

SERVICE MANUAL

Level 1&2

NOKIA NOKIA

6301 6301b

RM-322

RM-323

Transceiver characteristics:**Band:**

-RM-322: Tri-band EDGE phone for EGSM 900/1800/1900MHz

-RM-323: Tri-band EDGE phone for EGSM 850/1800/1900MHz

Camera: 2.0 Megapixel, 8x digital zoom**Display:** 5.08cm (2inch) QVGA display with 16.7M true colors,
resolution 240 x 320 pixel**Operating System:** Series 40**WLAN****Bluetooth****FM stereo radio****Memory card:** microSD**Connector:** mini USB Connector**Transceiver with BL-4c Li-Ion battery pack**

| Talk time | Standby | Note |
|------------|----------------|--|
| up to 3.5h | up to 14.5days | Depends on network parameters and phone settings |

Environmental characteristics:

- Lead-free soldered

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CHANGE HISTORY

| Status | Version No. | Date | Comments |
|----------|-------------|-------------|---------------|
| Draft | 0.1 | 11.Oct.2007 | Initial draft |
| Approved | 1.0 | 12.Oct.2007 | Approved |
| | | | |
| | | | |

1. INTRODUCTION

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:

<mailto:cc-ts-rc.documentation@nokia.com>

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

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:

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.

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.

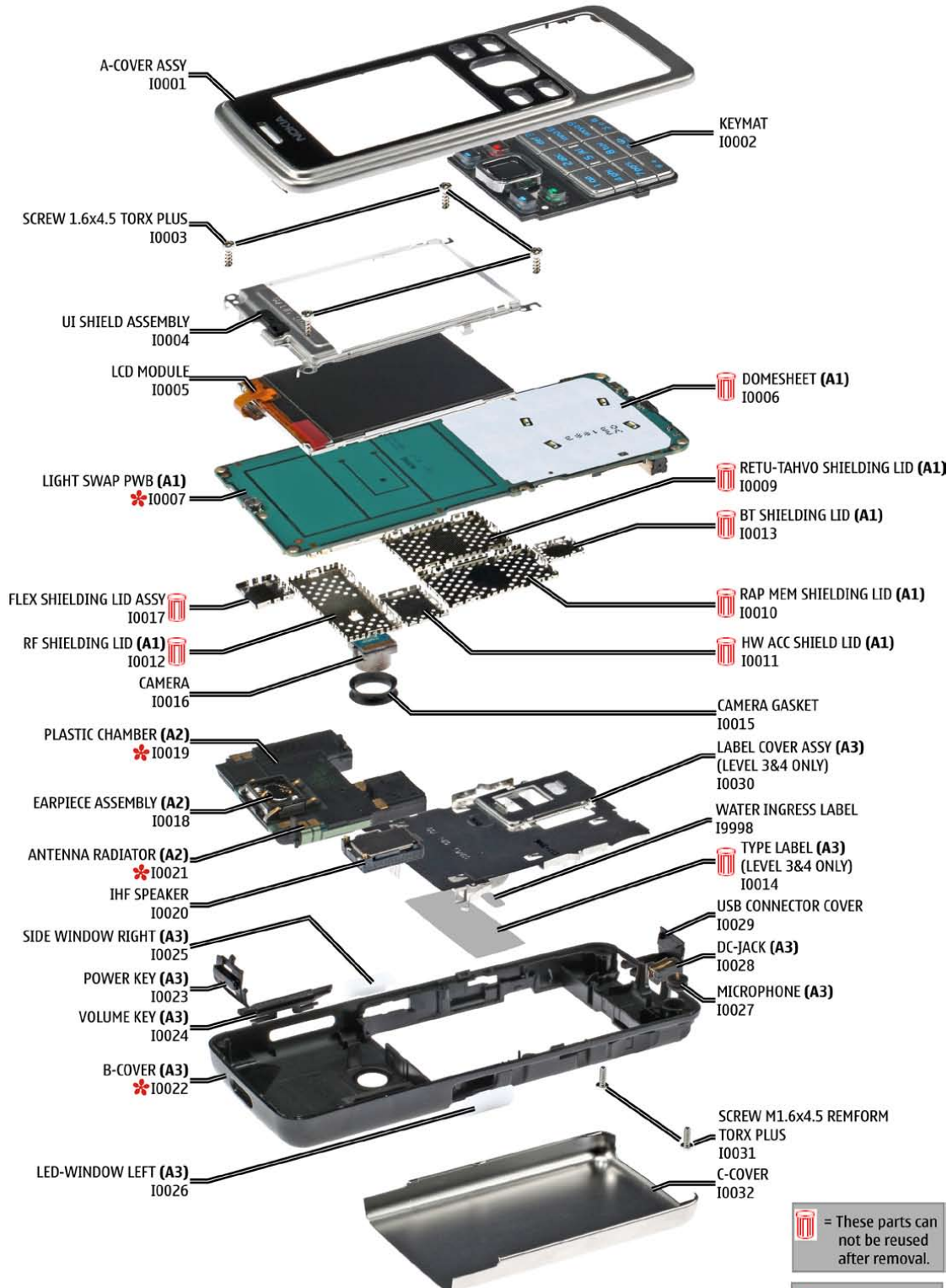


Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on NOKIA Online. Also see ESD Protection Requirements in this Service Manual.

2. EXPLODED VIEW

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

6301 RM-322 / 6301b RM-323 EXPLODED VIEW



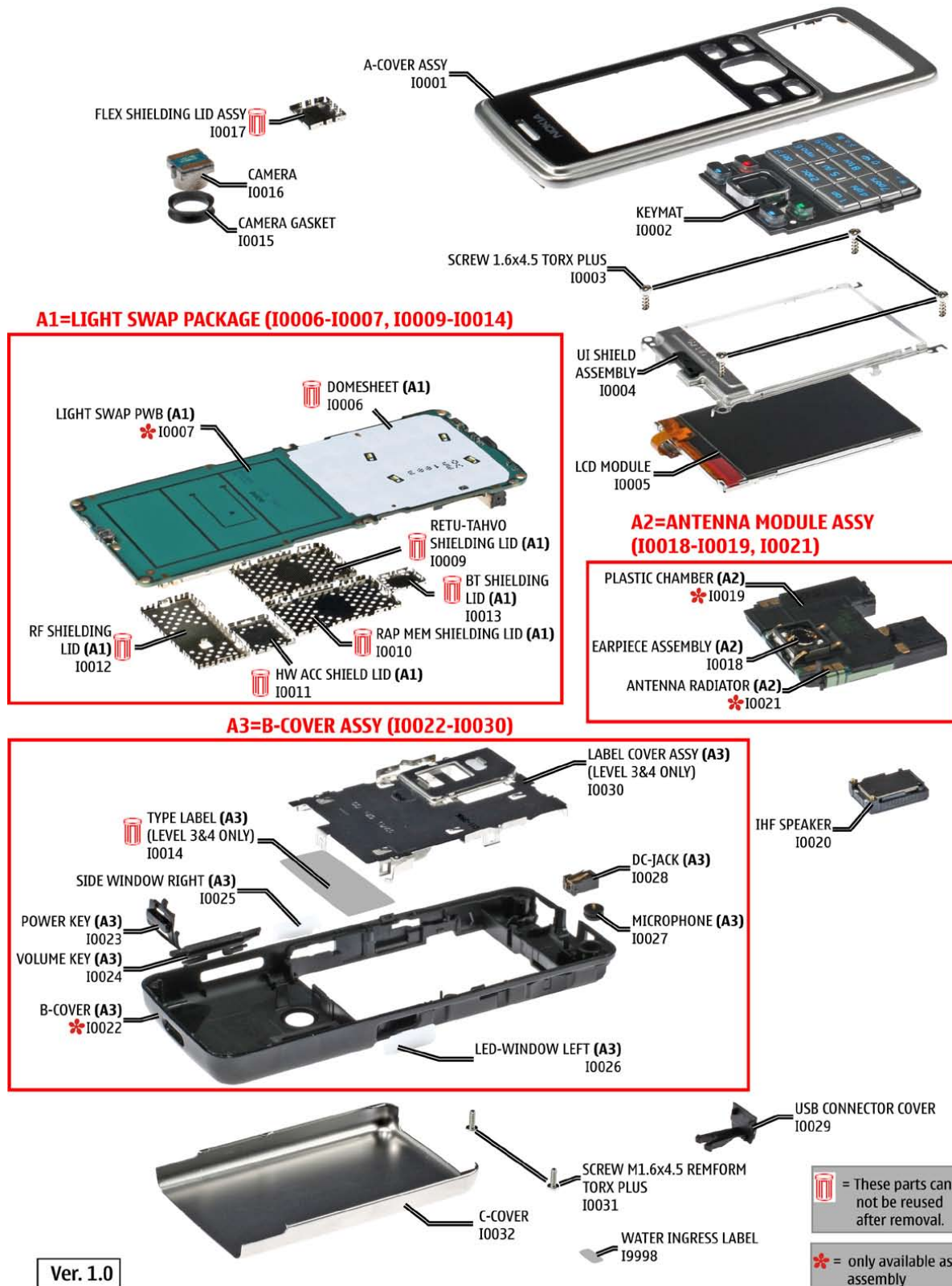
= These parts can not be reused after removal.

