM during the assembly.



23. Remove the protective tape on LCM and then remove the protective tape on A-COVER ASSY as well.



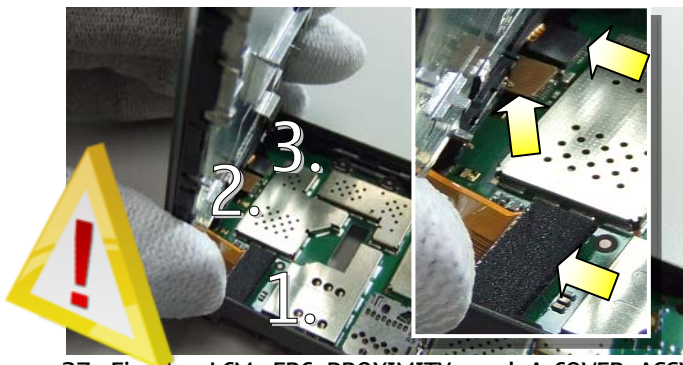
24. Fix the top clip of LCM METAL FRAME into the A-COVER ASSY as shown.



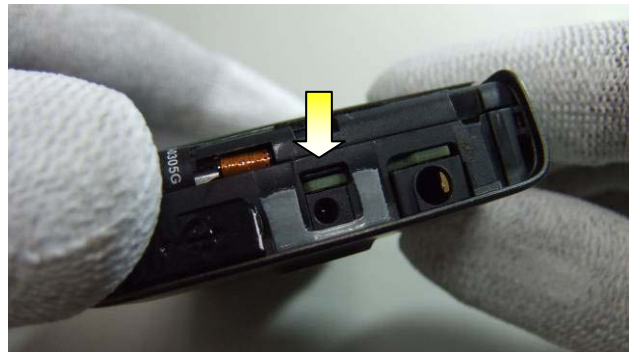
25. Fix the remaining clips of LCM METAL FRAME into the A-COVER ASSY as shown.



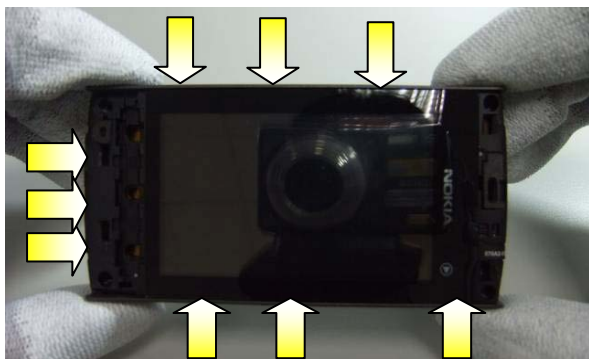
26. The upper module assembly is now complete.



27. Fix the LCM, FPC PROXIMITY, and A-COVER ASSY connectors to PWB in order as shown. Be careful not to damage the connectors and flex.



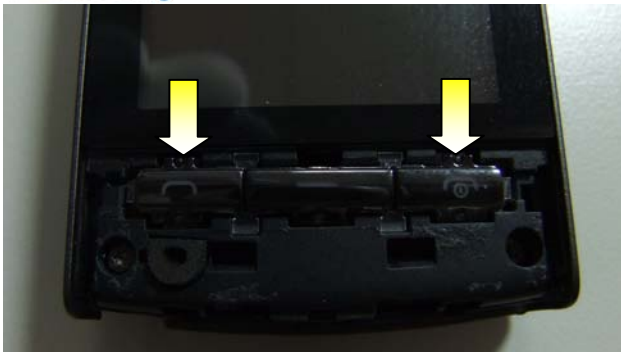
28. Fix the top clip of A-COVER ASSY to B-COVER ASSY as shown.



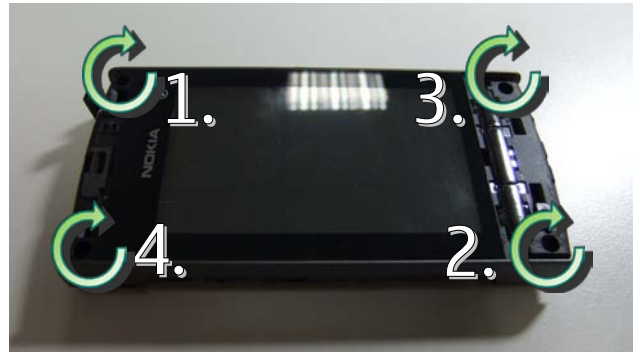
29. Fix the remaining clips as shown.



