



Test Instructions

- mechanical -



Yendo, Yizo
W150, W150i, W150a



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**For general information about test procedures, refer to
1220-1333: Generic Repair Manual - mechanical**



1 Pre-Test Preparations

1.1 Hardware

1.1.1 Liquid Intrusion Indicator inspection

Before starting any tests the Liquid Intrusion Indicator has to be checked.

The indicator is located as shown in this picture after having the battery cover removed.

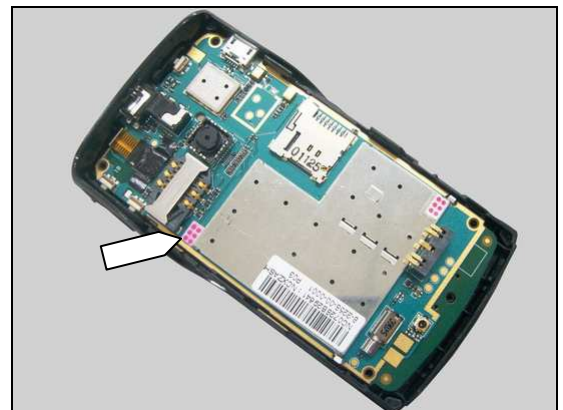
If affected (red color) - handle the phone according to your local directives.



The other indicator is located as shown in this picture after having the battery cover and Rear Cover Assy removed.

If affected (red color) - handle the phone according to your local directives.

If not affected by liquid, proceed to the 'Pre-Test Preparation' below.



Pre-Test Preparations

1.2 Software

1.2.1 Software update

1.2.1.1 Software version verification

Check the software versions of the phone to establish whether a software version update is needed:

- start up the phone and press the dial panel icon at the lower left corner of the screen, and input as follows: #123456789#

Note: If the phone is in LOCK mode, press the Power/Lock key to unlock before above actions.

- select 'Service info'
- select 'Software info'
- check the software file revisions and, if needed, update as described below

For more information, refer to 1220-1333: Generic Repair Manual - mechanical

1.2.1.2 Software version update

Use the Micro USB to USB cable for this purpose!

Do not use the SEPI equipment!

Install a fully charged battery, ensure the phone is powered off and proceed as follows:

- open the Emma application and log in
- press and keep the "Home" key down on the phone, connect the phone to the USB cable and when the USB icon appears in the Emma window, release the "Home" key
- select the appropriate service and follow the on-screen instructions

1.2.2 Phone lock reset

Install a fully charged battery, ensure the phone is powered off and proceed as follows:

- open the Emma application and log in
- press and keep the "Home" key down on the phone, connect the phone to the USB cable and when the USB icon appears in the Emma window, release the "Home" key
- when prompted, select 'Phone Lock Reset'
- 'Success' will be displayed on the USB icon when the phone lock code has been reset to '0000'



2 Tests


2.1 Service Test Mode

All service tests can be carried out without a SIM card!

Press the Power/Lock key to unlock. If the phone turns into LOCK mode when testing!

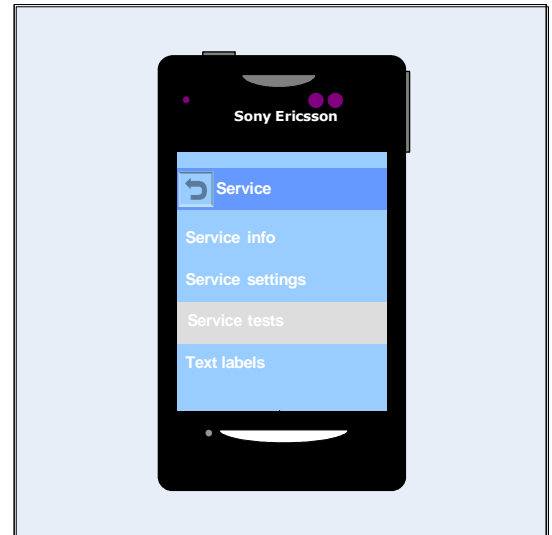
Except Keyboard test, do not press Home key when testing to avoid exiting from service menu!

