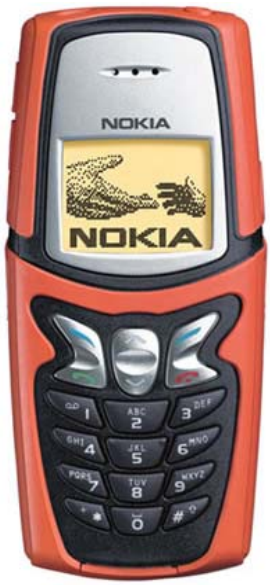

Service Manual
Nokia 5210
NSM-5

Service Level 2

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Introduction

The purpose of this document is to give Nokia service level 2 workshops aids to carry out service for 5210. The use of this Service Manual is only for Nokia authorized service partners additionally to other service documentation like Service Bulletins.

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, Nokia should be notified. 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. Ensure solder, wire, or foreign matter does not enter the telephone as damage may result.
4. Use only approved components as specified in the parts list.
5. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment. Ensure all cables and wires are repositioned correctly.
6. All PC's used with NMP Service Software for this produce must be bios and operating system "Year 2000 Compliant".

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Table of content

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Change History

Originator	Status	Version No.	Date	Comments
MWy	Draft	0.1	17.01.2002	Initial draft
MWy	Approved	1.0	12.02.2002	

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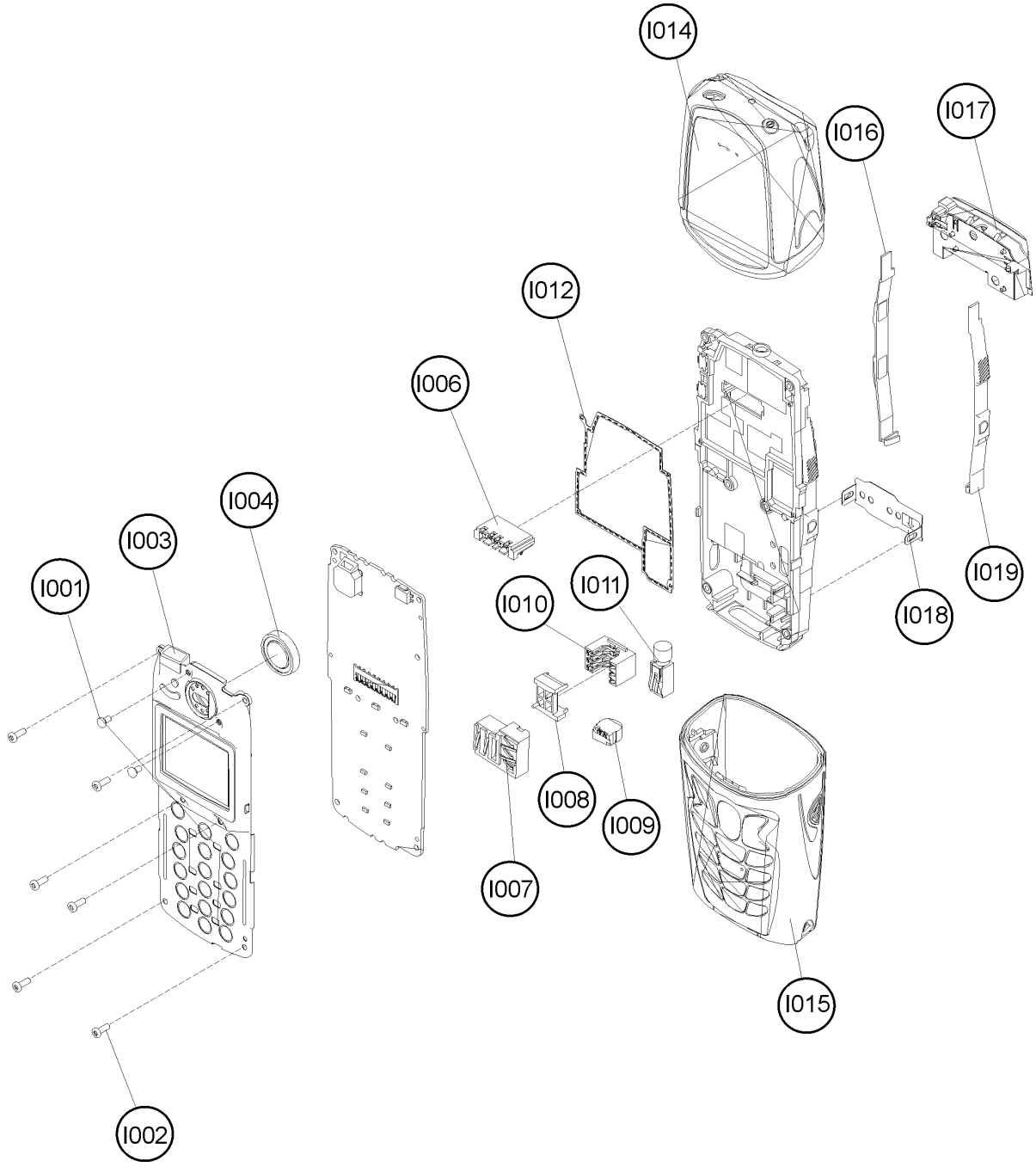
1. EXPLODED VIEW



Description: See corresponding ITEM/CIRCUIT REF of the BOR (Bill Of Repair)