= only available as assembly

Ver. 1.0

3. SPARE PARTS OVERVIEW

6301 RM-322 / 6301b RM-323 SPARE PARTS OVERVIEW

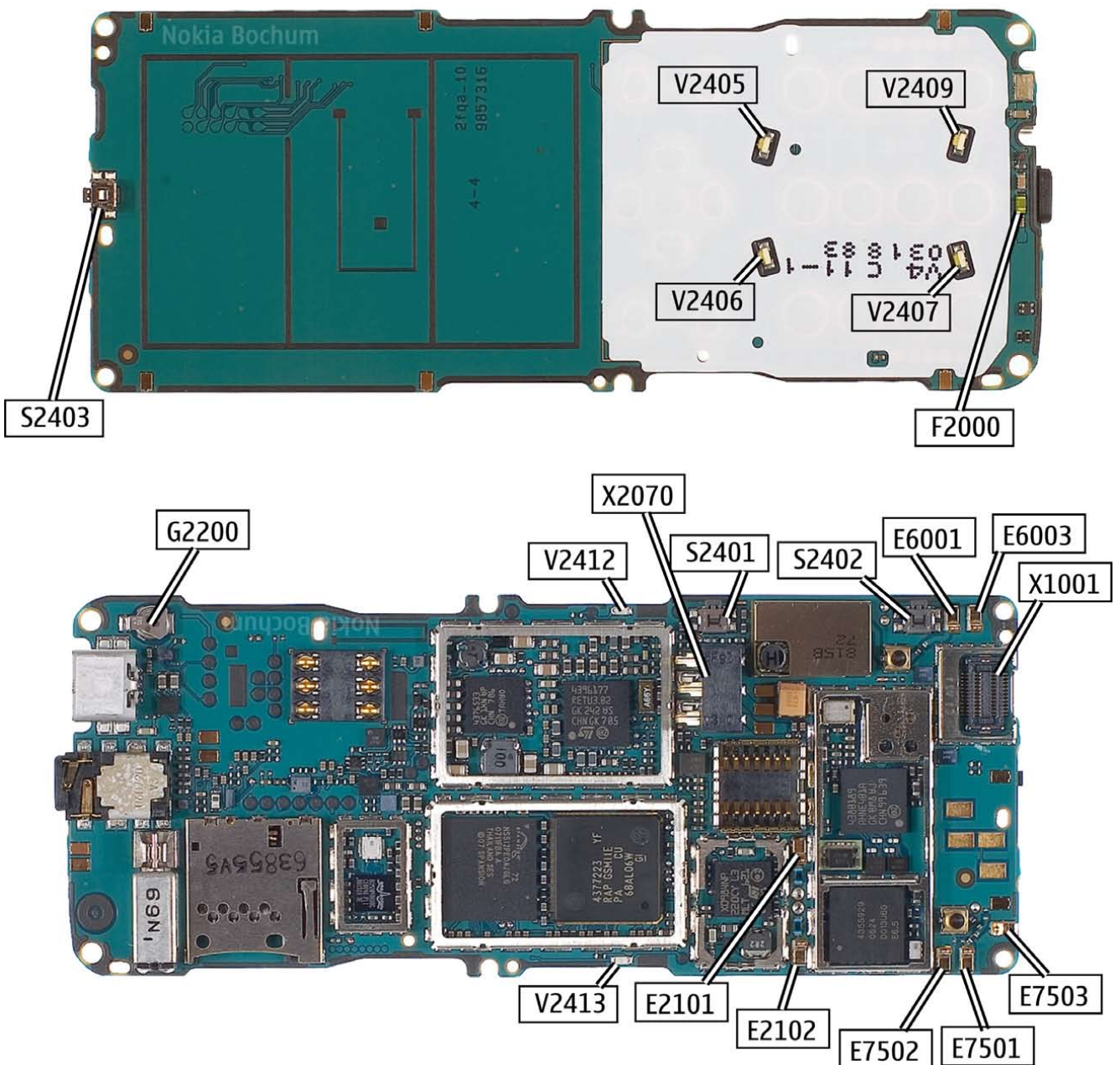


Ver. 1.0

4. LEVEL 2 SOLDER COMPONENTS

N6301 RM-322/ 6301b RM-323 Components overview

Solder components only for LEVEL 2



5. SERVICE DEVICES

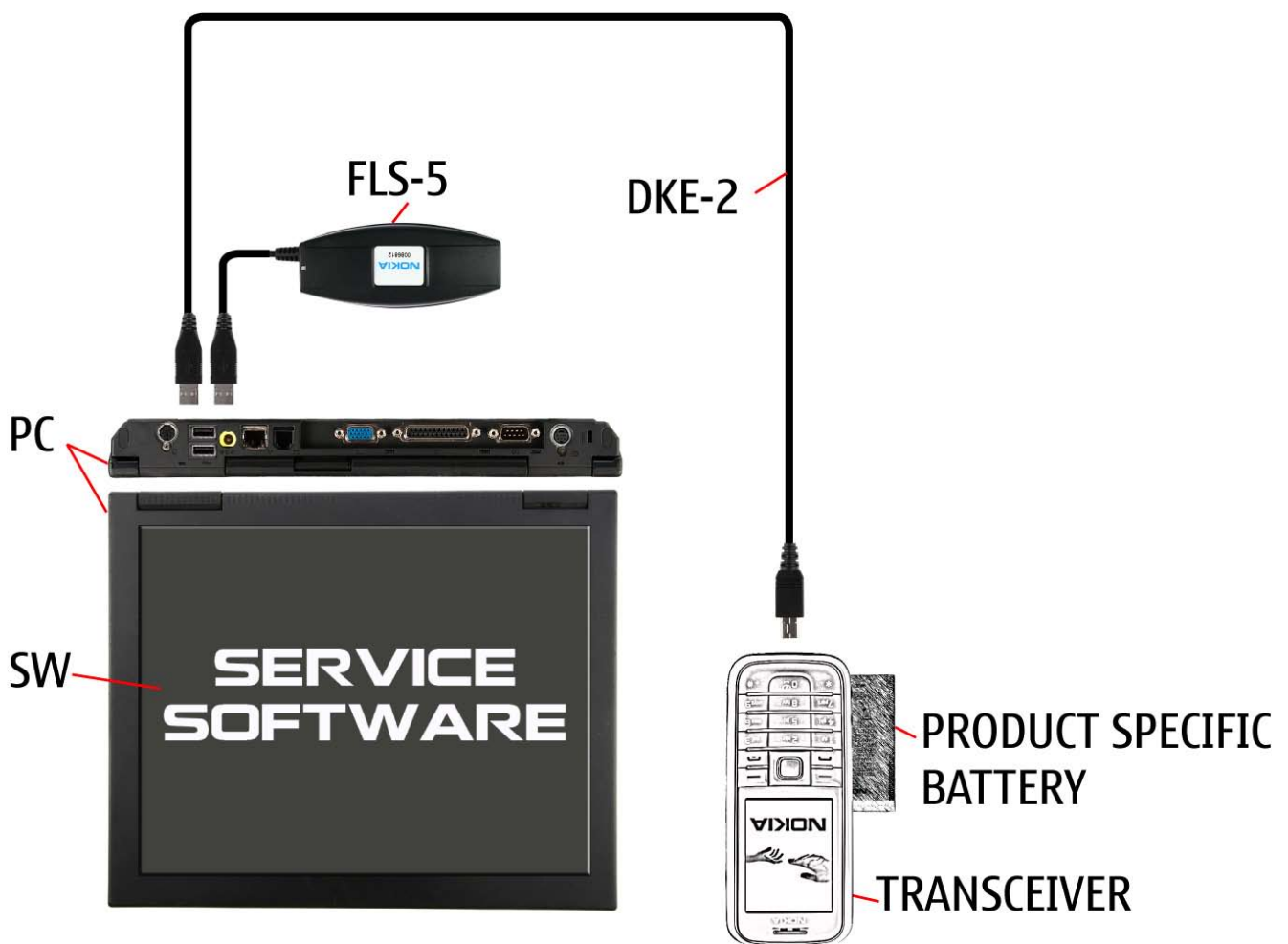
| | |
|---|--|
| <p>FLS-5</p>  | <p>FLS-5 incl. ACF-8, Driver and User Guide Dongle and flash device incorporated into one package, developed specifically for POS use.</p> |
|  | <p>ACF-8 Universal Power Supply is used to power FLS-5.</p> |
|  | <p>Travel Charger AC-4 Small and lightweight charger for fast charging of your phone battery.</p> |
|  | <p>Internal Battery BL-4c Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.</p> |
| <p>SS-45</p>  | <p>SS-45 Camera removal tool.</p> |
|  | <p>DKE-2 Service Cable to connect the PC with the mini USB connector.</p> |
| <p>SS-101</p>  | <p>SS-101 Domesheet alignment jig</p> |