Start up the phone and enter the service menus:

- Press the dial panel icon at the lower left corner of the screen, input as follows: #123456789#
- Select 'Service tests'
- Select one of the tests and follow the test instructions as described below
- To stop the test and return to the 'Service tests' menu, press  icon.

For more information, refer to 1220-1333: Generic Repair Manual - mechanical

The pictures to follow will show a simplified basic phone for a general visualization of the service tests!





Tests

2.2 Service Tests

2.2.1 Main display


Minor variations in display brightness and colour may occur between phones.

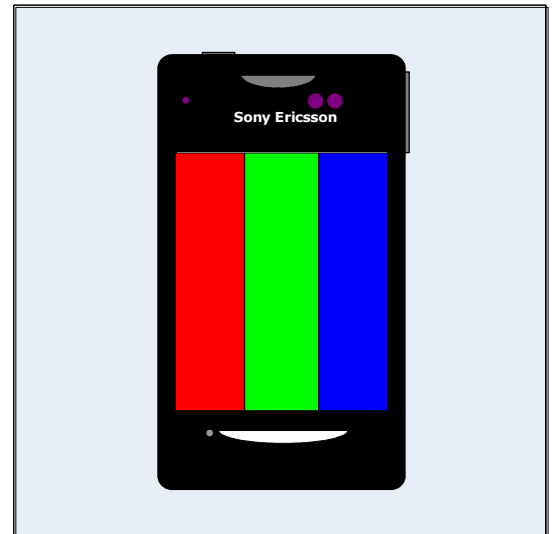
There may be tiny bright dots on the display, so called defective pixels and occur when individual dots have malfunctioned and can not be adjusted.

Two defective pixels are considered to be acceptable.

The display will show several test patterns.

Make sure that there are no missing segments and that the colors and contrast are OK.

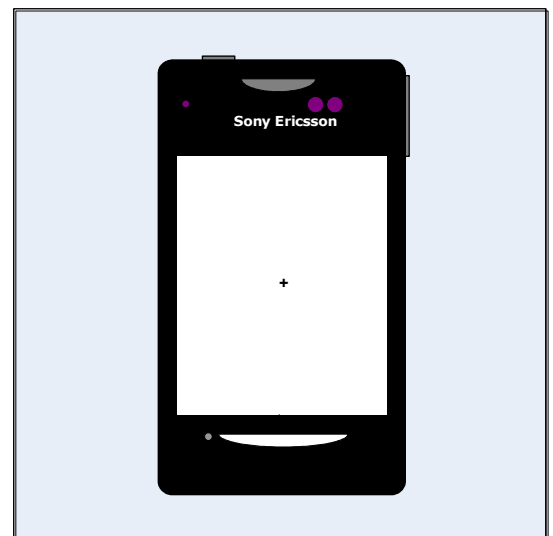
Press the position of  Icon at upper left corner of the screen to return to "Service tests" menu.



2.2.2 Touch Screen

Move your finger across the display, the "+" will be moved with your finger when you touch the screen.


If the test stays idle for over 3 seconds, the Touch screen test will stop automatically and the phone will return to "Service tests" menu.



2.2.3 Proximity switch

When entering into the test, the screen shows "Proximity switch OFF".

Once your finger cover the proximity switch area (on the right side of the receiver), the screen will show "Proximity switch ON".

Press  Icon return to "Service tests" menu.