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2. BILL OF REPAIR

SPARE PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
I001	2	6290103	Screw 1.6x3.2 (Use 8 Ncm torque)
I002	6	6190049	Screw 1.6x5.3 (Use 17 Ncm torque)
I003	1	4850205	LCD module assy
I004	1	5140067	Speaker + spring
I006	1	5409093	Battery connector 4 pole
I007	1	5409095	DC & HF connector
I008	1	9660147	Twin Rip
I009	1	5140175	Microphone + holder + springs
I010	1	5409155	SIM connector
I011	1	6800041	Vibra assy
I012	1	9480791	RF gasket
I016	1	9510836	Release spring left
I017	1	0660249	Antenna
I018	1	9560085	SIM spring
I019	1	9510829	Release spring right
F101	1	5119019	SM FUSE F 1.5A 32V 0603
G101	1	4700131	CELL CAPACITOR 0.01MAH 3V3
S300/1	2	5200025	SM TACT SW SIDE TRAVEL 0.2 MM
S330	1	5209001	SM SW TACT SPST 12V 50MA SIDE KEY
V321	1	4864601	LED CL270PSO14 ORANGE >35MCD 0603
V323	1	4864601	LED CL270PSO14 ORANGE >35MCD 0603
V325	1	4864601	LED CL270PSO14 ORANGE >35MCD 0603
V331/2	2	4864651	LED CL191PSO14 ORANGE >25MCD 0603
V334/5	2	4864651	LED CL191PSO14 ORANGE >25MCD 0603
V337-340	4	4864651	LED CL191PSO14 ORANGE >25MCD 0603
		0772026	Spare Part Kit
		0080628	Refurbishment Kit

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VARIANT PARTS			
I014	1	9458284	A-SHELL ASSY BURNED ORANGE FUNKY
I015	1	9458286	B-SHELL ASSY BURNED ORANGE FUNKY
I015	1	9490544	B-SHELL ASSY BURNED FOR FUNKY ARABIC
I015	1	9490545	B-SHELL ASSY BURNED FOR FUNKY HEBREW
I015	1	9490546	B-SHELL ASSY BURNED FOR FUNKY CYRILLI
I014	1	9490498	A-SHELL ASSY WAVE BLUE FUNKY
I015	1	9490501	B-SHELL ASSY WAVE BLUE FUNKY LATIN
I015	1	9490534	B-SHELL ASSY WAVE BLUE FUNKY STROKE

SWAP UNITS

	QTY	PART NO	PART NAME
		0073338	NSM-5NX SWAP ENGINE
		0073335	NSM-5NX SWAP ENGINE TURKEY
		0073336	NSM-5NX SWAP ENGINE RUSSIAN
		0073337	NSM-5NX SWAP ENGINE FRANCE
		0073343	NSM-5NX SWAP ENGINE CZECH
		0073419	NSM-5NX SWAP ENGINE POLAND

SERVICE TOOLS

	QTY	PART NO	PART NAME
		0271570	BATTERY BLB-2 LI-ION 650 MAH
		0081483	POS FLASH DONGLE FLS-4
		0272169	AC TRAVEL CHARGER ACP-8E (EUR)
		0272172	AC TRAVEL CHARGER ACP-8X (UK)
		0730218	POS SERVICE CABLE XCS-1
		0081346	POS FLASH LOADING ADAPTER FLA-10
		0774071	Service SW Diskette 3.5" WinTesla
		0774080	Service SW Diskette 3.5" for NSM-5
		0273195	HEAD-SET DOUBLE MONO HDD-1
		0770226	Battery Connector Extractor Tool SRT-3

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3. GENERAL REPAIR INFORMATION

In this section you will get some general hints how to carry out repairs:

- Before starting the repair you must take care of ESD precautions like being in your ESD-area and connecting your arm wrist.
- Use gloves to avoid corrosion and fingerprints.
- When cleaning the pads you have to use a soft cloth and isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
- Soldering with **hot air gun** is totally forbidden because of the very sensitive µBGA components and µVia technology. Please check general Service Bulletin-122.
- Mechanical parts, which didn't repair the failure, can be reused, if they are not soldered.
- Use always original Nokia parts or accessories.
- Don't' try to repair liquid damages.
- Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on Partner Websites).
- Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
- The bottom side of a module is the side where the part no. of the pcb is seen.
- Please check Partner Websites (PWS) for latest news on a regular basis

Simple Infrared Test:
You need another NOKIA infrared device to do an infrared test.
Make sure that infrared is activated in receiver device (e. g.: another 5210).

Explanation:
In Quotation marks = push button
Bold = choose text

- "Names"
- **Search**, "Select"
- "ok"
- "Details"
- "Options"
- Push 4 times "Arrow down"
- **Send via IR** "Select"

If the business card is not sent/received make sure that receiver device is within reach (aprox. 15 cm).
After successful sending push "Back" and then "Exit".

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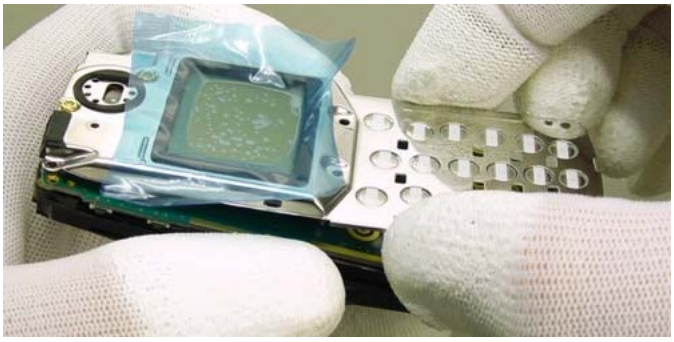
4. DISASSEMBLY INSTRUCTIONS

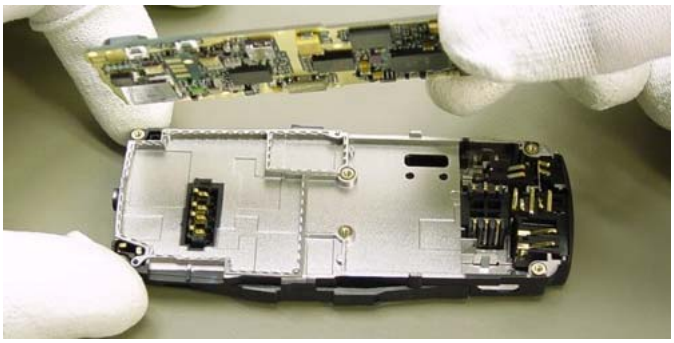
To open the unit the A-Shell has to be removed first. Press the grip markings on both sides of the B-Shell and pull the A-Shell apart from the B-Shell.

