

SERVICE MANUAL

Level 1&2

NOKIA

N79

RM-348 RM-349 RM-350



Transceiver characteristics

Band:

RM-348: Dual mode WCDMA 900/2100 + WLAN + GSM/ GPRS/ EGPRS 850/900/1800/1900 MHz

RM-349: GSM/ GPRS/ EGPRS 850/900/1800/1900 MHz

RM-350: Dual mode WCDMA 850/1900 + WLAN + GSM/ GPRS/ EGPRS 850/900/1800/1900 MHz

Display:

2.4" QVGA (240 x 320 pixels) Active Matrix colour display, 16 million colours

Camera:

5 Mpix with 20x digital zoom

Operating System:

S60 3rd edition Feature Pack 2

Connections:

- Bluetooth 2.0 + EDR
- WLAN – IEEE 802.11 g/b with UPnP support
- Nokia 3.5 mm AV connector
- Micro USB connector (USB 2.0 (High Speed))
- MicroSD card slot
- Assisted GPS receiver
- FM RDS radio
- FM transmitter

Transceiver with BL-6F battery pack

Talk time	Standby	Note
GSM: Up to 5.5 h WCDMA: Up to 3.4 h	GSM: Up to 390 hours WCDMA: Up to 406 hours	Depends on network parameters and phone settings

1.	Change history	3
2.	Copyright	4
3.	Warnings and cautions	5
3.1	Warnings	5
3.2	Cautions	5
4.	ESD protection	6
5.	Care and maintenance	7
6.	Battery information	8
7.	Exploded view	9
8.	Service devices	10
9.	SW update	11
10.	Disassembly instruction	12
11.	Assembly hints	20
12.	Solder components	21

1. CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.2	10.09.2008	Draft
Approved	1	10.09.2008	First approved version

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:

CMO Operation & Logistics
Training and Vendor Development
Multimedia Creation & Support
<mailto: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

Copyright © 2008 Nokia. All rights reserved.

Reproduction, transfer, distribution or storage of part or all of the contents in this document in any form without the prior written permission of Nokia is prohibited.

Nokia, Nokia Connecting People, and Nokia X and Y are trademarks or registered trademarks of Nokia Corporation. Other product and company names mentioned herein may be trademarks or tradenames of their respective owners.

Nokia operates a policy of continuous development. Nokia reserves the right to make changes and improvements to any of the products described in this document without prior notice.

Under no circumstances shall Nokia be responsible for any loss of data or income or any special, incidental, consequential or indirect damages howsoever caused.

The contents of this document are provided "as is". Except as required by applicable law, no warranties of any kind, either express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose, are made in relation to the accuracy, reliability or contents of this document. Nokia reserves the right to revise this document or withdraw it at any time without prior notice.

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 metallized 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 fulfil 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.

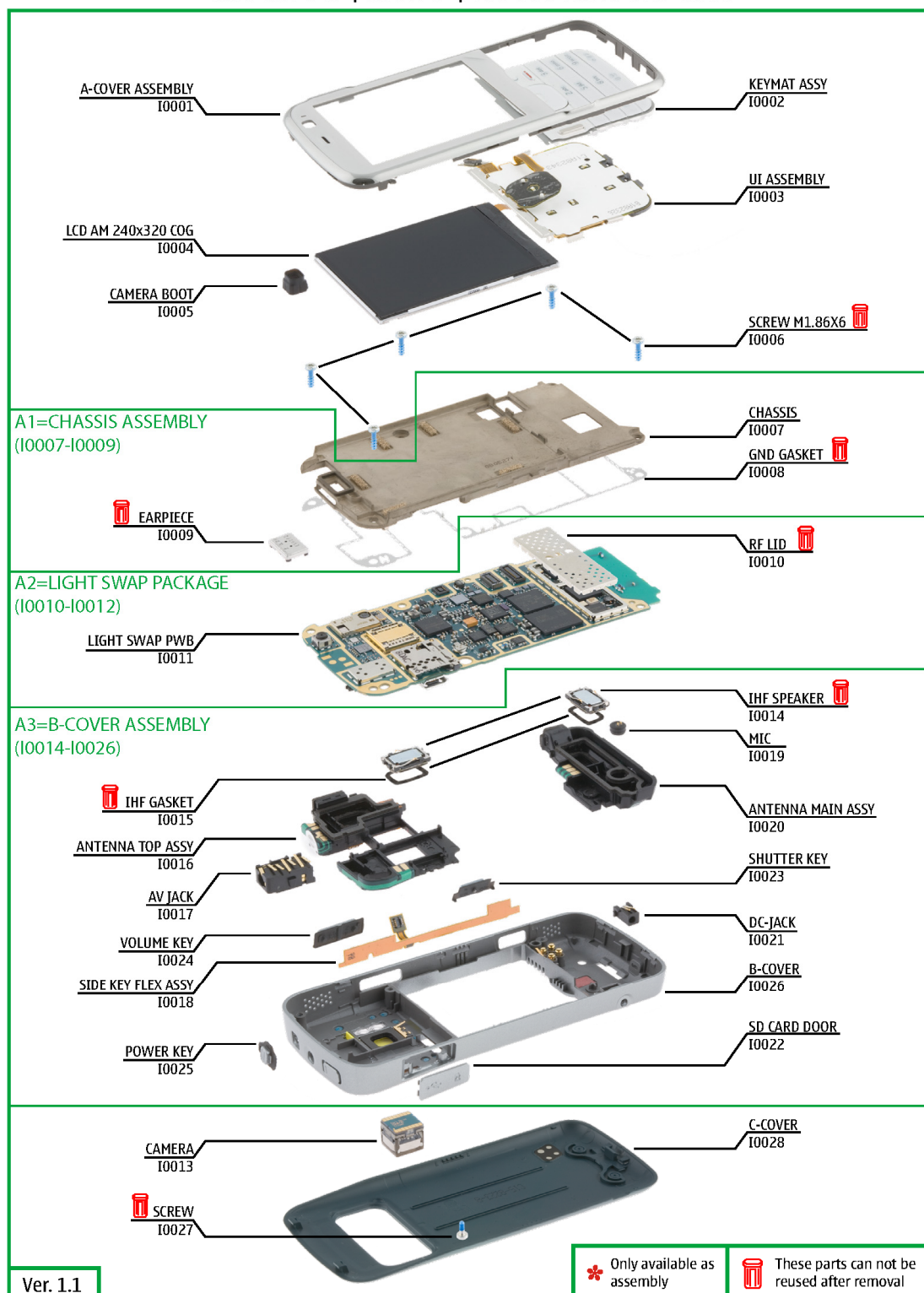
Do not dispose batteries in a fire! Dispose of batteries according to local regulations (e.g. recycling).