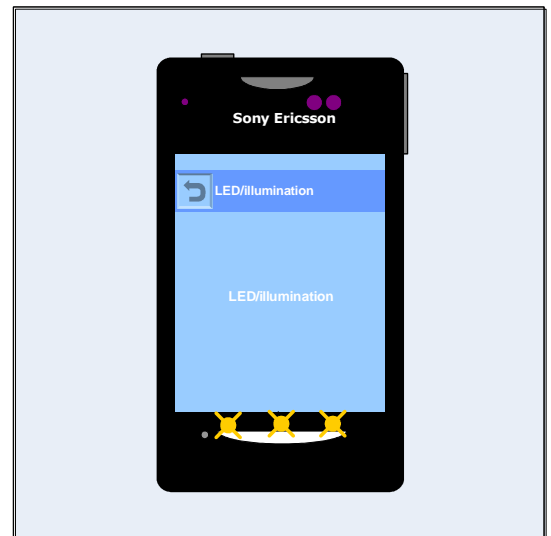
Tests: Service Tests

2.2.4 LED/illumination

Check that the:

- LEDs under the Home Key are turned on and off
- Display backlight is switched on and off for a short time

Press  Icon return to "Service tests" menu.



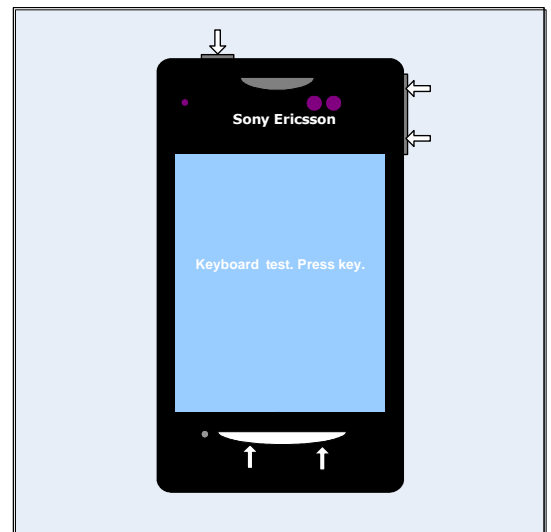
2.2.5 Keyboard

Press all keys on the:

- Power/Lock key
- Home key (left and right keys)
- Volume key of the phone

Check that each pressure is confirmed in the display.

If the test stays idle for over 3 seconds, the Keyboard test will stop automatically and the phone will return to "Service tests" menu.




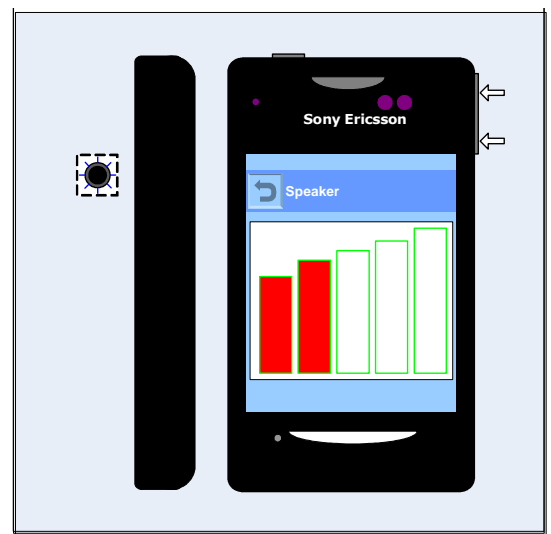
2.2.6 Speaker

Do not hold the phone close to your ear during this test!

Make sure that the sound from the speaker port on the back of the phone is emitted loud and clear and that the test include maximum volume.

Press Volume up/down key to adjust speaker volume.

Press  Icon return to "Service tests" menu.




Tests: Service Tests

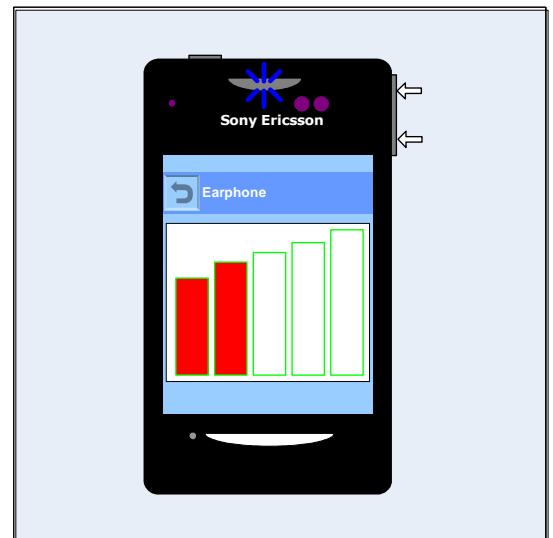
2.2.7 Earphone

Do not hold the phone close to your ear during this test!