Now, press the release springs near the display and pull the unit out of the B-Shell.

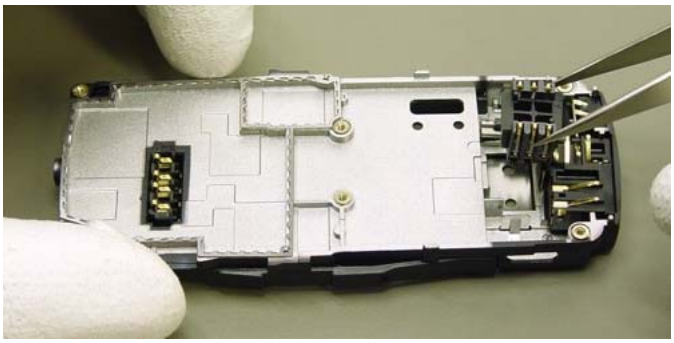
Remove the six screws with screwdriver Torx T6 in the shown order. When assembling the reverse order has to be taken with torque of 17Ncm.



Now the LCD module can be removed easily.



All the connectors are located under the CMT module. Take care that the RF Gasket stays in position on the four guiding pins. If the gasket is bent it has to be changed.



The SIM Connector can be removed with tweezers.

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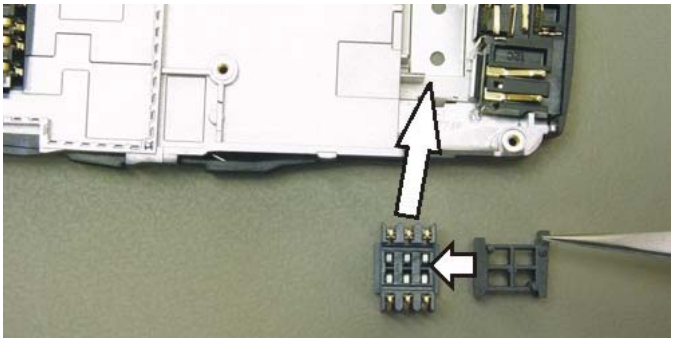
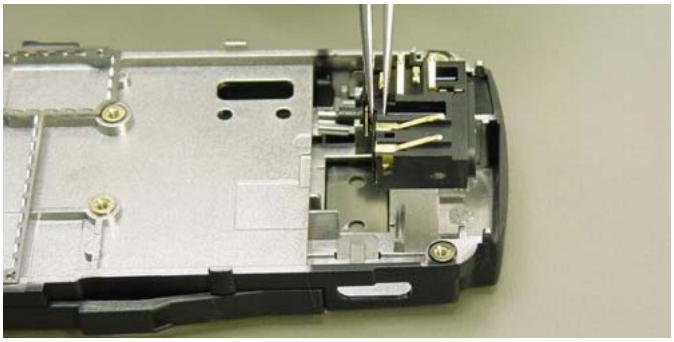
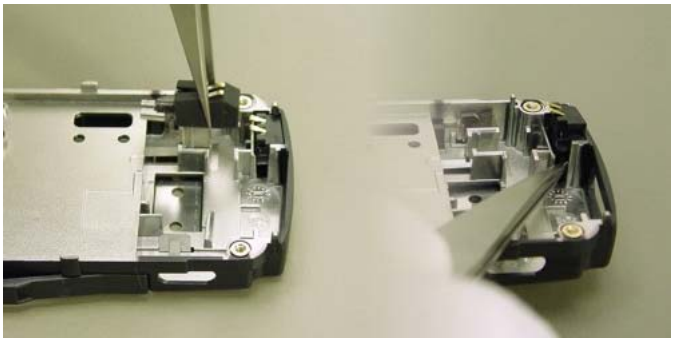


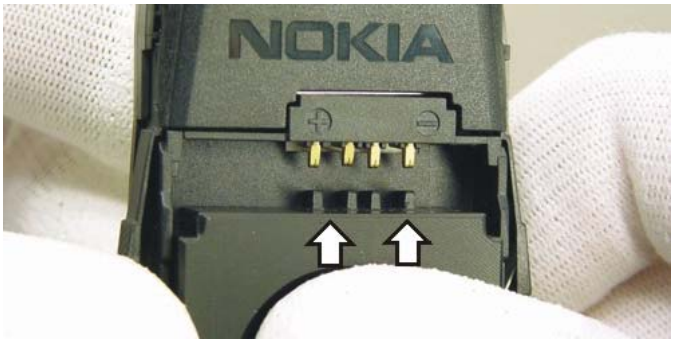
If you assemble the SIM Connector, be aware that the Twin Rip is also fitted correctly. The Twin Rip is responsible to keep the SIM Connector in the right position.



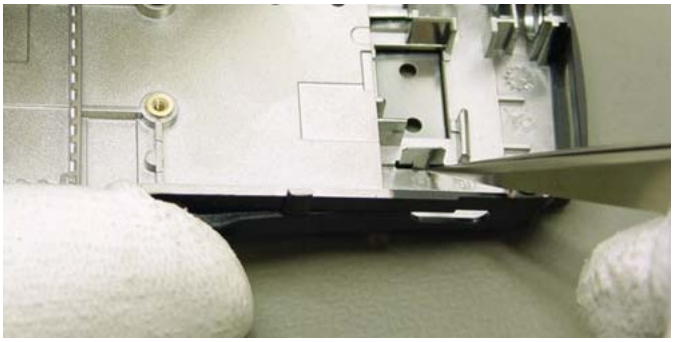
When the SIM Connector is removed, the DC + HF Connector can be taken away.