| | |
|---|--|
| <p>RJ-148</p>  | <p>RJ-148 Soldering Jig</p> |
|  | <p>Lead-free Solder Wire Mandatory for lead-free products (Level 2 only).</p> |
|  | <p>0772040 NMP Standard Toolkit (V2)</p> <p>For more informations refer to the Service Bulletin (SB-011) on NOKIA Online.</p> <p>Supplier or manufacturer contacts for tool re-order can be found in “Recommended service equipment” document on NOKIA Online.</p> |

6. SW-UPDATE

Flash Concept – (Point of Sales)

To use 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](#).



7. DISASSEMBLY - HINTS



1. Needed tools: SRT-6, metal tweezers, SS-93, SS-45 camera removal tool, a straight bladed screwdriver, dental pick, bit holder with a torx plus size 6 bit, a torque driver, DC plug



2. Always cover the windows with a protective film.



3. Shift out the C-COVER.



4. **Note! Before disassembling the phone, make sure that the micro SD card has been removed.** Remove both screws in the order shown.



5. Remove the screws.



6. Unlock the plastic clips of the A-COVER with the SRT-6...



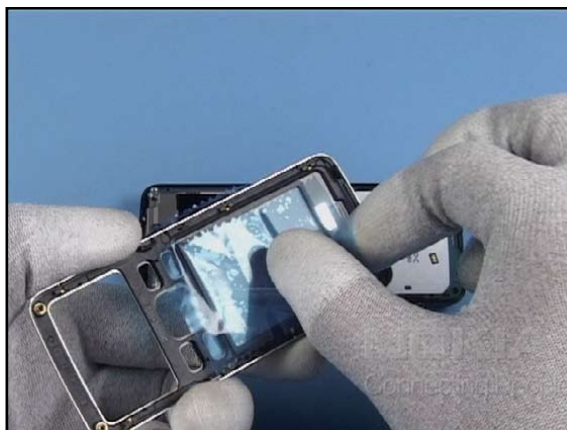
7. ...on both sides.



8. Lift up the cover now.



9. Remove the KEYMAT



10. Protect the window from inner side.



11. Unscrew the four screws in the order shown.



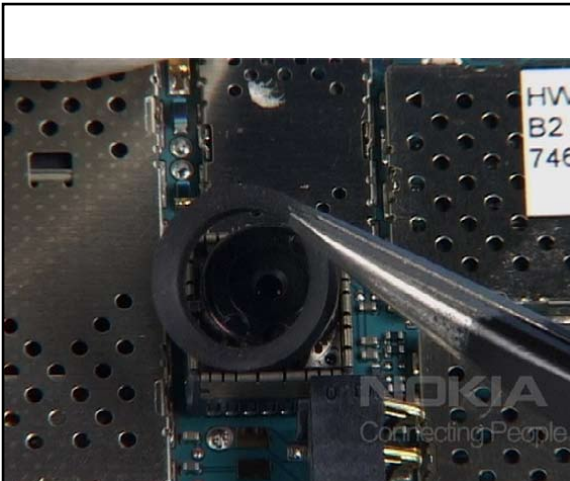
12. Remove the screws. Separate these screws, do not mismatch them with the others.



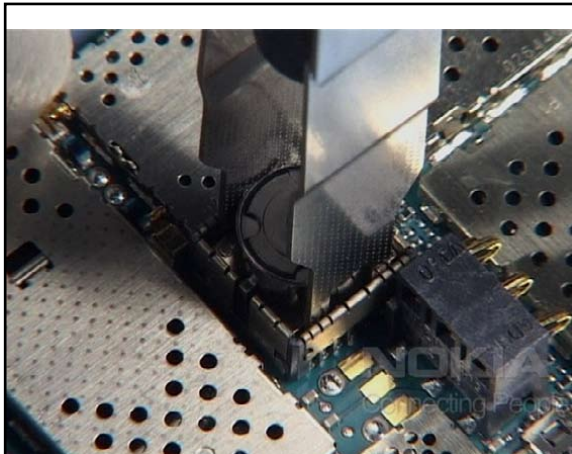
13. Cover the display with a film.



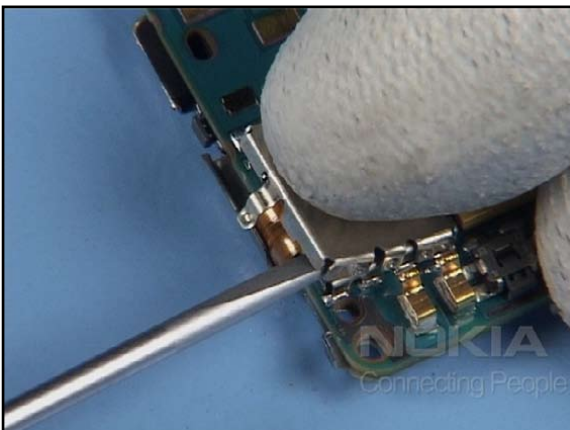
14. **Note!** Before removing the B-COVER, make sure that the micro SD card has been removed. Turn the assembly, lift up the B-COVER.



15. Remove the CAMERA GASKET.



16. Unlock and remove the CAMERA with the SS-45.



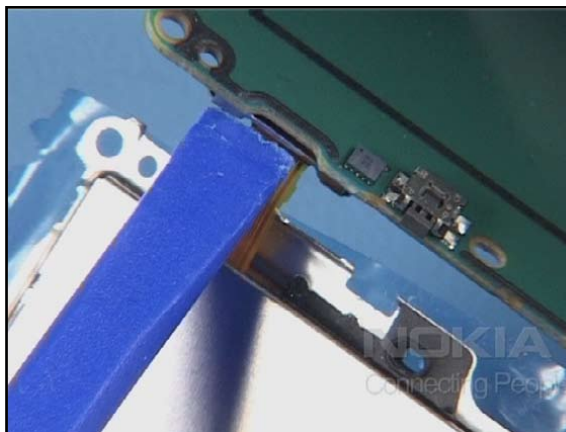
17. Release the FLEX SHIELDING LID and discard it.



18. Do not use it again.



19. Unlock both metal clips of the UI SHIELD.



20. Carefully unlock the flex connector of the LCD MODULE.



21. Peel up the protective film.



22. Now separate the parts as shown.



23. Cover the display with a film again.



24. Remove the MICROPHONE and the DC JACK.



25. Carefully lever out the EARPIECE ASSEMBLY.



26. Carefully unlock the clip securing the PLASTIC CHAMBER.



27. Now remove it.



28. The IHF SPEAKER is not glued and can be removed easily.



29. Carefully release the clips of the LED- and the SIDE WINDOW.



30. The POWER- and the VOLUME KEY can be removed easily.



31. Release the shown metal snaps of the LABEL COVER ASSY with the dental pick.



32. Turn the assembly and open the SIM lid.



33. Now release these two latches.



34. Use the dental tool to push out the last clips.



35. Release the LABEL COVER ASSEMBLY, beginning from the bottom side.



36. Mind these clips.

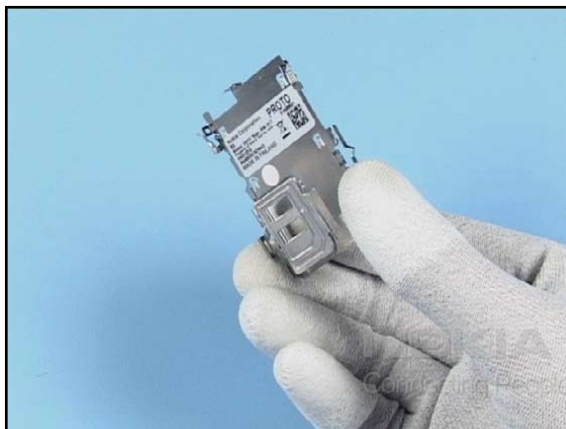


37. The disassembly procedure is now completed.

8. ASSEMBLY - HINTS



1. Assembly hints:



2. Keep in mind that the LABEL COVER ASSEMBLY with the TYPE LABEL must always be assembled together with the corresponding engine module.