Make sure that the sound from the Earphone port on the top of the phone is emitted loud and clear and that the test include maximum volume.

Press Volume up/down key to adjust earphone volume.

Press  Icon return to "Service tests" menu.




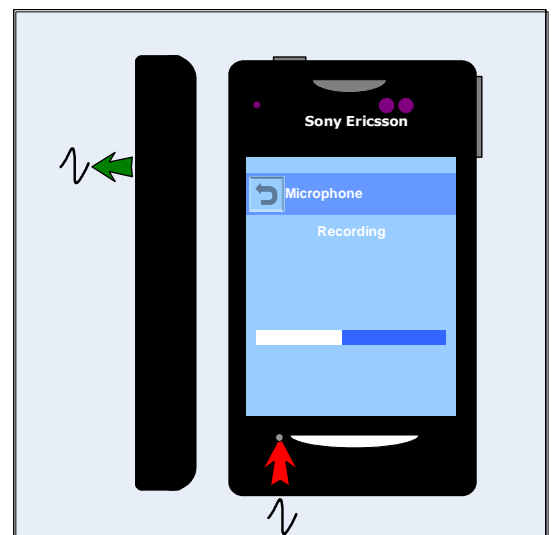
2.2.8 Microphone

The previous test, 'Speaker', should have been successfully carried out before doing this test!

The phone will start to record and after approximately seven seconds the sound is played back in the Speaker. Speak into the microphone during the 'Microphone Recording' phase.


Check the quality by listening to the recording from the Speaker during the 'Microphone Playback' phase.

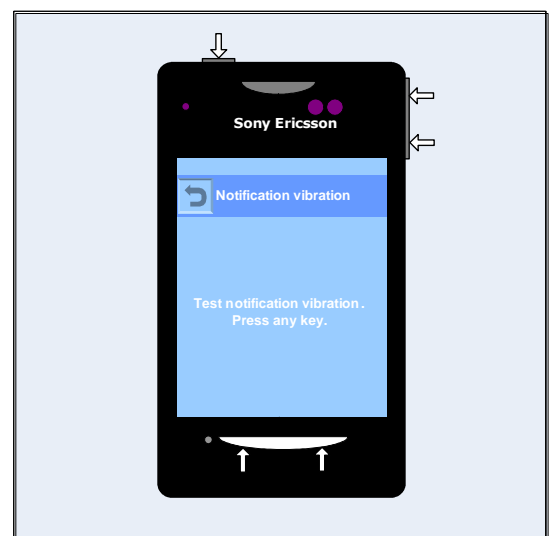
Press  Icon return to "Service tests" menu.



2.2.9 Notification Vibration

Press any key and the vibrator gets activated three times.

Press  Icon return to "Service tests" menu.




Tests: Service Tests

2.2.10 Camera

Minor variations in image appearance may occur between phones, but is not uncommon and should not be regarded as an indication of a defective camera module!

Aim the camera (located back of the phone) at an object and check the quality of the image shown in the display.

Photos cannot be taken during this test!

Press the position of  Icon at upper left corner of the screen to return to "Service tests" menu.