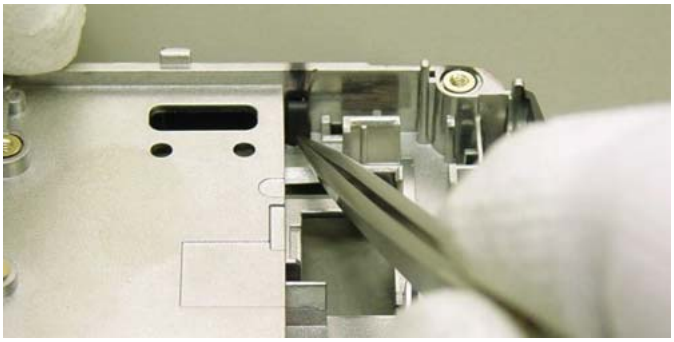
The Vibra Motor with its rubber case is squeezed into the B-Cover like the Microphone. Do not grab the spring connectors, because they may be damaged when pulling the microphone. To change the Microphone, push it up carefully with tweezers.



With the Battery Connector Extractor Tool SRT-3 used in 8210 you can easily push out the Battery Connector without bending the sensible contacts.



If you need to change the SIM Spring you first have to release the two lockings.



For changing the plastic Release Springs the lower sides have to be unlocked first.

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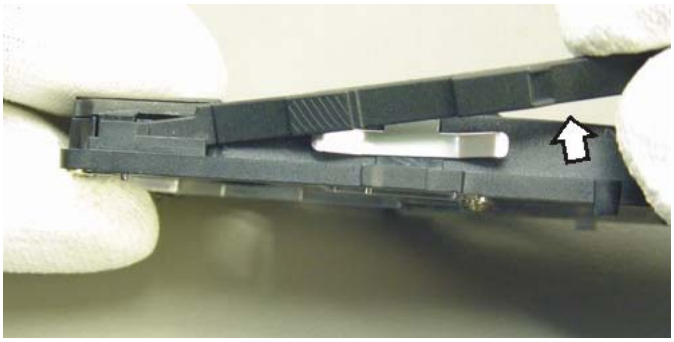
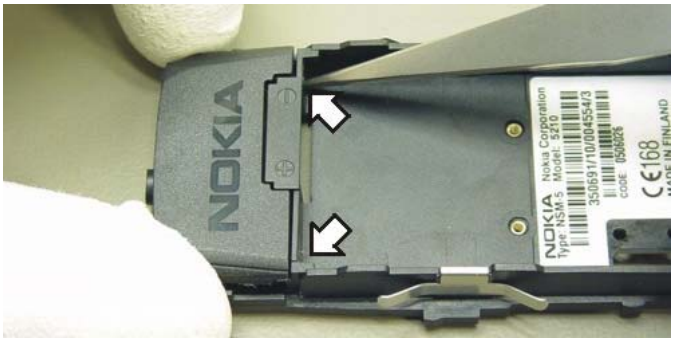
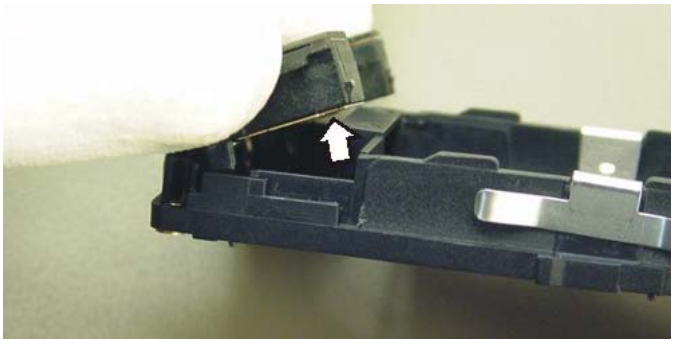


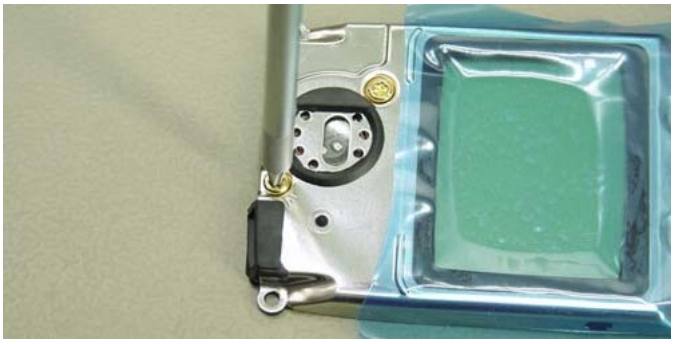
Pull up the lower side of the Release Spring and take it out of the upper holder.



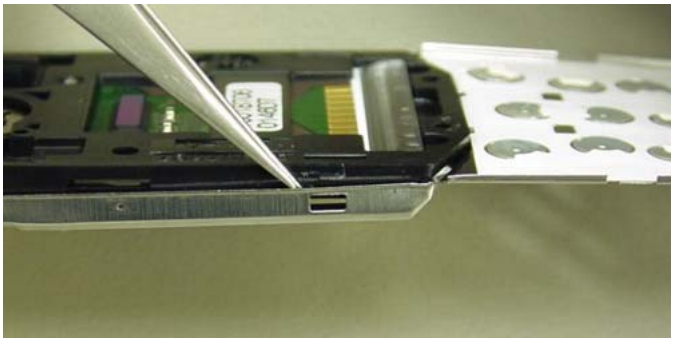
The Antenna is fixed with four snaps. It is enough, if you release with tweezers the two snaps at the battery side.