3. Insert the LABEL COVER ASSEMBLY into the B-COVER as shown.



4. Carefully push all latches into their places.



5. Close the SIM lid.



6. Check the correct positioning of all these latches.



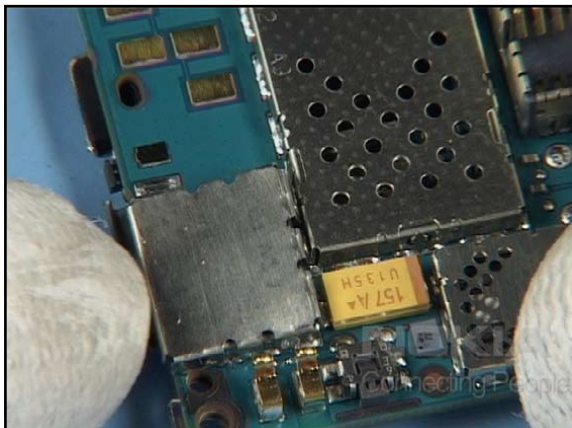
7. Insert the LED- and the SIDE- WINDOW. Note that they can't be interchanged.



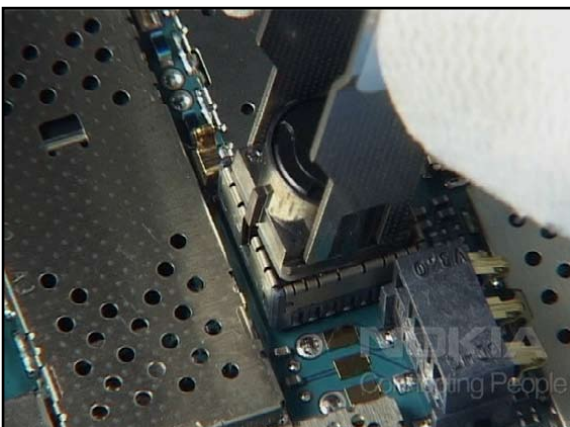
8. Note that the IHF SPEAKER contacts belongs to their pads.



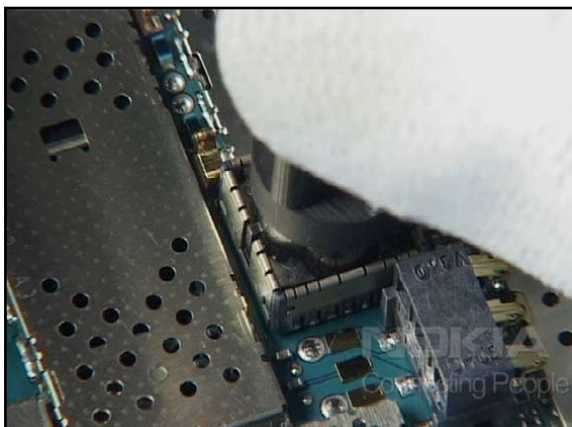
9. Secure all clips of the PLASTIC CHAMBER before going on.



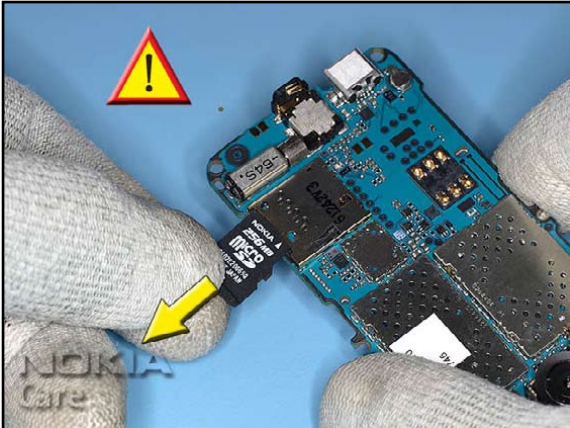
10. Always use a new FLEX SHIELDING LID.



11. Mind the guiding tab while replacing the CAMERA.



12. Push it into its place.



13. Make sure that the microSD card is not inserted, otherwise remove them.



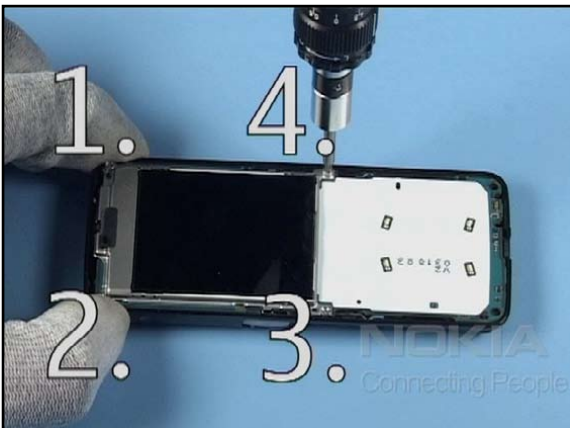
14. Place the assembly onto the B-COVER.



15. Set the correct torque.



16. Turn the screws to the left first to engage the threads, then tighten them slightly.










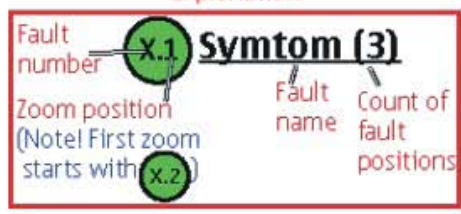


17. Apply the correct torque to all screws in the order shown.

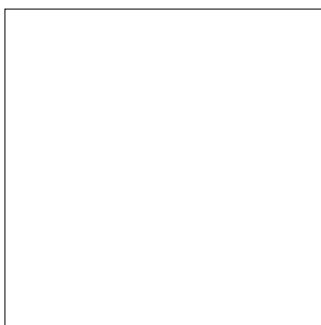
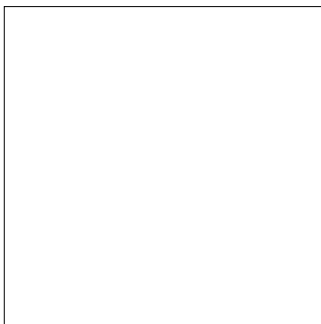
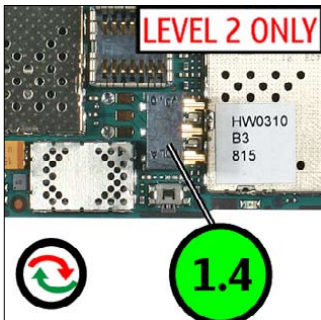
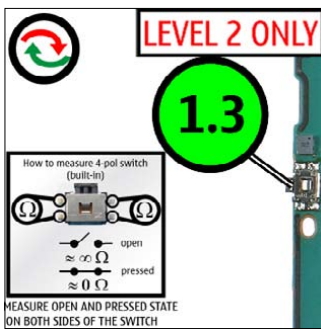
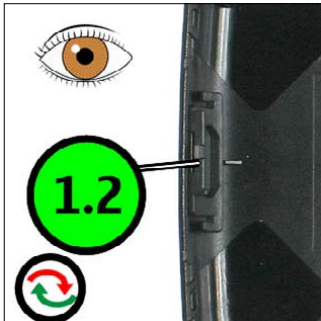


18. Tighten both screws of the C-COVER in the order shown, too.

9. LEGEND FOR QUICK TROUBLE SHOOTER

| Legend for Quick Trouble Shooter | |
|---|---|
| This legend is valid for all parts of the Quick Trouble Shooter | |
| Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward. | |
|  | Check the mechanical condition of the component (bent, broken or missing). |
|  | Only marked components can be replaced. If additionally " =CHANGE ASSY " appears, then change the whole assembly (e.g. A4=D-COVER ASSEMBLY). |
|  | Cloth usage: Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.  |
|  | Measure component for electrical functionality and change, if needed. (Level 2 only)  |
|  | ESD Brush usage: Check contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.  |
|  | <p>Explanation</p>  <p>Fault number: x.1 Zoom position (Note! First zoom starts with x.2)</p> <p>Fault name: Symtom (3) Count of fault positions: 3</p> |