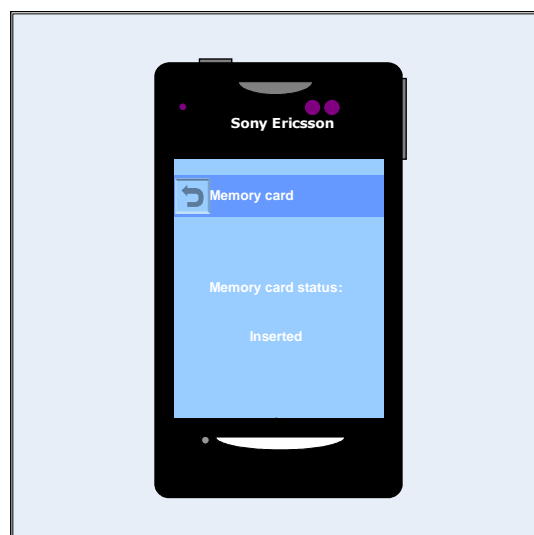
2.2.11 Memory card

A memory card should be inserted in the phone before the start of this test!

The memory card holder is accessible after having the battery cover removed!

The phone should detect that the memory card is inserted

Press  Icon return to "Service tests" menu.




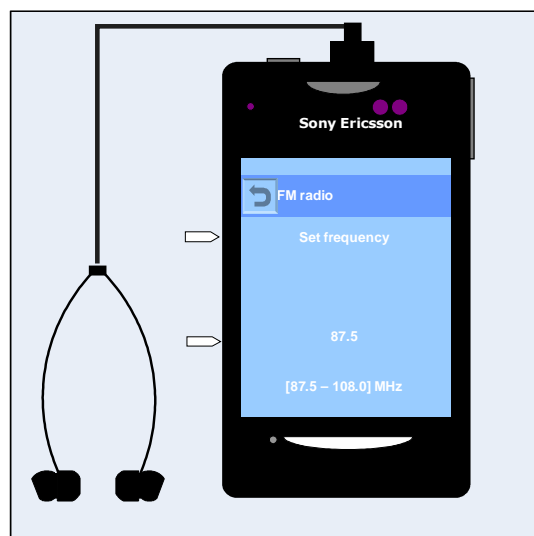
2.2.12 FM radio

A Portable Hands-Free (PHF) has to be connected to the Audio Jack prior to this test!

Enter the frequency of an FM station known to be good regarding reception.

Listen to the FM station and verify that the sound quality is as good as can be expected.

Press  Icon return to "Service tests" menu.




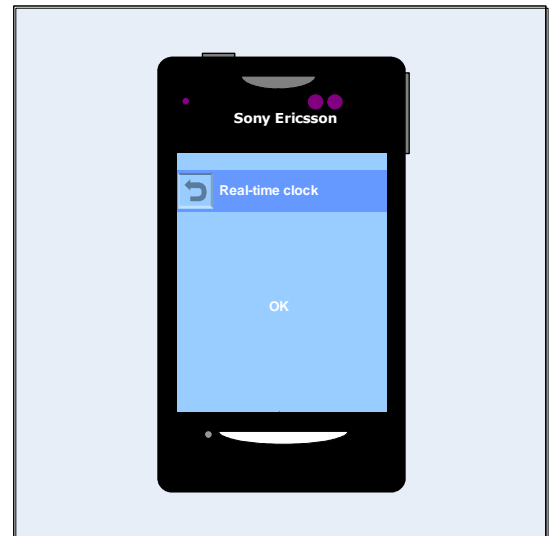


Tests: Service Tests

2.2.13 Real time clock


During the actual test the text 'Please wait' is displayed, then followed by a message stating whether the test was OK or not.

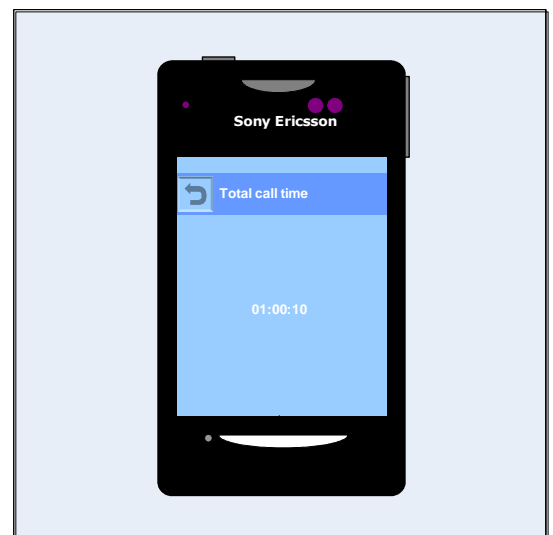
Press  Icon return to "Service tests" menu.