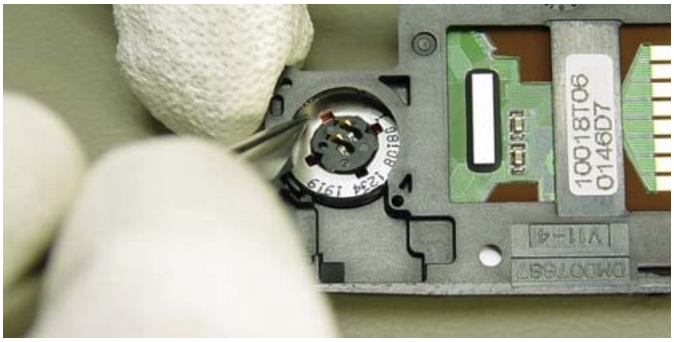
Move up the antenna as shown in the picture. Take care not to damage the antenna contacts. The metal is very sensitive against corrosion, so please don't touch the metal with your fingers. Use gloves instead.



It is also possible to change the speaker, if needed. Therefore you have to unscrew these two screws. **Remember to use torque of 8 Ncm when tightening the speaker screws.**



Remove the protection foil of the display and unlock the snaps on both sides of the display frame.



Replace the protection foil. Now you have the separated plastic frame of the LCD unit. You can now carefully push out the speaker with your fingers or tweezers.

The final GoNoGo test verifies that the electrical specifications will be fulfilled.

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5. SW-UPDATE

To use FLS-4 Flash Dongle you have to follow the user guide inside the sales package. Please check always the latest version of flash software, which is available on Partner Website.

Flash Concept – (Point of Sales)

Description: See corresponding ITEM/CIRCUIT REF of the BOR (Bill Of Repair)

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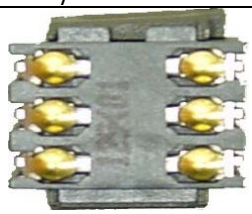
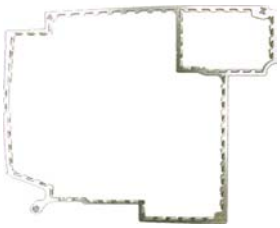
6. MAIN PARTS

		
HF+DC Connector **I007**	Microphone **I009**	Vibra Motor **I011**
		
Battery Connector **I006**	Antenna **I017**	Speaker **I004**
		
SIM Connector **I010**	Twin Rip **I008**	SIM Spring **I018**
		
Batt.Conn.Extractor **SRT-3**	RF Gasket **I012**	Release Spring L **I016;** R **I019**
		
A-Shell **I014;** B-Shell **I015**	LCD Module **I003**	B-Cover, not changeable

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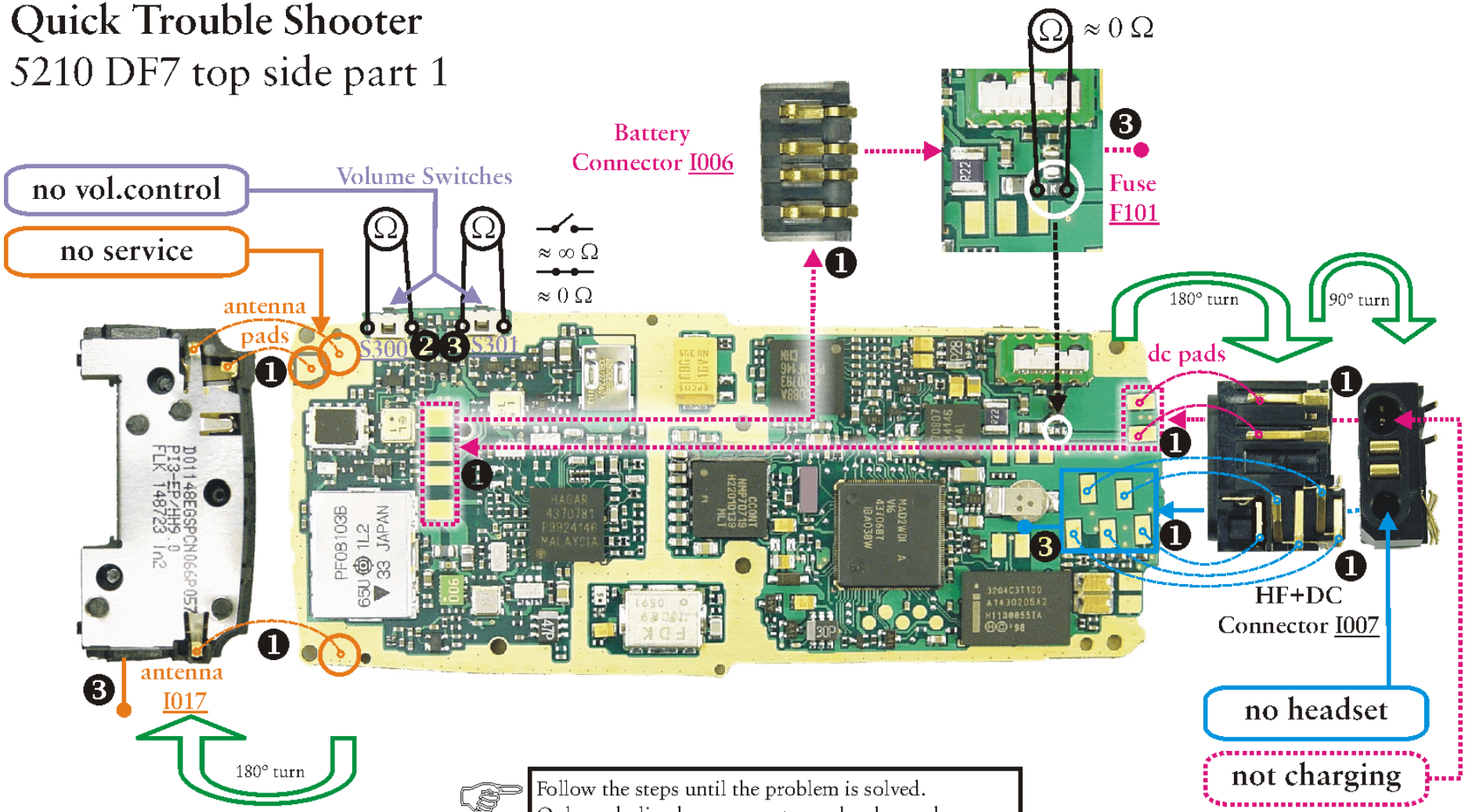
7. QUICK TROUBLE SHOOTER PART1