10. QUICK TROUBLE SHOOTER - POWER ON



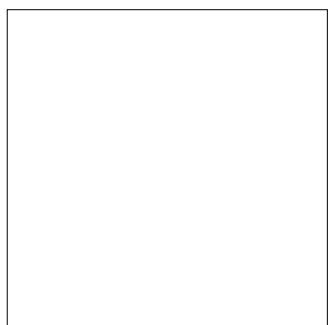
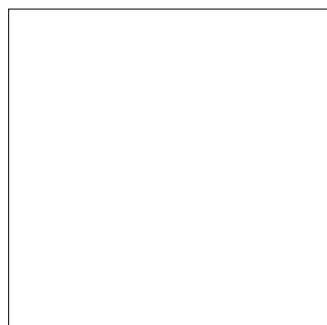
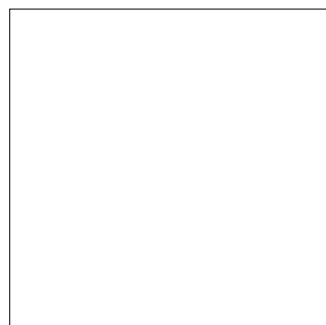
Explanation

| | | | | |
|---|--------------------------|---|------------|--------------------------|
| Fault number | X.1 | Symtom (3) | | |
| Zoom position (Note! First zoom starts with X.2) | | <table style="font-size: small;"> <tr> <td style="padding: 2px;">Fault name</td> <td style="padding: 2px;">Count of fault positions</td> </tr> </table> | Fault name | Count of fault positions |
| Fault name | Count of fault positions | | | |

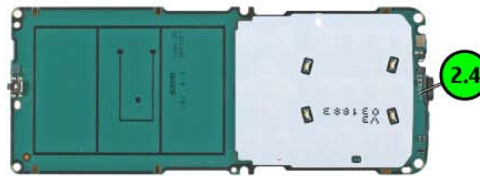
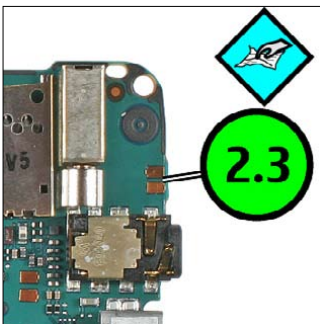
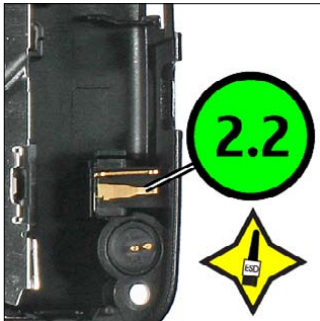
1.1 POWER ON (3)

The diagram shows the following components labeled with green circles:

- 1.1**: The phone's keypad and display assembly.
- 1.2**: The back cover of the phone.
- 1.3**: The battery and internal frame assembly.
- 1.4**: The main logic board and various peripheral components.

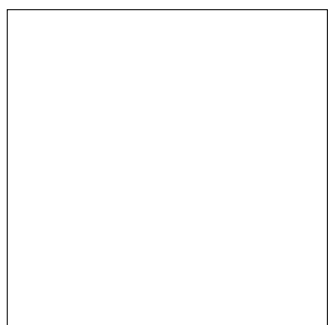
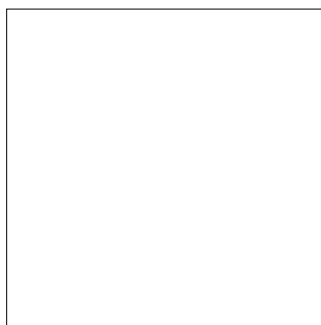
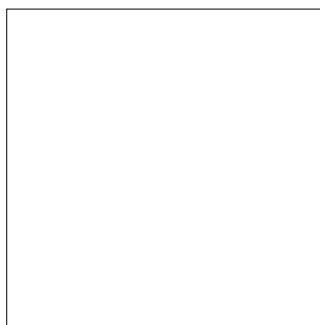
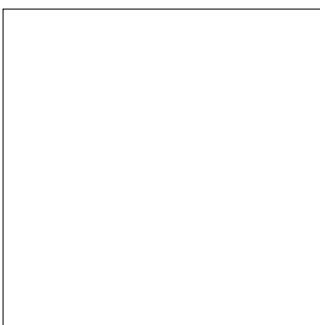


11. QUICK TROUBLE SHOOTER - CHARGING

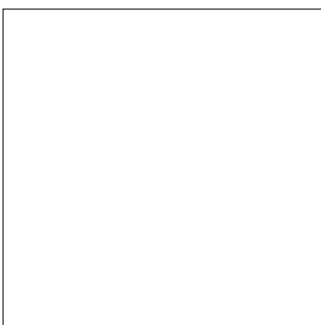
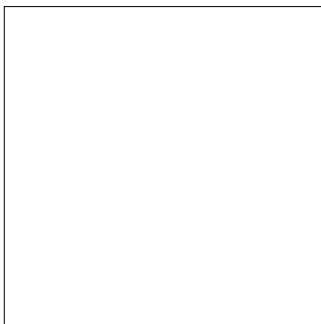
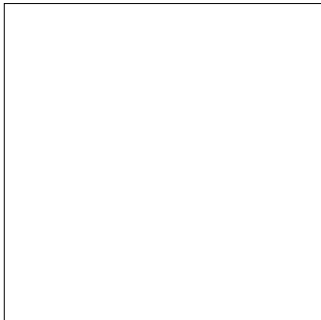
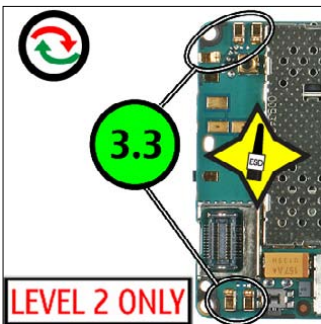
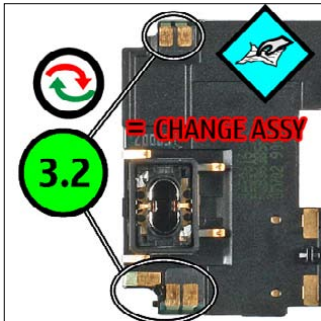


| Explanation | | |
|--|-----|--------------------------|
| Fault number | X.1 | Symtom (3) |
| Zoom position (Note! First zoom starts with X.2) | | Fault name |
| | | Count of fault positions |

2.1 CHARGING (4)



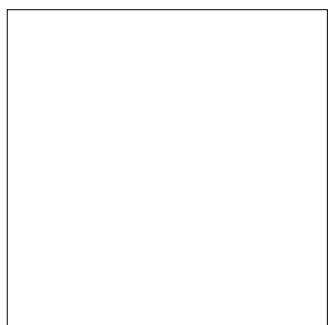
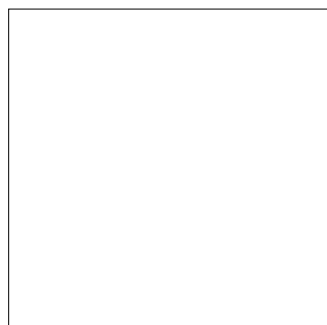
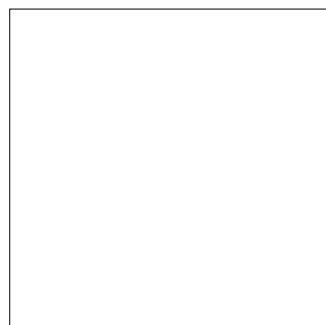
12. QUICK TROUBLE SHOOTER - NO SERVICE



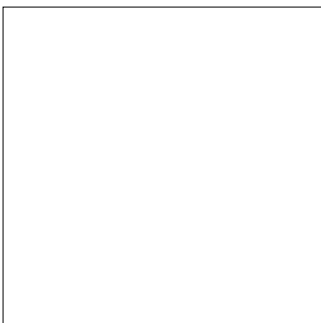
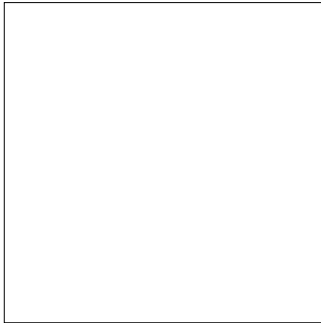
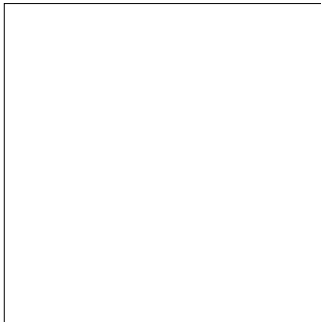
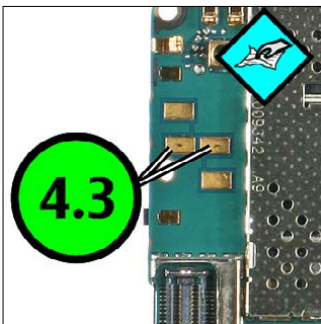
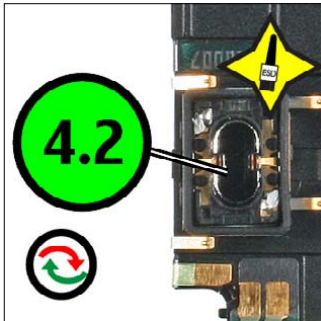
Explanation

| | | |
|---|-----|--------------------------|
| Fault number | X.1 | Symtom (3) |
| Zoom position (Note! First zoom starts with X.2) | X.2 | Fault name |
| | | Count of fault positions |

