



Test Instruction, Mechanical

Applicable for P1i and P1c

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1 Abstract

This document describes the process used for flashing software upgrades and how to functionally test the mobile phone.

If there are any failures, the mobile must be repaired according to the troubleshooting guide or sent to a higher repair level.

2 Test Procedure

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

2.1 Test flow

It's OK to return the phone to the customer if the unit is passing these steps of testing without any failures. If there are any failures, the phone must be repaired according to the troubleshooting guide or sent to higher repair level.



2.2 Phone overview

Phone overview



1	On/off button	11	Antenna connector
2	Front camera	12	Connector for charger & accessories
3	Screen	13	Indicator light
4	Dual function keyboard	14	Microphone
5	Camera button	15	Back button
6	Memory stick	16	Jog Dial
7	Shortcut button	17	Rear Camera
8	Infrared port	18	Strap holder
9	Earspeaker	19	Stylus
10	Loudspeaker	20	Photo light



3 Pre-Test Preparations

3.1 Software Update

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

3.2 Verify Software Version

NOTE! Remove the SIM-card before testing.

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

1. Start the phone.
2. Press the sequence ➡*⬅⬅*⬅* with the with the Jog Dial (➡), and (*) on the keyboard.
3. Select Service info.
4. Select Software info.
5. Check the software file revisions on the display.
6. Press Back button to return to the Service info menu.

3.3 Update Software Version

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

1. Make sure 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 III server, choose application "GSM" and follow the instructions.



3.4 Phone Lock Reset

If the phone lock is on for this model, you must use the Phone Lock Reset tool in EMMA III to automatically reset the 4 digit phone lock code to "0000".

1. Attach a fully charged battery to the mobile.
2. Open the EMMA III application and log in.
3. Ensure the mobile is powered off.
4. While holding the "C" button, connect the mobile to the USB Flash Cable. (Once the USB Icon appears in the EMMA III window you may release the "C" button.).
5. When prompted, select "Phone Lock View".
6. The program will display "Success" on the USB, right Click on the USB icon and read out the phone lock code.
7. Get into Menu Control Panel-Security-Locks, and reset to 4 zeros "0000".

NOTE: if you use a "Test-SIM" card the phone lock is bypassed.

4 Service Tests

NOTE! Remove the SIM-card before testing.

Start the phone.

Enter the Service Tests menu by pressing the sequence ➡*⬅⬅*⬅* with the Jog Dial (➡), and (*) on the keyboard. Select "Service Tests".

4.1 Main Display Test

To verify the display:

1. Select "Display" from the "Service Tests" menu.
2. The display toggles between four different test patterns.
Make sure that there are no dots missing and that the colours and contrast is OK.
3. Press the "↵" key to go back to the service tests menu.



4.2 Camera Test

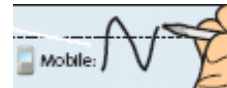
To verify the camera functionality:

1. Select "Camera" from the "Service Tests" menu.
2. Open the camera shutter on the backside of the phone.
3. The camera function will now start and are visible in the display.
4. Camera test starts with video camera and you can switch to check the 3,2 M pixel camera by pressing "rear". Make sure that the contrast and light is OK.
5. To check the "Flash" press "flash" in the camera test.
6. Close the camera shutter to go back to the service tests menu.

4.3 Touch screen

To verify the touch screen functionality:

1. Select "Touch screen" from the "Service Tests" menu.



2. Use the stylus pen do hand writing check
3. Press the "↵" key to go back to the service tests menu.

4.4 Illumination Test

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

1. Select "illumination" from the "Service Tests" menu.
2. Check that the backlight on the LCD and the keyboard is toggle between on and off.
3. Check also
4. Press the "Ok" key to go back to the service tests menu.

4.5 LED's

4. Select "Led's" from the "Service Tests" menu
5. Check that the led upper right corner is switching between red and green.



4.6 Keyboard Test

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

1. Select "Keyboard" from the "Service Tests".
2. Press all keys on the keypad, the camera key and the volume keys on the left and the key lock/ flash led key on the right side. If they are ok, a text feedback is displayed showing the information which key was pressed. All keys should be tested. On/Off key is included in the test.
3. If you stop pressing keys the phone will return to the service test menu.

4.7 Vibrator Test

To verify the vibrator function:

1. Select "Vibrator" from the "Service Tests" menu.
2. Press any key and the vibrator will vibrate 3 times.
3. Press the "Ok" key to go back to the service tests menu.

4.8 Speaker Test

Warning! Do NOT hold the phone to your ear while performing this test.

To verify the Speaker function:

1. Select "Speaker" from the "Service Tests" menu.
2. Adjust the volume and make sure that the Speaker is working properly.
3. Switch between "front" and "rear" to test both back speaker and earphone.
4. Press the "Ok" key to go back to the service tests menu.

4.9 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. The phone will start to record and after that the sound is played in the speaker. Make sure that the record sounds have a loud and clear sound.
3. Press the "Ok" key to go back to the service tests menu.



4.10 FM Radio Test

This test will check if the inbuilt FM radio is working.
Hands free equipment is used in this test.

1. Select "FM radio" from the "Service Tests" menu.
2. Connect the hands free equipment to the system connector and tune in a well-known FM-Radio channel. Verify that it's possible to switch between different radio channels and that the sound is clear.

4.11 Memory stick test

This test is to verify if the communication to the memory stick is working.

1. Select "Memory stick" from the "Service Tests" menu.
2. Insert a memory stick and make sure that the phone detects the memory stick.
3. Press the "↶" key to go back to the service tests menu.



5 Manual Tests

5.1 On The Air Call to Mobile

To verify the function of the speaker, microphone, polyphonic ring signal, volumes button and 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.