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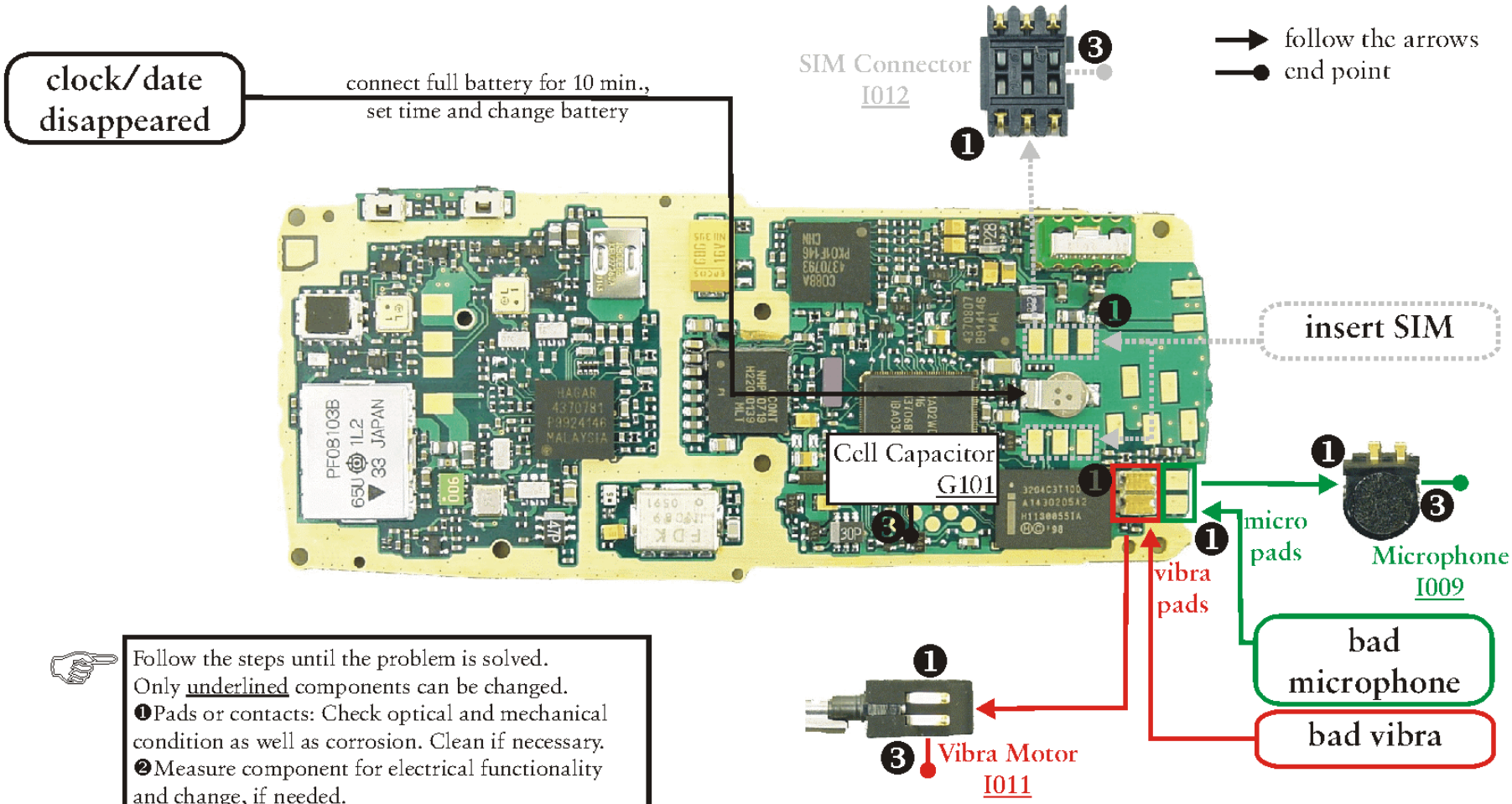
8. QUICK TROUBLE SHOOTER PART2

Quick Trouble Shooter

5210 DF7 top side part 2



Follow the steps until the problem is solved.
Only underlined components can be changed.
❶Pads or contacts: Check optical and mechanical condition as well as corrosion. Clean if necessary.
❷Measure component for electrical functionality and change, if needed.
❸No more action possible, send product to the appropriate service partner with higher service level.