3.1 **NO SERVICE (2)**



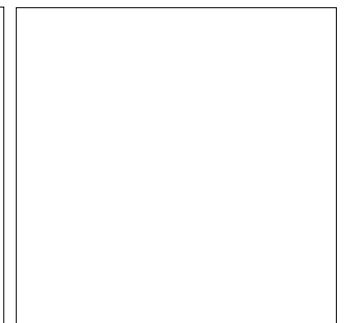
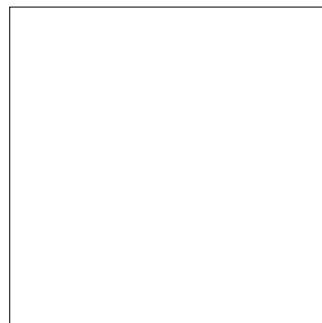
13. QUICK TROUBLE SHOOTER - EARPIECE



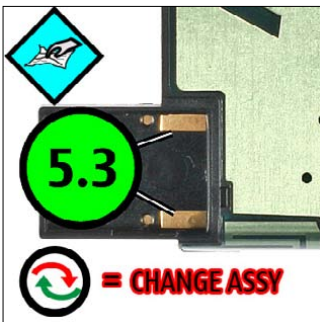
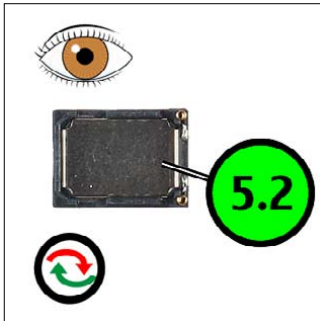
Explanation



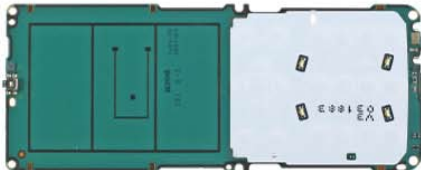

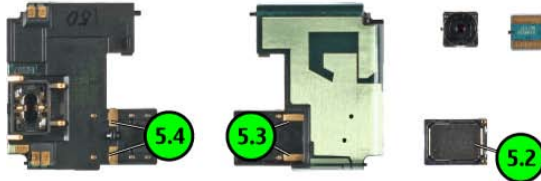

| | | | |
|---|-----|-------------------|--------------------------|
| Fault number | X.1 | Symtom (3) | |
| Zoom position (Note! First zoom starts with X.2) | | Fault name | Count of fault positions |

4.1 **EARPIECE (2)**



14. QUICK TROUBLE SHOOTER - IHF SPEAKER

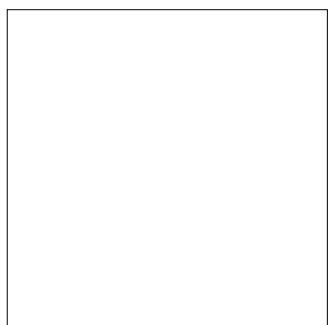
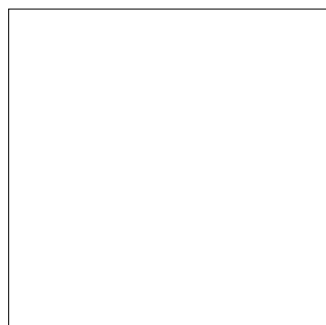
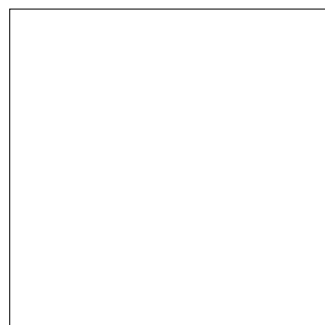
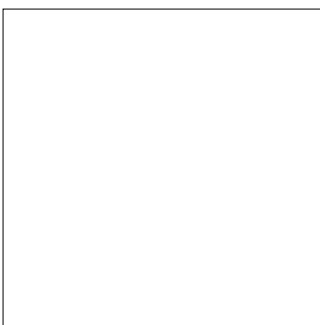


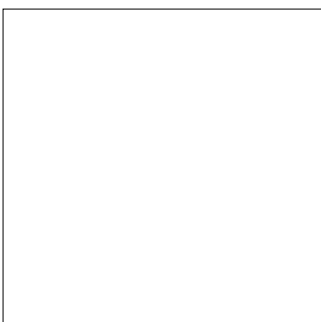
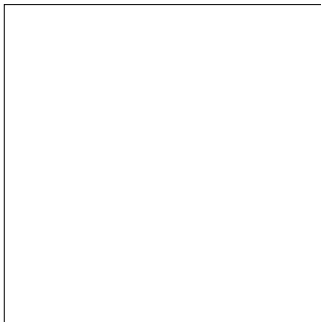
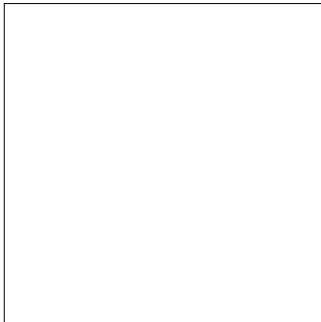
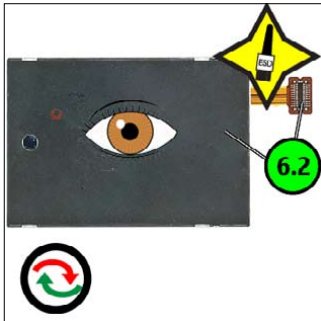
Explanation

| | | | |
|--|-----|-------------------|--------------------------|
| Fault number | x.1 | Symtom (3) | |
| Zoom position (Note! First zoom starts with x2) | x2 | Fault name | Count of fault positions |

5.1 IHF SPEAKER (4)



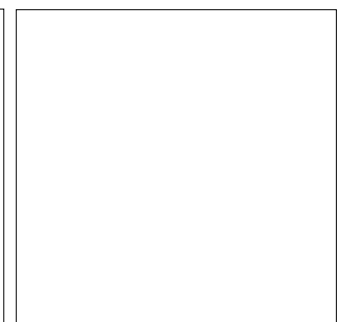
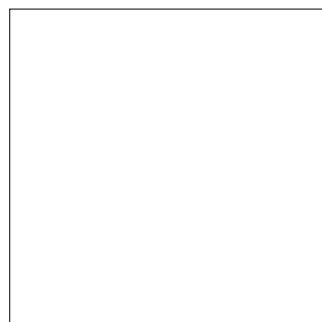
15. QUICK TROUBLE SHOOTER - DISPLAY



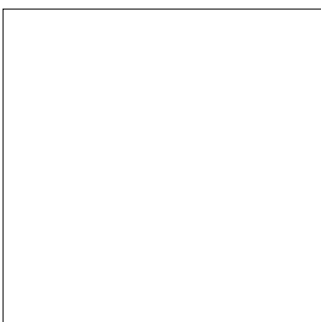
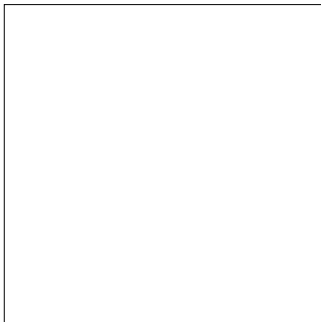
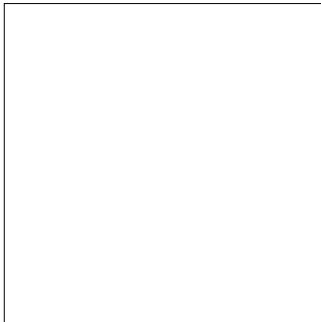
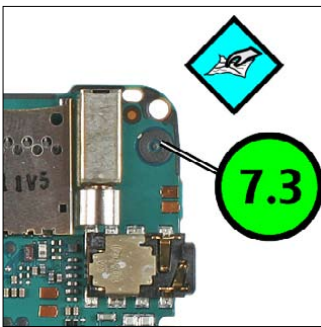
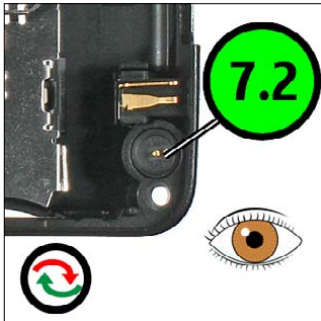
Explanation