Do not dispose as household waste.

7. EXPLODED VIEW

See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

N79 RM-348 / RM-349 / RM-350 EXPLODED VIEW



8. SERVICE DEVICES

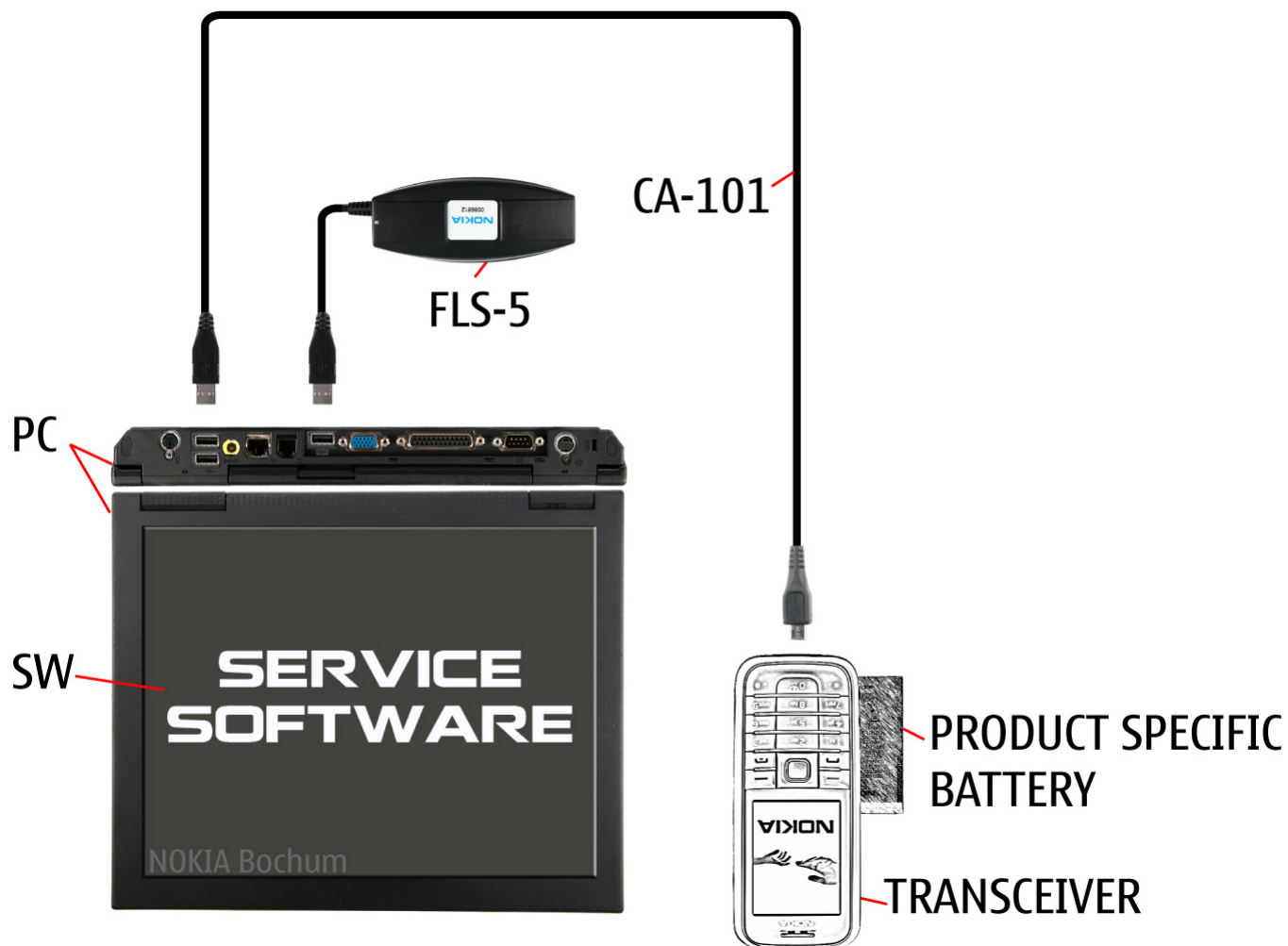
 <p>FLS-5</p> <p>FLS-5 Flash device</p>	 <p>BL-6F</p> <p>BL-6F Battery</p>	 <p>RJ-230</p> <p>RJ-230 Universal soldering jig</p>
 <p>AC-5 Travel charger (RM-348, RM-349)</p> <p>AC-6 +CA-100C (RM-349)</p>	 <p>CA-101 100cm</p> <p>CA-101 Service cable</p>	 <p>SS-184</p> <p>SS-184 Window release tool</p>
 <p>SS-100</p> <p>SS-100 Camera removal tool</p>	 <p>SS-162 Navi-key pressing tool</p>	 <p>NOKIA Standard Toolkit V2</p> <p>NMP 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>