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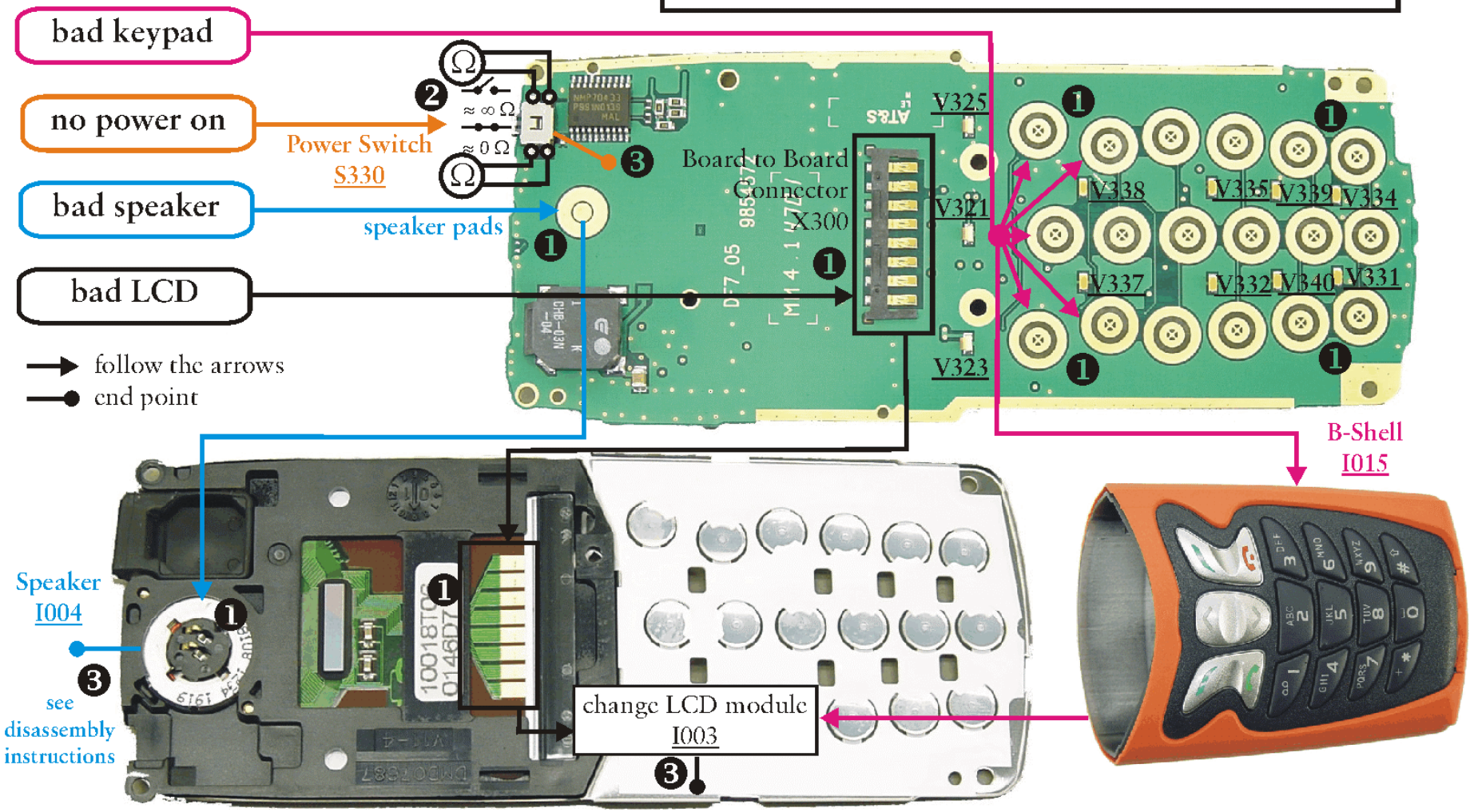
9. QUICK TROUBLE SHOOTER PART3

Quick Trouble Shooter
5210 part 3, DF7 bottom side

Follow the steps until the problem is solved.
Only underlined components can be changed.
❶Pads or contacts: Check optical and mechanical condition as well as corrosion. Clean if necessary.
❷Measure component for electrical functionality and change, if needed.
❸No more action possible, send product to the appropriate service partner with higher service level.



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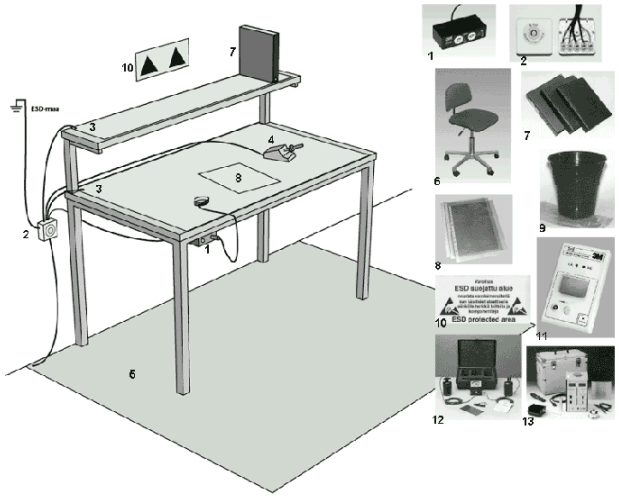
10. ESD PROTECTION REQUIREMENTS

	Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Partner has to take care of at least some precautions like ESD restricted area, floor, table, covering, chair(s), shoes or arm wrist.

Please refer to the Partner Website document
ESD protection requirements for NMP Service Level 1/2 Service Suppliers

	
example configuration of an epa-area source: www.armeka.com	example configuration of a workbench source: www.warmbier.com
	