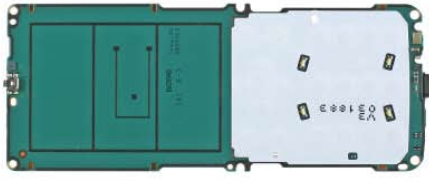

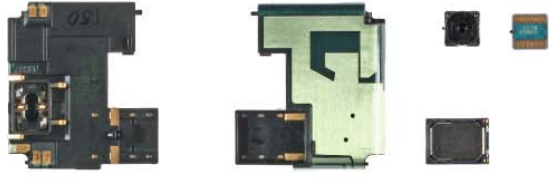

| | | | |
|--|-----|-------------------|--------------------------|
| Fault number | x.1 | Symtom (3) | |
| Zoom position (Note! First zoom starts with x2) | | Fault name | Count of fault positions |

6.1 DISPLAY (2)



16. QUICK TROUBLE SHOOTER - MICROPHONE

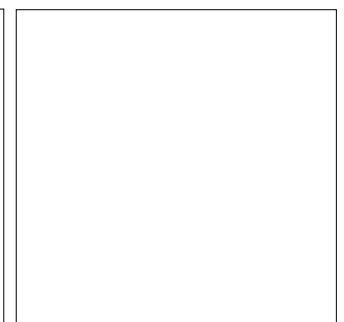
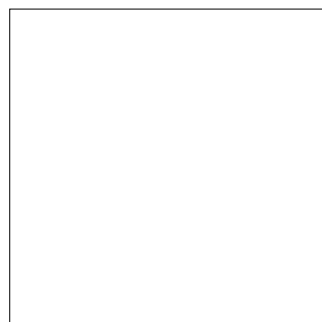


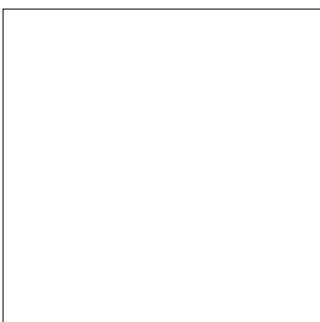
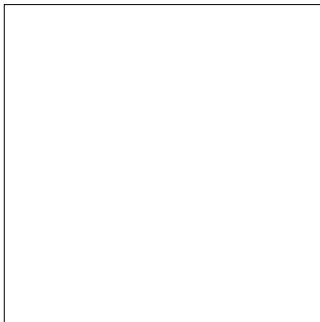
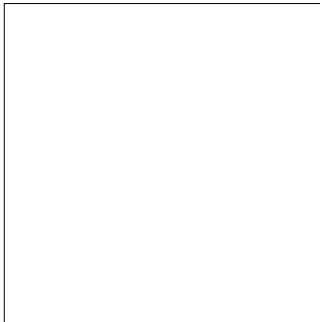
Explanation

| | | |
|--|------------|--------------------------|
| Fault number | x.1 | Symtom (3) |
| Zoom position (Note! First zoom starts with | x.2) | |
| | Fault name | Count of fault positions |

7.1 MICROPHONE (2)



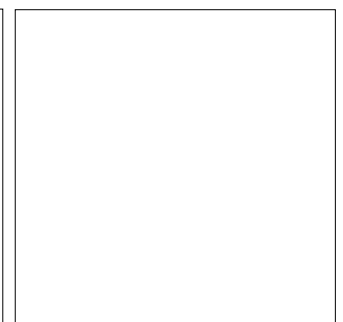
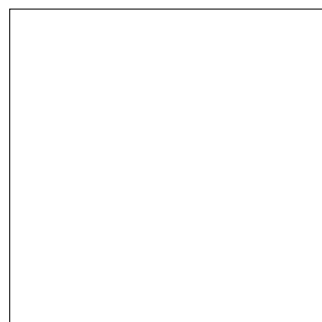
17. QUICK TROUBLE SHOOTER - KEYMAT



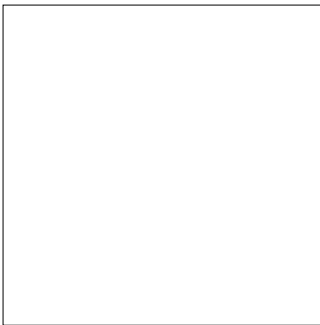
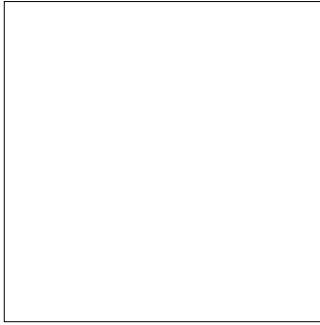
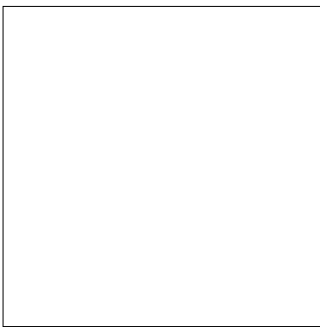
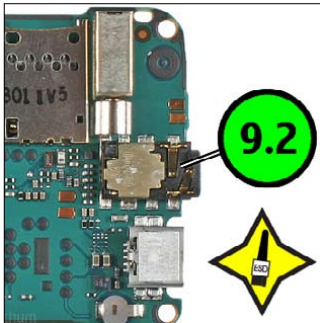
Explanation



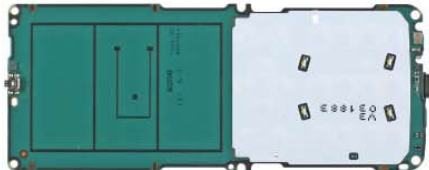

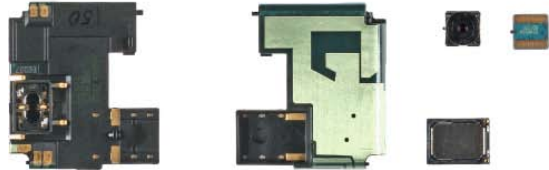

| | | | |
|--|------|-------------------|--------------------------|
| Fault number | x.1 | Symtom (3) | |
| Zoom position (Note! First zoom starts with | x.2) | Fault name | Count of fault positions |

8.1 KEYMAT (2)



18. QUICK TROUBLE SHOOTER - AV CONNECTOR

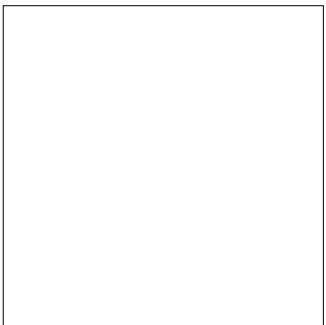
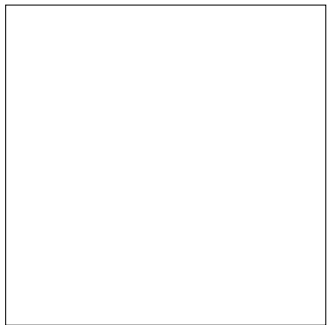
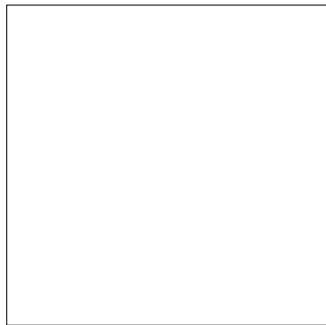