9. SW UPDATE

Flash concept – (Point of Sales)

To use the FLS-5 Flash Dongle, you have to follow the user guide inside the sales package.

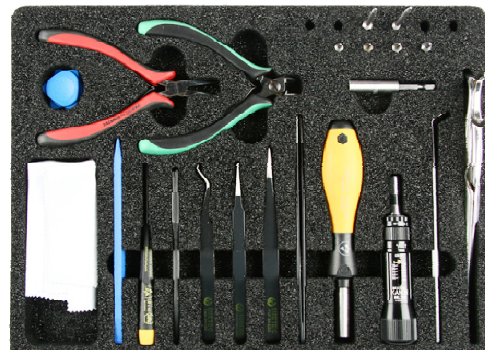
Please check always for the latest version of flash software, which is available on Nokia Online.



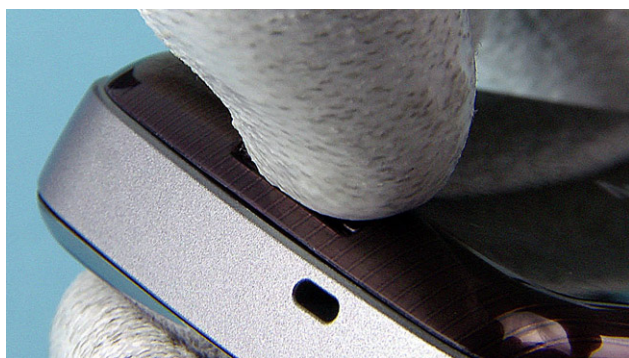
10. DISASSEMBLY INSTRUCTION



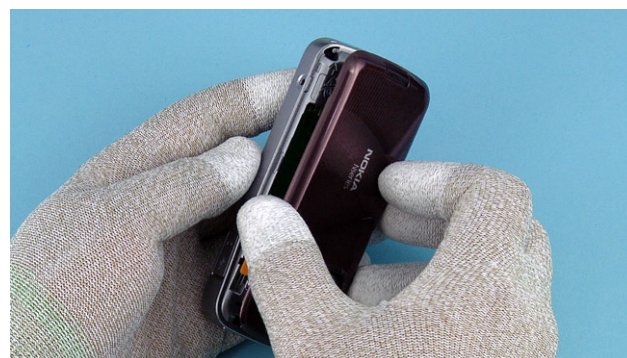
1) Nokia N79 disassembly.



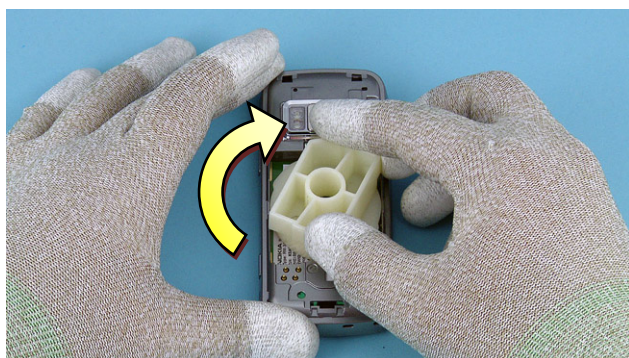
2) You must use the Nokia Standard Tool kit version 2, SS-148 and SS-100.



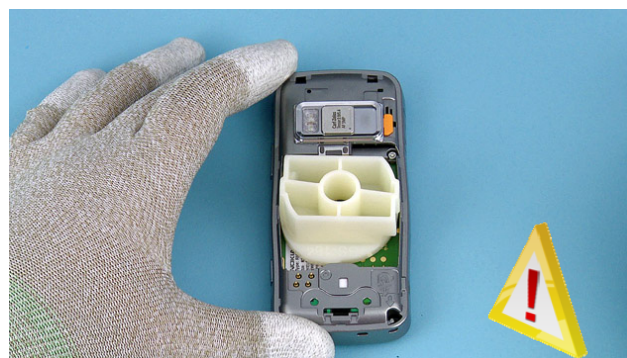
3) To remove the C-COVER, push the button on the bottom side...



4) ... and remove the C-COVER.



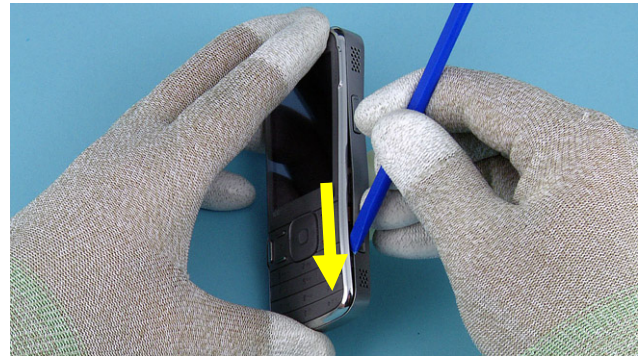
5) Insert the SS-148 and rotate it clockwise...