example workbench and testers source: http://www.armekaengineering.com	

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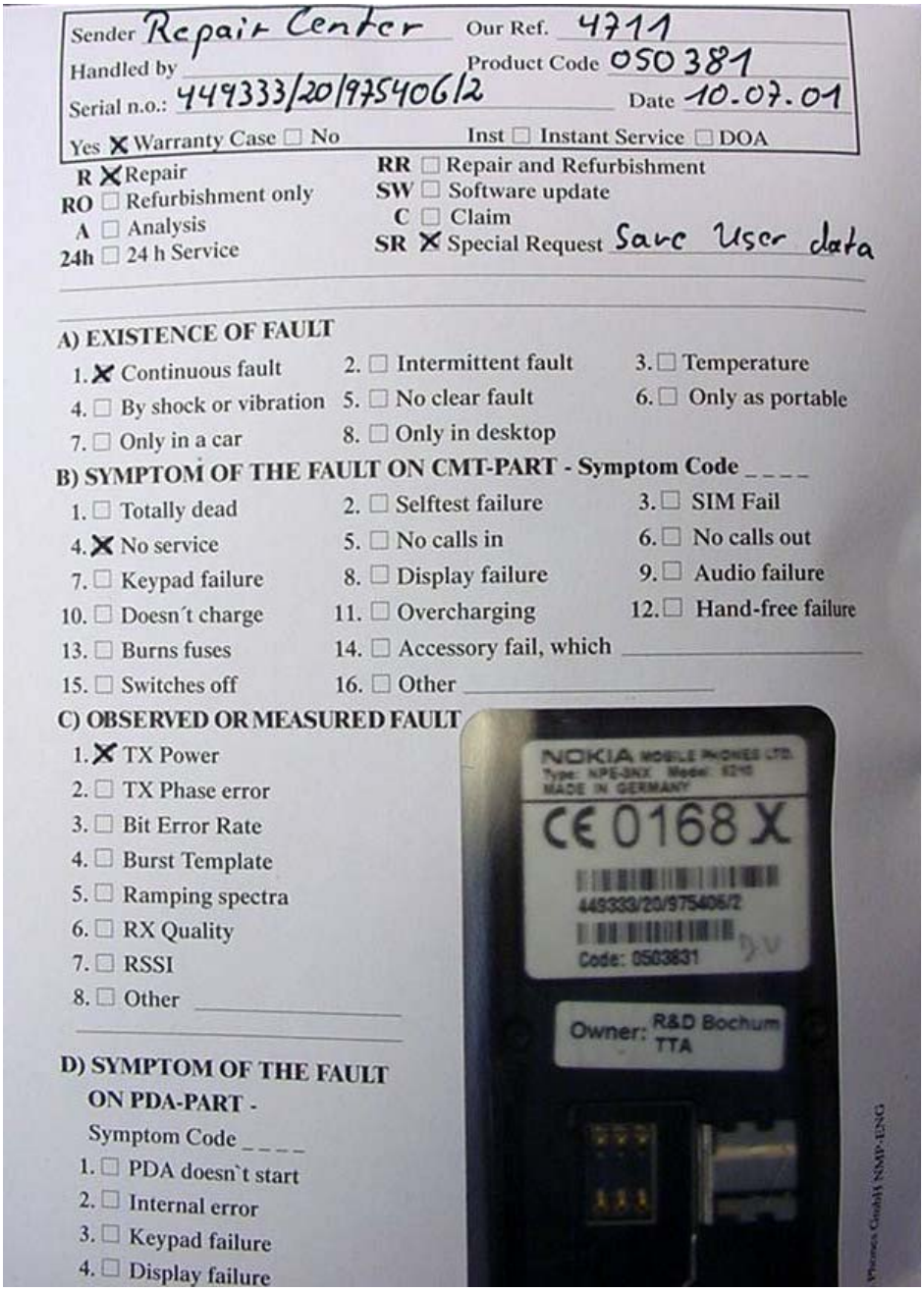
11. SERVICE NOTES

We recommend using Service Notes when shipping phones to other Service Partners. It prevents the product from scratches, it is ESD-proved and has the possibility to give valuable feedback of the fault symptom through a structured form. Please refer to the document **Service Notes for faulty NMP transceiver** on Partner Website to get further information.



Sender Repair Center Our Ref. 4711
Handled by Product Code 050381
Serial n.o.: 449333/20/975406/2 Date 10.07.01
Yes ☒ Warranty Case ☐ No Inst ☐ Instant Service ☐ DOA

R ☒ Repair
RO ☐ Refurbishment only
A ☐ Analysis
24h ☐ 24 h Service
RR ☐ Repair and Refurbishment
SW ☐ Software update
C ☐ Claim
SR ☒ Special Request Save User data

A) EXISTENCE OF FAULT
1. ☒ Continuous fault 2. ☐ Intermittent fault 3. ☐ Temperature
4. ☐ By shock or vibration 5. ☐ No clear fault 6. ☐ Only as portable
7. ☐ Only in a car 8. ☐ Only in desktop

B) SYMPTOM OF THE FAULT ON CMT-PART - Symptom Code _ _ _ _
1. ☐ Totally dead 2. ☐ Selftest failure 3. ☐ SIM Fail
4. ☒ No service 5. ☐ No calls in 6. ☐ No calls out
7. ☐ Keypad failure 8. ☐ Display failure 9. ☐ Audio failure
10. ☐ Doesn´t charge 11. ☐ Overcharging 12. ☐ Hand-free failure
13. ☐ Burns fuses 14. ☐ Accessory fail, which _____
15. ☐ Switches off 16. ☐ Other _____

C) OBSERVED OR MEASURED FAULT
1. ☒ TX Power
2. ☐ TX Phase error
3. ☐ Bit Error Rate
4. ☐ Burst Template
5. ☐ Ramping spectra
6. ☐ RX Quality
7. ☐ RSSI
8. ☐ Other _____

D) SYMPTOM OF THE FAULT ON PDA-PART -
Symptom Code _ _ _ _
1. ☐ PDA doesn`t start
2. ☐ Internal error
3. ☐ Keypad failure
4. ☐ Display failure

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12. GONOGO TESTER

The Acterna/Wavetek GoNoGo Tester has to be used to carry out the final test after your service action to guarantee the functionality of the phone.
Please refer to the actual information in the Nokia Care Point Extranet within the Partner Website.

13. BATTERYTESTER

The Astratec battery tester lets you test the capacity of Nokia batteries.
Please refer to the actual information in the Nokia Care Point Extranet within the Partner Website.

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