2.2.14 Total call time

The total call time is displayed in the format HH:MM:SS (hours:minutes:seconds).

Press  Icon return to "Service tests" menu.





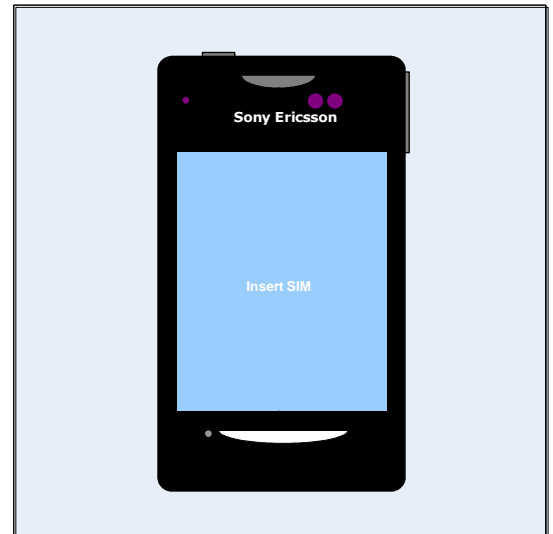
Tests

2.3 Manual Tests

2.3.1 SIM

Verify that the phone can detect a SIM card:

- insert a SIM card, install a battery and start the phone
- if the SIM card is detected by the phone, the start-up procedure will continue
- if not detected, the message 'Insert SIM card' will be displayed

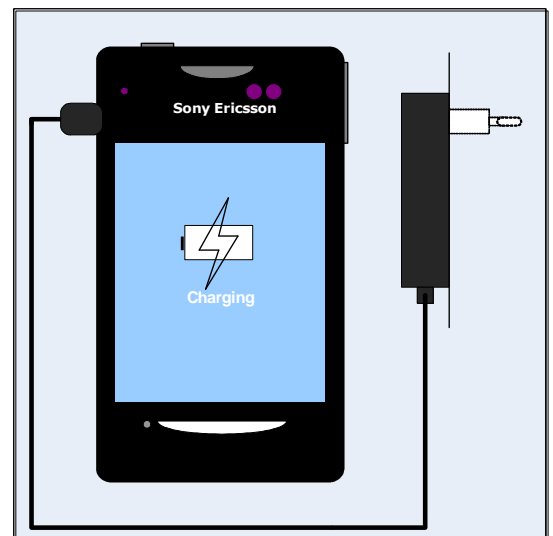


2.3.2 Battery charging

2.3.2.1 Charging by wall charger

Verify that charging of the phone functions properly:

- install a battery but do not start the phone
- connect a wall charger to the Micro USB connector
- verify that the display shows that the phone is being charged
- remove the charger from the Micro USB connector and verify that the display no longer indicates charging

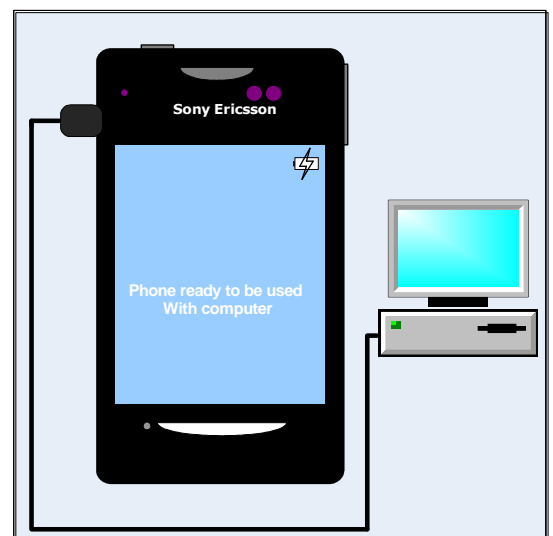


2.3.2.2 Charging via USB

Verify that the phone can charge the battery via a USB port:

Ensure that no computer application, such as PC Suite or Emma, is active!

