



# Test Instruction, Mechanical

Applicable for Z200, Z208

## Contents

<b>1</b>	<b>Abstract</b> .....	<b>2</b>
<b>2</b>	<b>Test Procedure</b> .....	<b>2</b>
<b>3</b>	<b>Test flow</b> .....	<b>2</b>
3.1	Software Update .....	2
3.1.1	Verify Software Version.....	2
3.1.2	Update Software Version .....	2
3.2	Service Tests.....	3
3.2.1	Display Test.....	3
3.2.2	LED/Illumination Test.....	3
3.2.3	Keyboard Test .....	3
3.2.4	Buzzer Test.....	3
3.2.5	Earphone Test.....	4
3.2.6	Microphone Test.....	4
3.2.7	Vibrator Test.....	4
3.2.8	Real Time Clock Test.....	4
3.2.9	Flip Counter Test.....	4
3.2.10	Total Call Time Test.....	5
3.3	Manual Tests .....	5
3.3.1	“On The Air Call” to the mobile .....	5
3.3.2	System Connector Test.....	5
<b>4</b>	<b>Revision History</b> .....	<b>6</b>

# 1 Abstract

This document describes the test procedure for the Mechanical repair package.

# 2 Test Procedure

To verify all components within the Mechanical repair package, all tests must be performed.

# 3 Test flow

If the unit is passing these steps of testing without any failures, it is OK to return it to the customer.

If there are any failures, the phone must be repaired according to the Troubleshooting Guide or sent to a higher repair level.

## 3.1 Software Update

Update to latest signalling software and run the service activities software from EMMA II.

### 3.1.1 Verify Software Version

To verify if the phone needs new software, you have to check the Software Version in the phone. Current Software Versions are checked through the following steps:

1. Start the phone.
2. Press the following navigation-key and keyboard sequence: ⇒ \* ⇐ ⇐ \* ⇐ \*
3. Select Service info.
4. Select Software info.
5. Check the software file revisions on the display.
6. Press OK to return to the Service info menu.

### 3.1.2 Update Software Version

Update the software in the phone by doing the following steps:

1. Make assure that the phone's battery is fully charged or use a Dummy battery and a power supply. Connect correct flash cable and interface according to the Installation instruction.
2. Connect to the Emma II server, choose application "GSM" and follow the instructions.

## 3.2 Service Tests

**NOTE!** It is not necessary to have a SIM card inserted.

Start the phone.

The Service Tests menu is entered using the following navigation-key and key sequence:  
⇒ \* ⇐ ⇐ \* ⇐ \* and select "Service tests".

### 3.2.1 Display Test

To verify both the Main and Sub display:

1. Select "Display" from the "Service Tests" menu.
2. The Main display toggles between four different test patterns. The Sub display toggles between three different test patterns.  
Make sure that there are no dots missing and that the colours and contrast is OK.
3. Press the "YES" or "NO" key to return to the service tests menu.

### 3.2.2 LED/Illumination Test

To verify that the backlight and the Top LED are OK:

1. Select "LED/illumination" from the "Service Tests" menu.
2. Check that the backlight on both the Main display and the Sub display, and the keyboard are toggling between on and off.
3. Check also that the red charging indicator led is toggling between on and off.
4. Press the "Yes" or "NO" key to return to the service tests menu.

### 3.2.3 Keyboard Test

To verify that the keyboard, the navigation-key and the side keys are OK:

1. Select "Keyboard" from the "Service Tests".
2. Press all keys on the keypad and the side keys on the left side. If they are Ok, a text feedback is displayed showing the information which key was pressed. All keys should be tested.
3. If you stop pressing keys the phone will return to the service test menu after 3 seconds.

### 3.2.4 Buzzer Test

To verify the Buzzer (polyphonic speaker) is working properly:

1. Select "Buzzer" from the "Service Tests" menu.
2. Adjust the volume with the joystick, by moving the navigation key to the left or right to increase or decrease the volume.
3. Press the "Ok" key to return to the service tests menu.

### **3.2.5 Earphone Test**

To verify the Earphone function:

1. Select “Earphone” from the “Service Tests” menu.
2. Press the numeric keys (0-9) and a DTMF tone is heard.
3. Press the “YES” or “NO” key to return to the service tests menu.

### **3.2.6 Microphone Test**

This test is intended to test the microphone. Therefore, the earphone should be tested before this test is entered.

1. Select “Microphone” from the “Service Tests” menu.
2. An Audio loop microphone-earphone is activated
3. Check that every sound that going into the microphone can be instantly heard in the earphone.
4. Press the “YES” or “NO” key to return to the service test menu.

### **3.2.7 Vibrator Test**

To verify the vibrator function:

1. Select “Vibrator” from the “Service Tests” menu.
2. The vibrator will start to vibrate as soon as the test is chosen in the “Service Tests” menu, and will continue for approximately 40 seconds.
3. Press the “YES” or “NO” key to return to the service tests menu.

### **3.2.8 Real Time Clock Test**

This test will verify if the built in real time clock works properly.

1. Select “Real time clock” from the “Service Tests” menu.  
After approximately 5 seconds you will get information whether the clock is ok or not.
2. Press the “YES” or “NO” key to return to the service tests menu.

### **3.2.9 Flip Counter Test**

This test will show how many times the flip has been opened or closed. This is also a way to check that the hall element activates properly every time the phone open and closes.

1. Select “Flip Counter” from the “Service Tests” menu.
2. Number of flips will be displayed, the amount should increase every time the phone is closed and opened.
3. Press the “YES” or “NO” key to return to the service tests menu.

### **3.2.10 Total Call Time Test**

To show the total amount of call time of the phone:

1. Select “Total Call Time“from the “Service Tests” menu.
2. The total call time will be displayed.
3. The phone will return to the service test menu after approximately 3 seconds.

## **3.3 Manual Tests**

### **3.3.1 “On The Air Call” to the mobile**

To verify the function of the speaker, microphone, polyphonic ring signal, volumes button and GSM radio:

1. Insert an operator SIM card and start the phone.
2. Set up a call from another phone to the mobile phone.
3. Answer the phone call.
4. Check that the polyphonic ring signal is working and that the backlight switches on OK.
5. Also check that the quality of the sound both in the mobile phone and the other phone are OK.
6. Press the volume key up and down and check that the volume in the phone is altered.
7. End the call.
8. Check that the ending procedure is OK and that the speech time is displayed.

### **3.3.2 System Connector Test**

Hands free equipment and a charger are used in this test, to check the functionality of the System Connector.

1. Insert a SIM card, connect a battery and start the unit.
2. Connect the Hands free equipment to the system connector and set up a call and listen if you can speak/hear in the hands free set.
3. Connect the charger to the system connector and see if the phone starts to charge and if the charging is indicated in the display.

## 4 Revision History

<b>Rev.</b>	<b>Date</b>	<b>Changes / Comments</b>
A	2004-09-07	Initial release