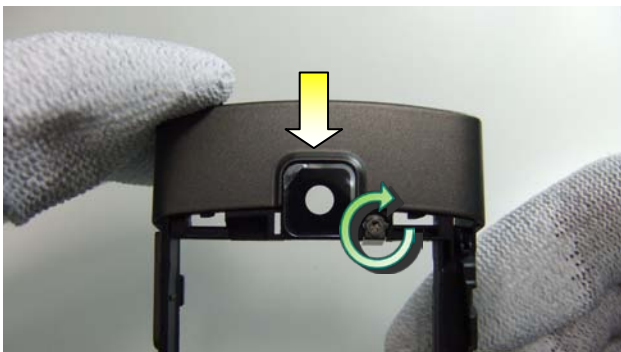
30. Fix the downside two snaps of KEYMAT into the A-COVER ASSY as shown.



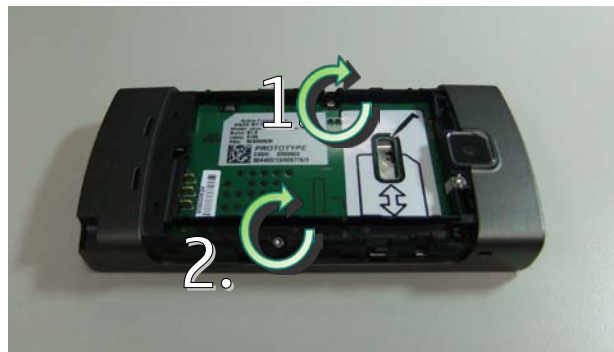
31. Fix the upside two clips of KEYMAT into the A-COVER ASSY as shown.



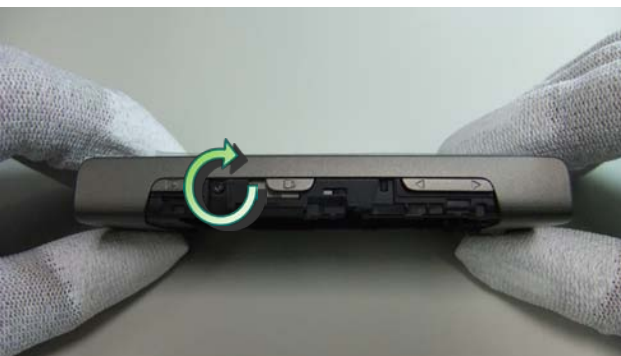
32. Tighten the four screws to the torque of 10.8 ± 1 Ncm in the order shown.



33. Tighten the screw to the torque of 10.8 ± 1 Ncm to fix the GROUNDING CLIP as shown. Also assemble the CAMERA LENS to B-COVER ASSY.



34. Tighten the two screws to the torque of 7.8 ± 1 Ncm in the order shown.



35. Tighten the screw to the torque of 7.8 ± 1 Ncm as shown.



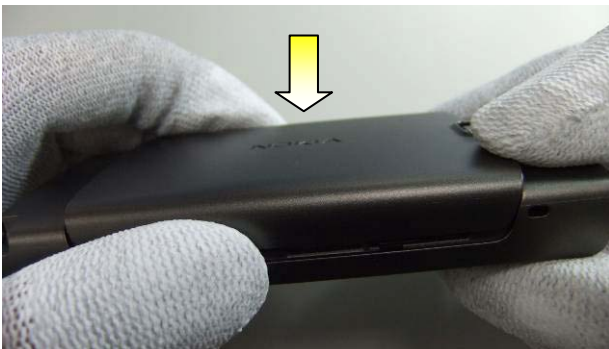
36. Fix the adhesive onto the B-COVER ASSY as shown and remove the protective tape.



37. Remove the protective tape on a new TOP DECO and Fix it onto the A-COVER ASSY in the direction as shown.



38. Remove the protective tape on a new BOTTOM DECO and Fix it onto the A-COVER ASSY in the direction as shown.



39. Assemble the BATTERY COVER in the direction as shown.



40. Insert the STYLUS in the direction as shown.



41. The Nokia 5250 assembly is now complete.

13. SOLDER COMPONENTS

