

Test Instructions

- mechanical -



Xperia™ XZ Compact
G8441

CONTENTS

Pre-Test Preparation	4
1.1 Process flow – Water Resistance Test (WRT) for incoming units	4
1.2 Hardware.....	5
1.2.1 Water indicator inspection.....	5
1.3 Test Enablers.....	6
1.4 Software.....	7
1.4.1 Software update.....	7
2 Tests	8
2.1 Service Test Mode.....	8
2.2 Service Tests.....	9
2.2.1 Keyboard & Switch.....	9
2.2.1 Touch.....	9
2.2.2 Display.....	11
2.2.3 LED/Illumination	11
2.2.4 Speaker.....	11
2.2.5 Stereo speaker Left	12
2.2.6 Stereo speaker Right.....	12
2.2.7 Earphone	13
2.2.8 Microphone	13
2.2.9 Secondary Microphone	14
2.2.10 Vibrator.....	14
2.2.11 Camera	15
2.2.12 Secondary Camera	15
2.2.13 Flash LED.....	15
2.2.14 Bluetooth.....	16
2.2.15 WLAN.....	17
2.2.16 NFC	17
2.2.17 GPS.....	17
2.2.18 Compass	18
2.2.19 Accelerometer.....	18
2.2.20 Gyroscope.....	19
2.2.21 Ambient Light Sensor	19
2.2.22 Proximity switch	20
2.2.23 Hall Element Test.....	20
2.2.24 Pressure Sensor	20
2.2.25 Real time clock	21
2.2.26 Total call time.....	21
2.2.27 Storage	21
2.2.28 Security	22
2.2.29 Battery Health Test.....	22
2.2.30 Verify certificates.....	22
2.2.31 WLAN Antenna TX/RX.....	23
2.2.32 Fingerprint Test	23
2.2.33 Speaker Calibration Status	24
2.2.34 RGB-IR sensor	25
2.2.35 ToF sensor	26
2.3 Android Setting Tests.....	28

2.3.1 Fingerprint Sensor function test..... 28

2.4 Manual Tests 35

2.4.1 SIM test..... 35

2.4.2 Data Communication test 35

2.4.3 Audio Jack test 36

2.4.4 Charging (Charger or Computer) 37

2.4.5 Network Test 39

3 Revision History 40

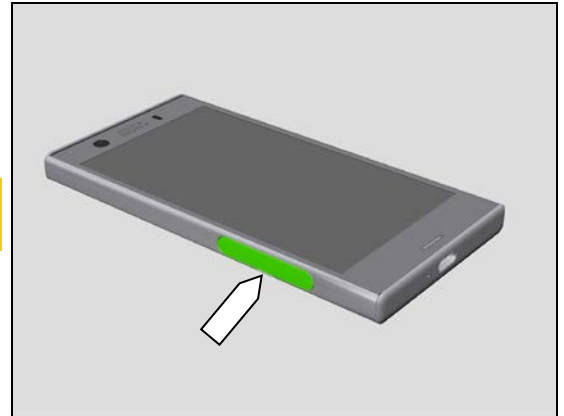
For general information about test procedures, refer to 1220-1333: Generic Repair Manual - mechanical - (under the RE4250: Repair - Mechanical - Repair instructions).

Pre-Test Preparation

1.1 Process flow – Water Resistance Test (WRT) for incoming units

Follow the process according to 1269-3536 Water Resistant Test for PC - mechanical in the including document Test Instruction WRT (it is under the RE4251: Repair – Mechanical – Tools and Equipment (including Repair Software)).

Make sure to insert the Cap Tray Assy properly before test.



Install the unit in “WRT fixture” and connect it to WRT test equipment.

Connect phone according to 1269-3536 Water Resistant Test for PC - mechanical in the including document Test Instruction WRT.



Align the audio jack with the small pin on the WRT fixture.