6) ... so that the edges of the A-COVER are unlocked. Do not fully rotate the SS-148 as this would damage the B-COVER.



7) Rotate the SS-148 until you see a small gap between the A-COVER and the B-COVER. This gap allows you to use the SS-93 to release the A-COVER.



8) Start to release the A-COVER with the SS-93...



9) ... and continue around the KEYMAT ASSY area.



10) After releasing the A-COVER around the KEYMAT ASSY area, continue to release the A-COVER from the right side of the LCD.



11) Be careful when detaching the A-COVER clip around the SD CARD DOOR. The A-COVER clip is easily damaged.



12) Gently bend the B-COVER with the SS-93 and carefully release the A-COVER clip around the SD CARD DOOR.



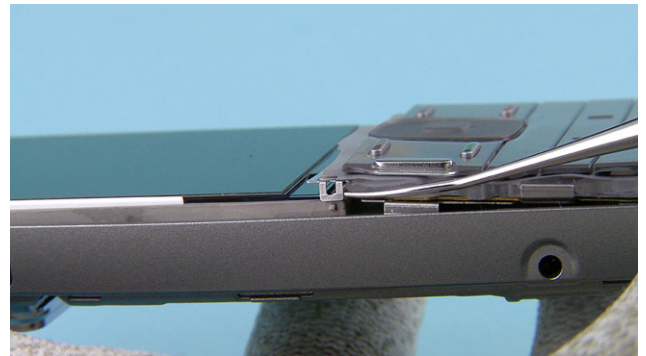
13) Flip the A-COVER in the direction shown.



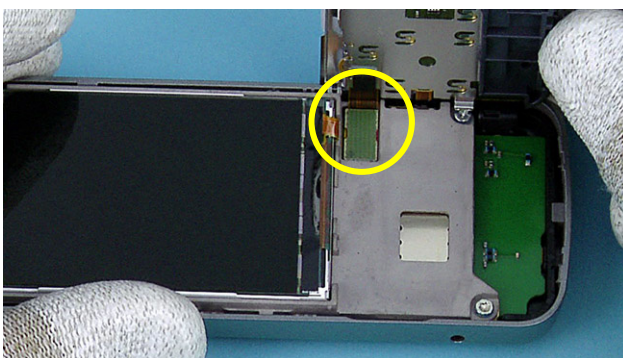
14) Remove the SS-148.



15) Use the SS-93 to release the UI ASSEMBLY.



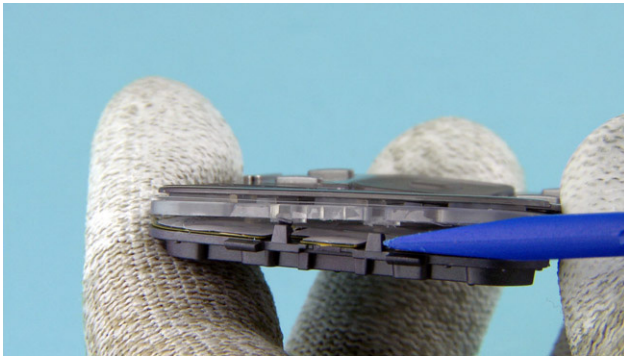
16) Use the dental tool to open the small clips on the sides of the UI ASSEMBLY.



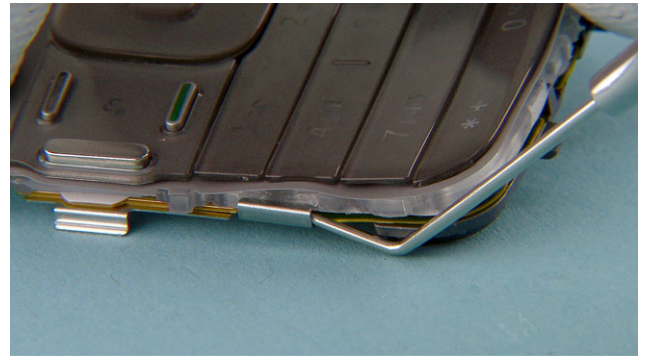
17) The UI ASSEMBLY is connected to the PWB with a flexboard connector.



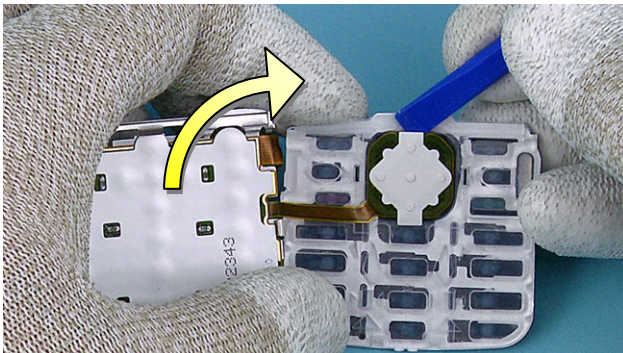
18) Open the flexboard connector of the UI ASSEMBLY with the SS-93 and remove the UI ASSEMBLY.



19) Use the SS-93 to release the two clips on the bottom side of the UI ASSEMBLY.