- check and, if necessary, activate the USB charging by entering the Service menu: *Service settings* ⇒ *USB Charging on*
- install a battery but do not start the phone
- connect a USB cable from a computer to the Micro USB connector
- verify that the display shows that the phone is being charged
- remove the USB cable from the Micro USB connector and verify that the display no longer indicates charging



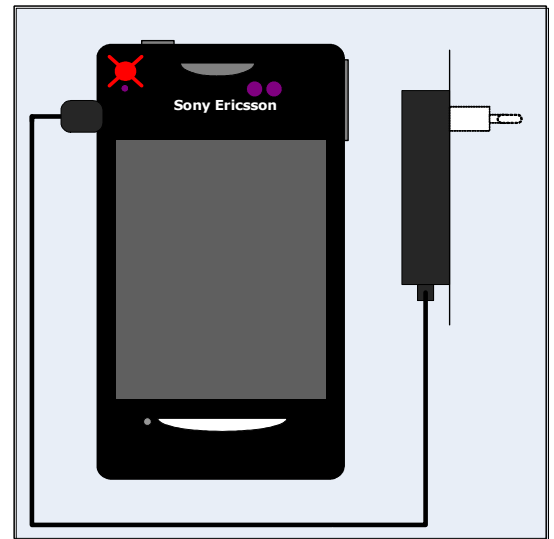


Tests: Manual Tests

2.3.2.3 Pre-Charging

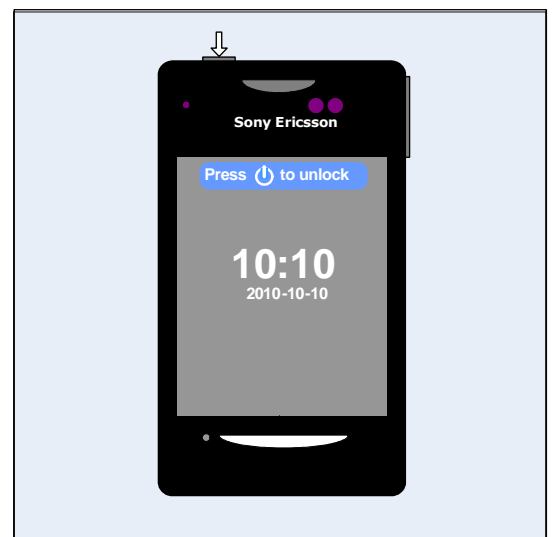
If the battery voltage becomes such low as below around 3.0v, the Pre-charge LED at upper left corner of the phone will flicker when the charger inserted, which shows the battery is being charged even though the display does not start up to indicate charging.

The Pre-charge LED will turn off once the battery voltage increase to start up the phone and the display indicate charging.



2.3.3 On/Off key test

Press the On/Off key for a while to turn the phone On or Off. Press the On/Off key a short time to enter Sleep mode or to wake it up from Sleep mode.





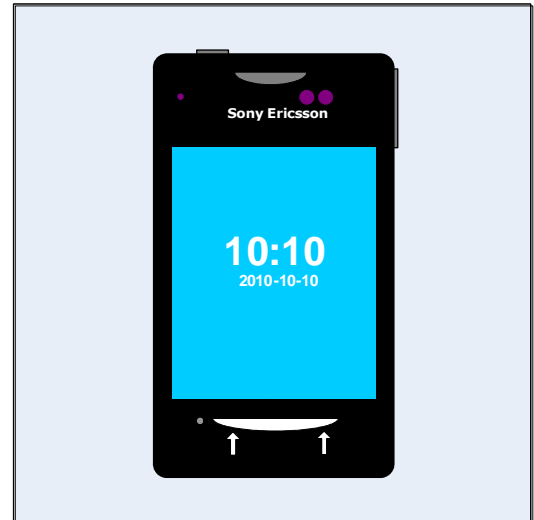
Tests: Manual Tests

2.3.4 Home key test

Whatever the phone shows now during operation, Press Home key and then phone will go back to the Home screen directly.