Make sure that the unit is correctly installed on the WRT Fixture, and tighten the screw to secure a good sealing between the unit and the fixture.

The black handle is for Liquid test.



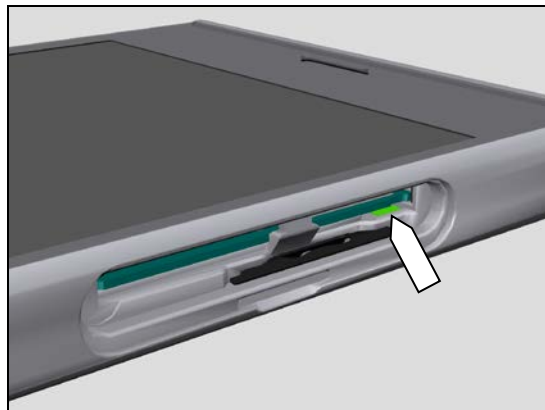
Pre-Test Preparations

1.2 Hardware

1.2.1 Water indicator inspection

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

The indicator is able to be checked after removing Cap Tray Assy and Tray nano SIM as right figure.



Pre-Test Preparations

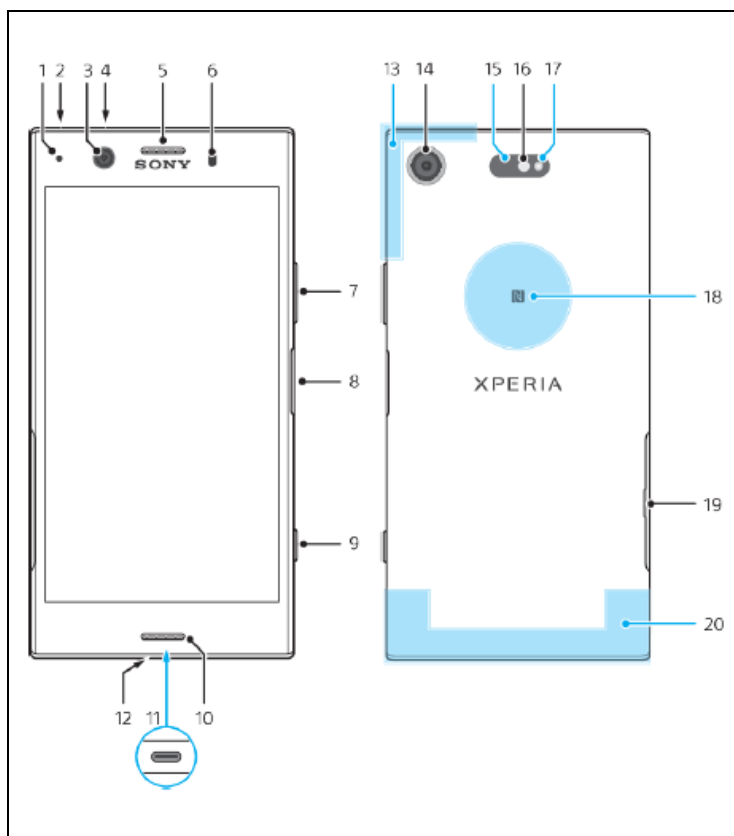
1.3 Test Enablers

These are items on the phone that are used during the test of the unit.

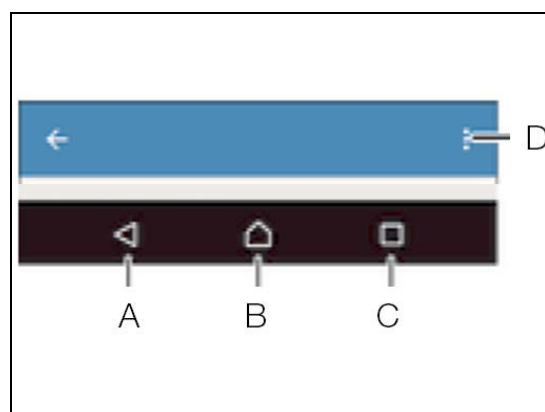
Note! The product supports only Nano SIM!