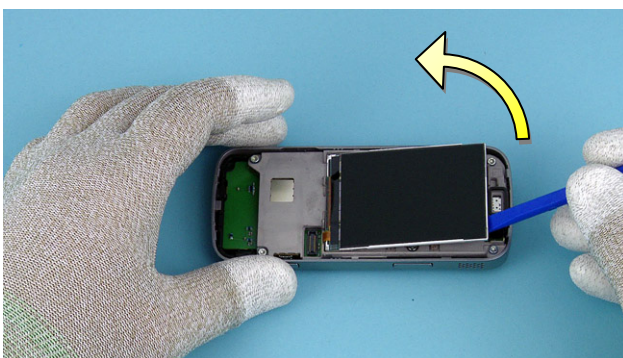
20) Use the dental tool to open the small clip on the left side of the UI ASSEMBLY.



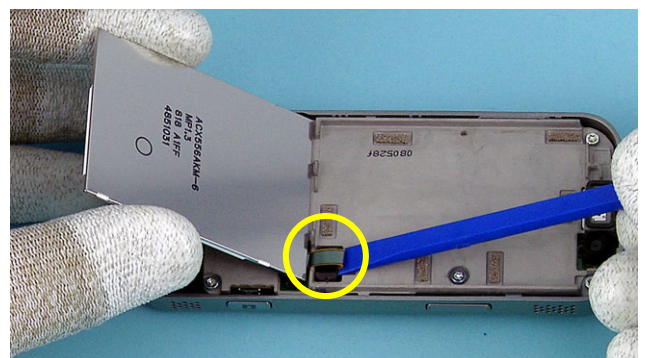
21) Turn the KEYMAT ASSY as shown. Insert the tip of the SS-93 under the UI ASSEMBLY connector.



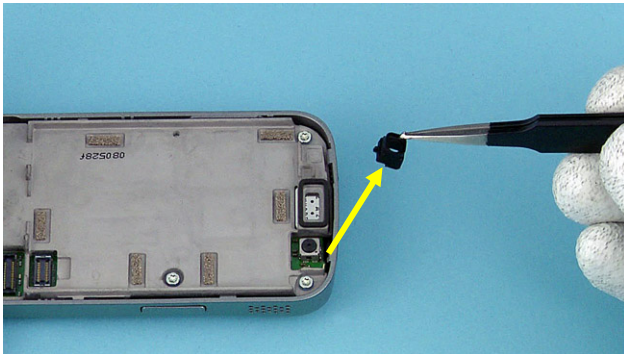
22) The UI ASSEMBLY connector is glued to the KEYMAT ASSY. Slowly lift the connector and separate the KEYMAT ASSY from the UI ASSEMBLY.



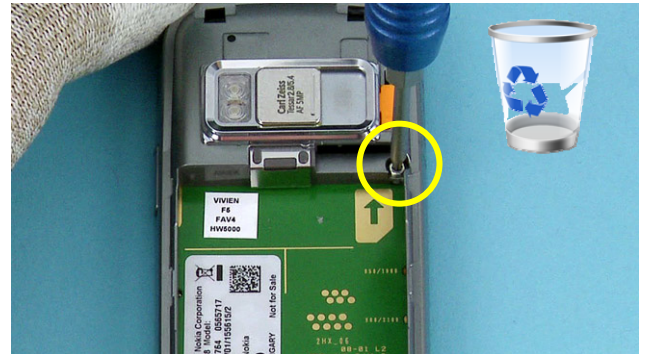
23) Lift up the LCD.



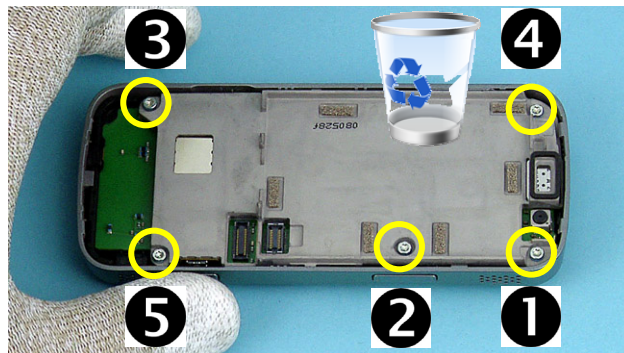
24) Open the LCD connector and remove the LCD.



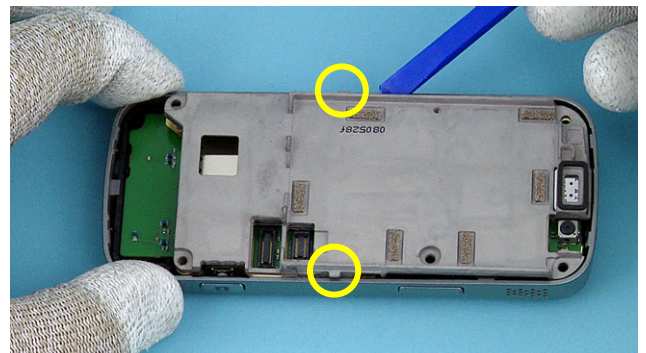
25) Remove the CAMERA BOOT.



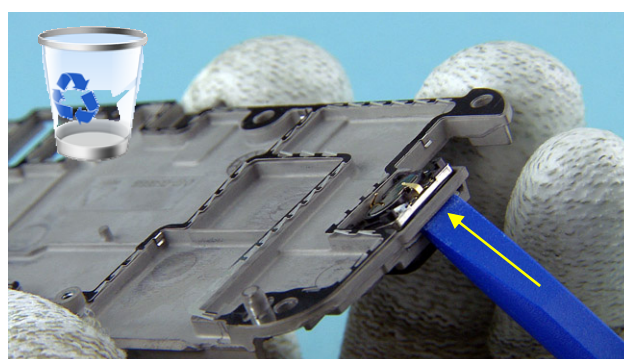
26) Unscrew the single Torx® Plus size 6 screw.