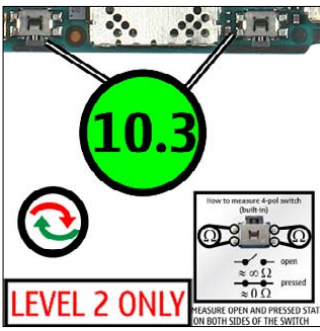
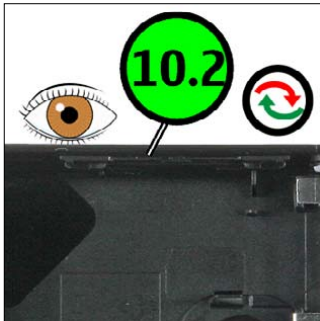
Explanation


| | | | |
|---|-----|-------------------|--------------------------|
| Fault number | X.1 | Symtom (3) | |
| Zoom position (Note! First zoom starts with X.2) | | Fault name | Count of fault positions |

9.1 AV CONNECTOR (1)



19. QUICK TROUBLE SHOOTER - VOLUME KEYS






Explanation

Fault number **X.1** **Symtom (3)**


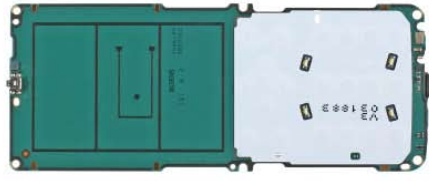

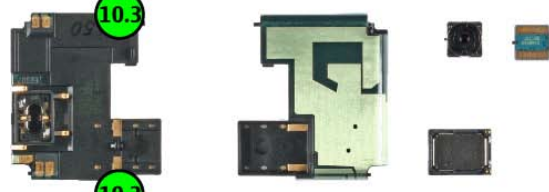

Zoom position (Note! First zoom starts with **X.2**)

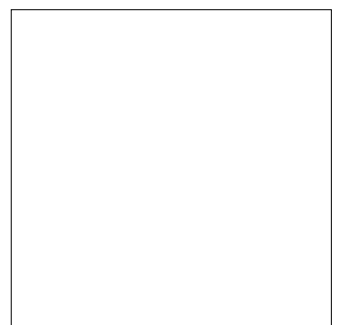
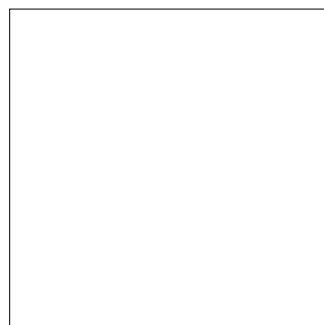
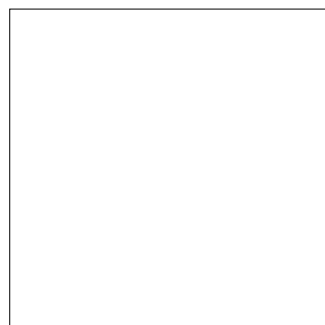
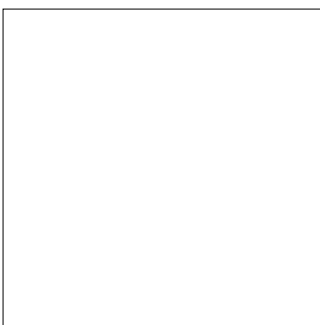
Fault name

Count of fault positions

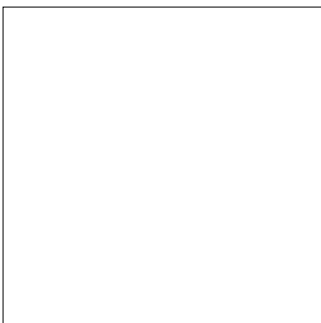
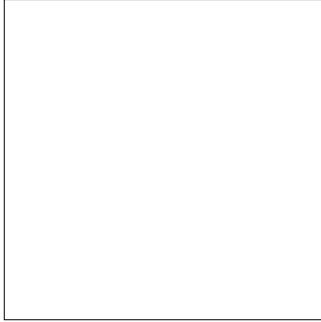
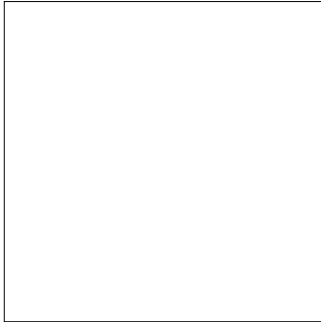
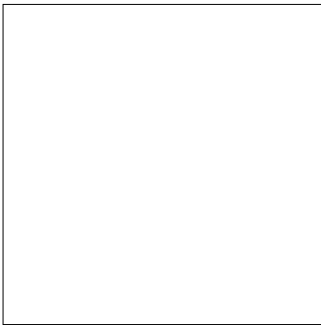
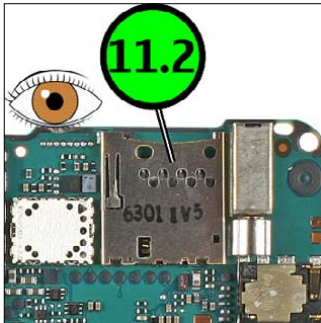


VOLUME KEYS (2)



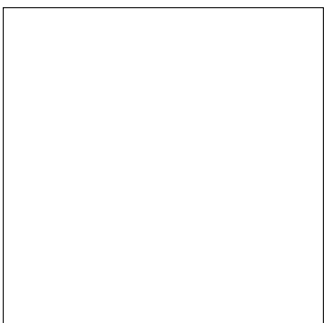
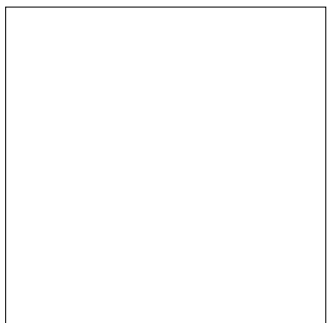
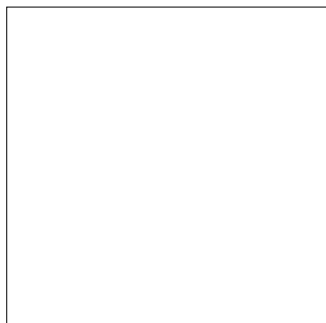
20. QUICK TROUBLE SHOOTER - CARD READER



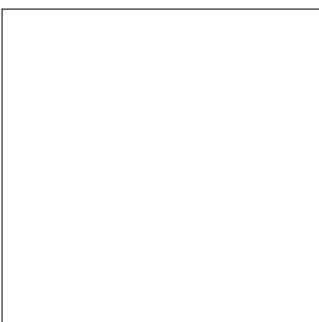
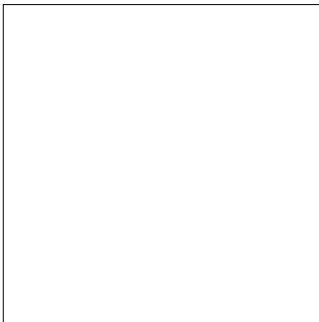
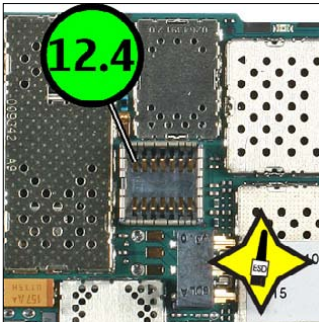
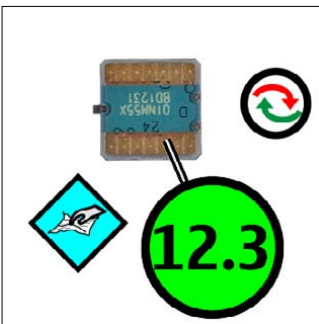
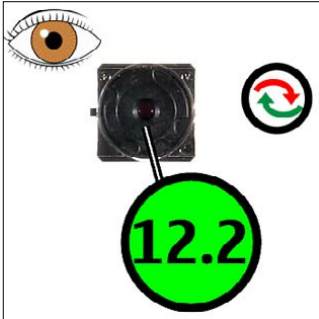
Explanation



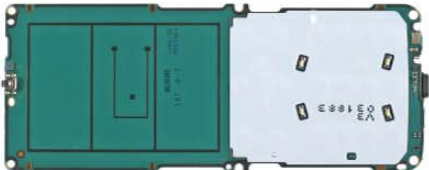



| | | |
|---|-----|--------------------------|
| Fault number | X.1 | Symtom (3) |
| Zoom position (Note! First zoom starts with X.2) | X.2 | Fault name |
| | | Count of fault positions |

11.1 **CARD READER (1)**



21. QUICK TROUBLE SHOOTER - CAMERA



Explanation

| | | | |
|---|-----|-------------------|--------------------------|
| Fault number | X.1 | Symtom (3) | |
| Zoom position (Note! First zoom starts with X.2) | X.2 | Fault name | Count of fault positions |

12.1 CAMERA (3)