5.2 Infrared Test

To verify that the Infrared communication is working:

1. Insert a SIM card, connect a battery and start the unit.
2. Activate the function by entering Connectivity/Infrared port and select "10 minutes".
3. Set up an infrared link between an IR device and the phone. The IR-module is placed on the right side of the phone. If a link can be established, the module is considered working.

5.3 Bluetooth Test

To verify that the Bluetooth communication is working:

1. Insert a SIM card, connect a battery and start the unit.
2. Activate the Bluetooth function by entering Connectivity/Bluetooth and turn it on.
3. Set up a link between the phone and another Bluetooth compatible device. If a connection can be established the Bluetooth module is considered working.



5.4 WLAN test

Select **Main menu > Control panel > Connections > WLAN**

Select **More > Enable WLAN**

activate your phone for wireless LAN.

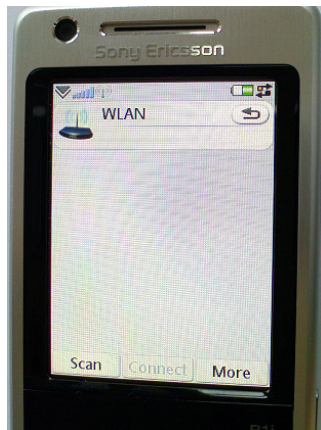
Finding a network

Select **Scan** to find available wireless LAN networks.

The networks found are listed in alphabetical order, with icons indicating network quality and type:

-  Good connection quality
-  Medium connection quality
-  Low connection quality
-  The network is configured and the phone has an account for it
-  A secure network, requiring encryption key(s) for access.

To use a specific network, select it and tap connect

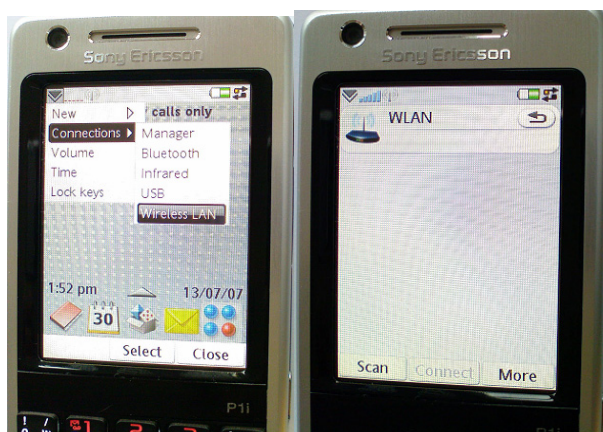
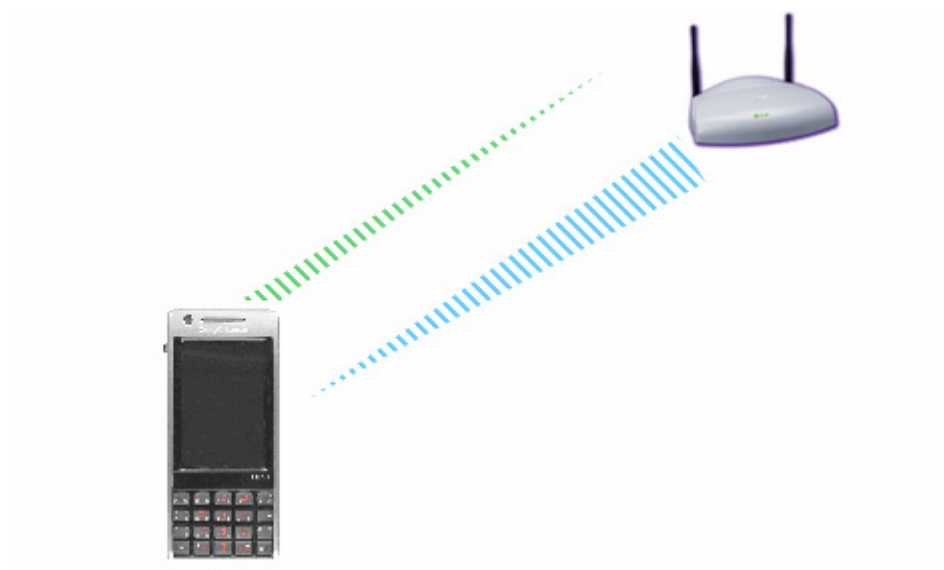


The WLAN menu, mentioned above, is also where you go to find the MAC address of the phone.

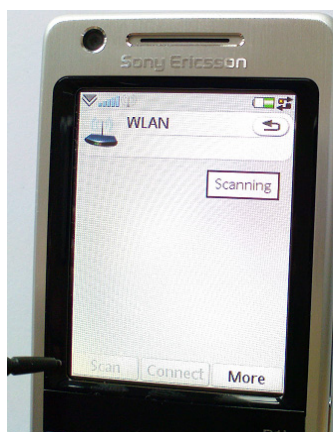
Flight mode

In Flight mode, the phone's radio functions and FM radio are switched off. You can still use the organizer applications, and applications that can use a wireless LAN connection.

Test to an unprotected Network



Scan



NOTE! If you are successful in scan and connect, the P1i is considered functional.

Checking if P1i MAC address is registered in Access point (optional)

- Go to the WLAN menu in the P1i, choose the “Mac-address” and read the Mac address
- Connect to Wireless network.
- Go to Laptop and open admin page.
- Navigate to Status and Wireless page. (Wireless router menu dependent)
- Update page and check if the P1i MAC address is registered.

5.5 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.

6 Revision History

Rev.	Date	Changes / Comments
A	2007-07-10	Initial release
B	2007-07-24	Pictures updated