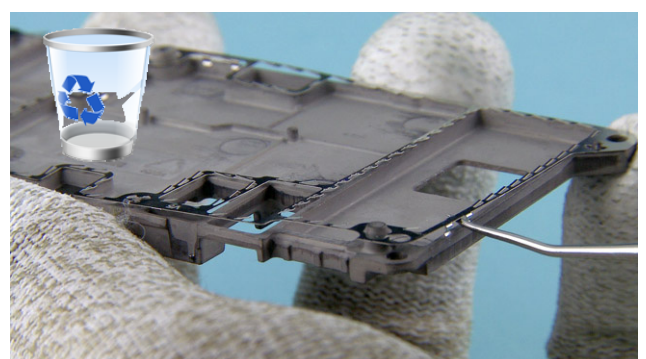
27) Unscrew the five Torx® Plus size 6 screws in the order shown.



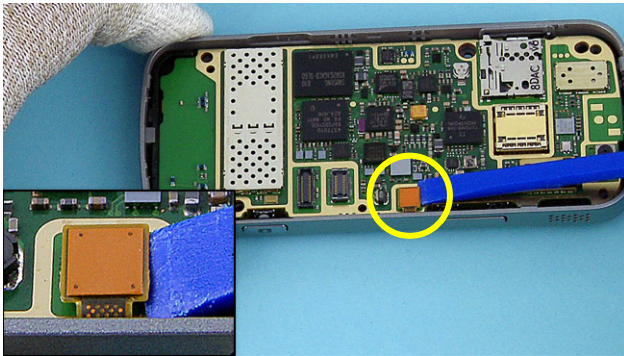
28) Use the SS-93 to release the CHASSIS ASSEMBLY and remove it.



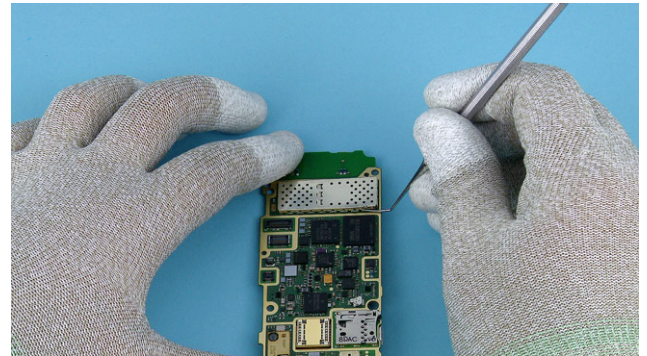
29) Carefully loosen up the adhesive on the EARPIECE as shown and remove the EARPIECE.



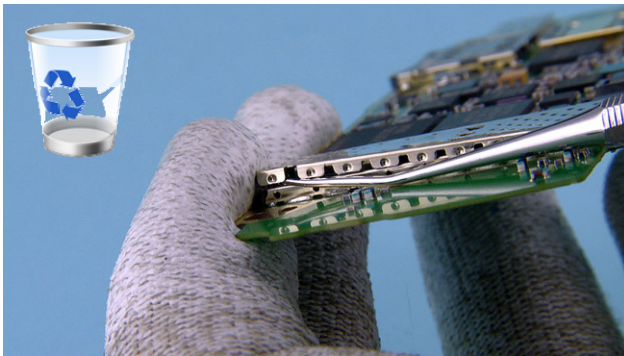
30) Carefully open all the small clips on the GND GASKET using the dental tool. Remove the GND GASKET. Be careful to not to injure yourself with the sharp dental tool.



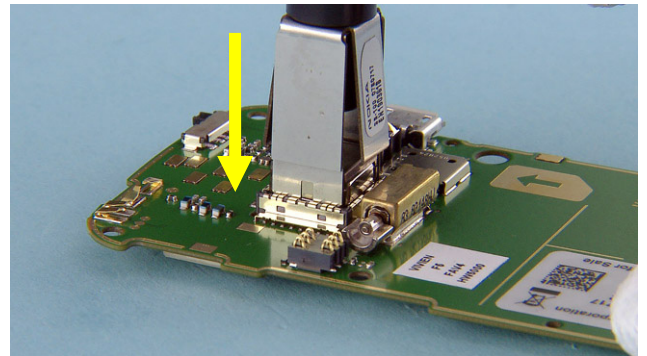
31) Open the SIDE KEY FLEX ASSY connector using the SS-93 and remove the PWB.



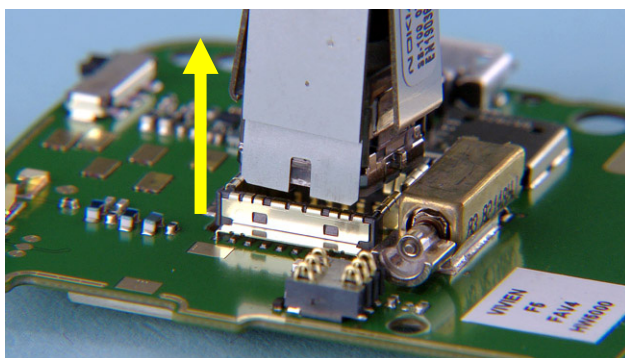
32) Use the dental tool as shown...