When phone is in Sleep mode, Press Home key and the Phone will light up.

There are two Home keys as shown in picture, left side key and right side key, the function of these two Home keys are same.

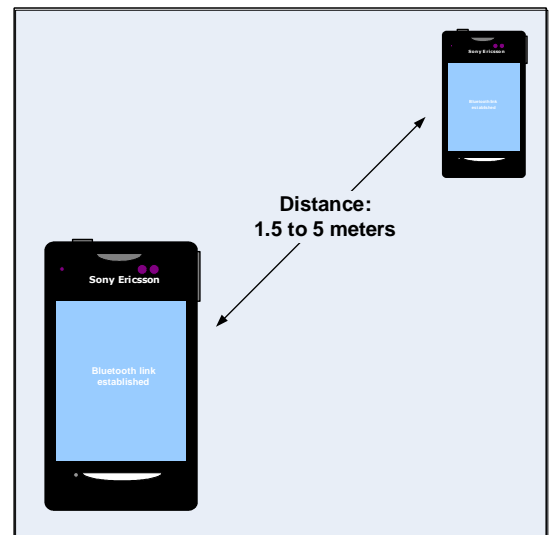


2.3.5 Bluetooth

Verify that the Bluetooth communication functions properly:

During this test, the distance between the phone and the other Bluetooth device must be 1.5 to 5 meters!

- insert a SIM card, install a battery and start the phone
- activate the Bluetooth function via the phone menu: *Settings* ⇒ *Connectivity* ⇒ *Bluetooth* ⇒ select *Turn on*
- set up a Bluetooth link between the phone and the other Bluetooth device.
- if a link can be established, the Bluetooth function is regarded to be fully functional



Tests

2.4 Network Test

This test can only be performed if the phone has got an activated SIM/USIM card (no Test SIM/USIM) and an available network signal!

There are two versions of the test depending on whether a UMTS network is available or not!

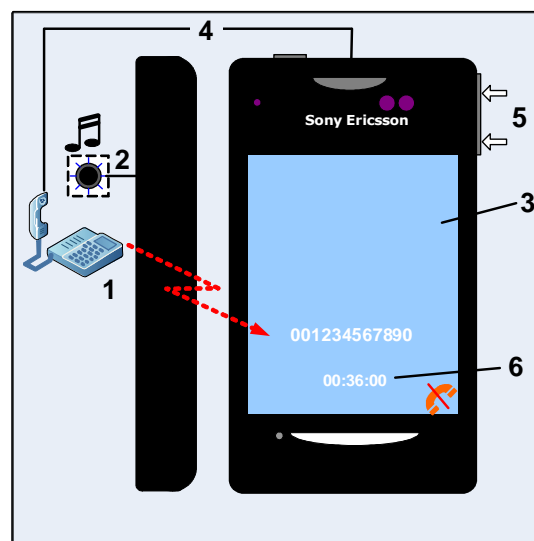
If a UMTS network is available, the network test has to be done separately for GSM and UMTS!

2.4.1 On-the-air call to mobile (no UMTS network available)

To verify the radio functions (GSM) of the phone, follow the '2.4.1.1 Procedure' below

2.4.1.1 Procedure

1. Set up a call from a landline phone (PSTN)
2. Check that the ring signal goes on
3. Check that the display backlight illuminates
4. Answer the call and check the sound quality in both phones
5. Adjust the volume up and down with the side key and verify that the sound level is altered
6. End the call and check that the elapsed time is displayed and that the termination is done in a proper way





3 Revision History

Rev.	Date	Changes / Comments
1	2010-Nov-08	Initial release