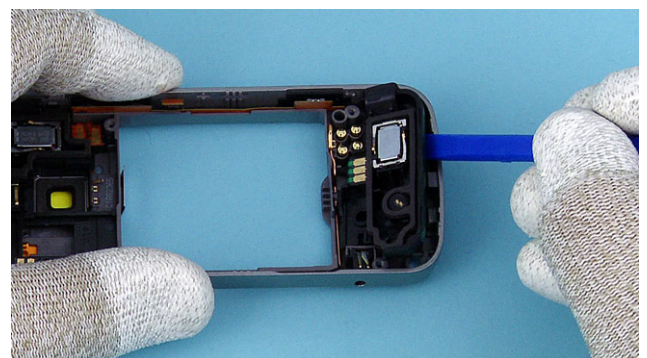
33) ... to remove the RF LID. Be careful not to injure yourself with the sharp dental tool.



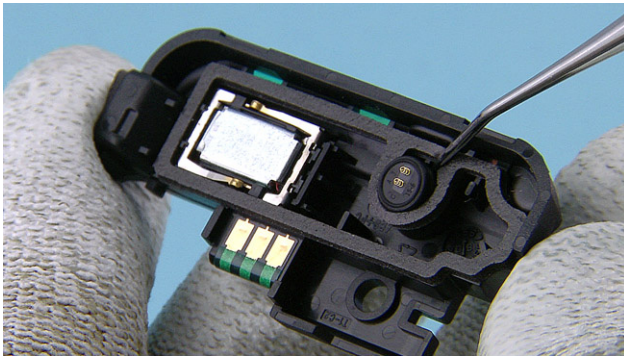
34) Push the camera removal tool SS-100 down until the camera retaining clips are released.



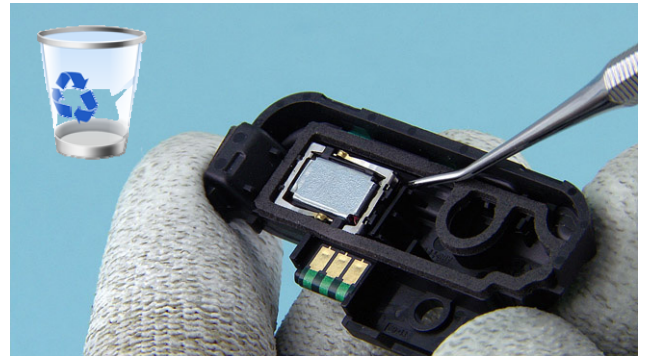
35) Lift up the SS-100 and remove the CAMERA.



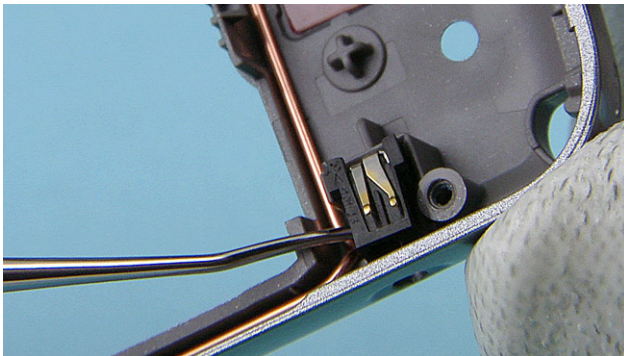
36) Use the SS-93 to lift up the ANTENNA MAIN ASSEMBLY and remove it.



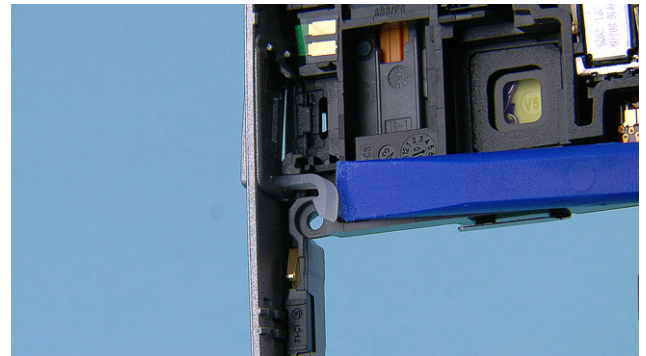
37) Use the dental tool to remove the MIC. Be careful to not to injure yourself with the sharp dental tool.



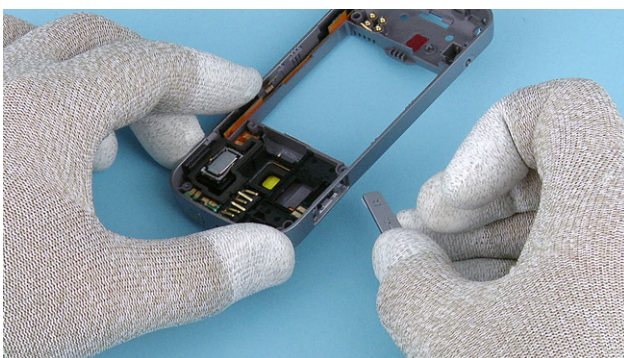
38) Remove the IHF SPEAKER and the IHF GASKET with the dental tool.



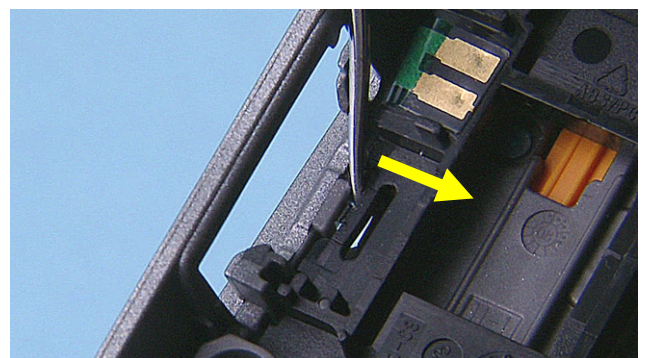
39) Use the dental tool to remove the DC JACK.



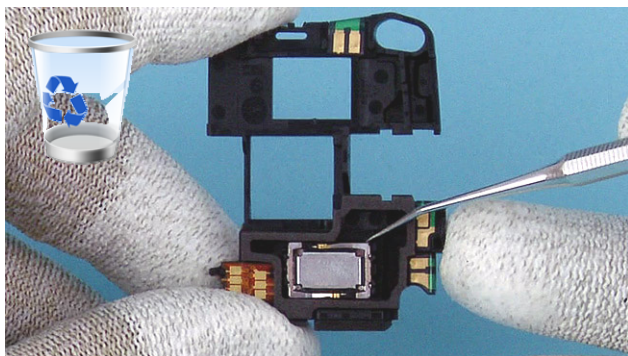
40) Use the SS-93 to lift up the clip of the SD CARD DOOR.



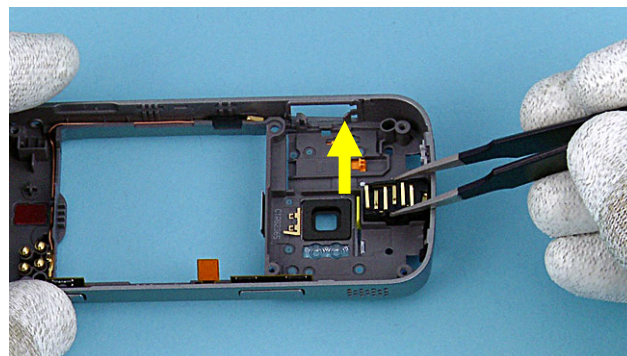
41) Remove the SD CARD DOOR.



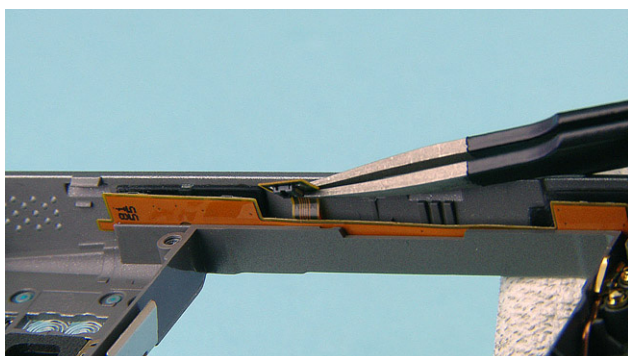
42) Use the dental tool as shown to release a small clip near the SD CARD DOOR in order to release the ANTENNA TOP ASSEMBLY.



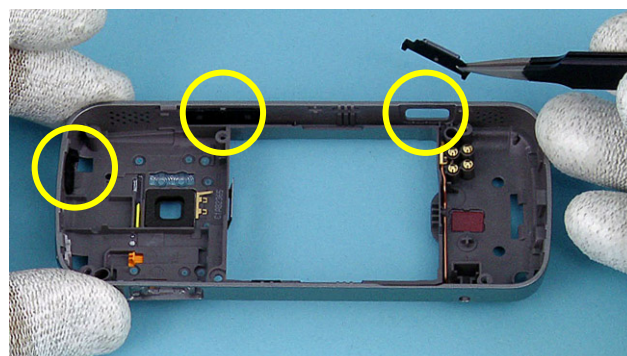
43) Lift up the ANTENNA TOP ASSEMBLY and remove it. Use the dental tool to remove the IHF SPEAKER and the IHF GASKET.



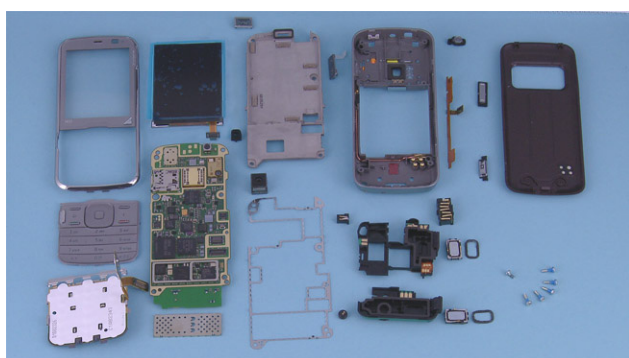
44) Remove the AV JACK.



45) Lift up the SIDE KEY FLEX with the tweezers and remove it.





46) Use the tweezers to remove the SHUTTER KEY, the VOLUME KEY and the POWER KEY.



47) The Nokia N79 disassembly is now complete.

11. ASSEMBLY HINTS

	
<p>1) Tighten the screws to the torque of 22 Ncm in the order shown.</p>	<p>2) Tighten the screw to the torque of 18 Ncm.</p>
<p>3) When assembling the KEYMAT and the UI PWB, use SS-162.</p>	

12. SOLDER COMPONENTS

N79 RM-348 RM-349 RM-350 Components overview

Solder components only for Level 2