1. Charging / Notification light
2. Headset jack
3. Front camera lens
4. Ear speaker / Second loudspeaker
5. Second microphone
6. Proximity / Light sensor
7. Volume / Zoom key
8. Power key / Fingerprint sensor
9. Camera key
10. Main loudspeaker
11. Charger / USB Type-C™ cable port
12. Main microphone
13. GPS antenna
14. Main camera
15. Laser AF sensor
16. Flash LED
17. RGB-IR sensor
18. NFC detection area
19. Nano SIM / Memory card slot cover
20. Main cellular antenna area

* Fingerprint functionality is not available in the US market.



- A. Back key
- B. Home key
- C. Task key
- D. Menu key



Pre-Test Preparations

1.4 Software

1.4.1 Software update

1.4.1.1 Software version verification

Check the software version of the phone for fault verification. The latest improvements are found on the support pages under the support news: <http://www.sonymobile.com/global-en/support/>.

- Start up the phone
- Make sure the phone is in call setup.
- Press the following keypad combination: *##7378423##* (i.e. *##service##*)
- Select 'Service info'
- Select 'Software info'
- Check the software file revisions and, if needed, update as described below:

For more information, refer to Generic Repair Manual – Mechanical - 000154064.34 [RE4250]

1.4.1.2 Software version update

Mandatory first repair action after verification of fault!

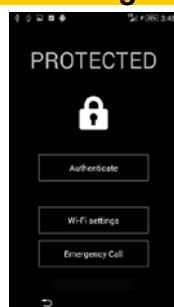
Use the USB cable to connect with the Micro USB connector of the phone for this purpose!

Ensure the phone is powered off and proceed as follows:

- Open the Emma application and log in.
 - Press and hold the volume down key on the phone, connect the phone to the USB cable and then release the volume down key.
- Select the appropriate service and follow the on-screen instructions.

NOTE: If a unit is locked by "theft protection", run the online Service in emma "theft protection unlock" for the model, before the customization script. USB DONGLE is required. (same as for "activation")

Service center must verify the customer's proof of purchase (with IMEI) to verify ownership before agreeing to unlock the unit!



Run Unlock script in emma, verify fault and then Customization script in emma.

Note: For phones with eMMC flash memory (built in "SD card" memory), the only service which erase this eMMC memory is Service's "Refurbish" and "Customize".

See also emma User Guide info.

http://software.sonymobile.com/emma/documents/emma_user_guide.pdf

(See "Service Types" and "Aspects of large files")

In Swap flow, when change a phone from Customer A to Customer B, always use the service Customization script.

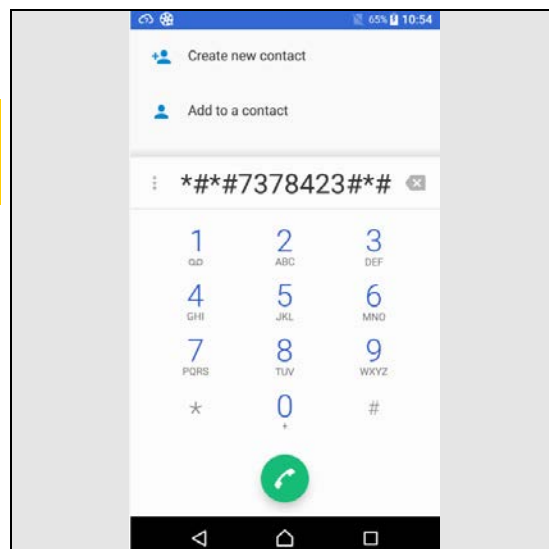
2 Tests

2.1 Service Test Mode

Stamina mode needs to be turned off before entering Service Test Mode

Settings -> Power management -> STAMINA mode

- Start up the phone, go to call setup.
- Press the following keypad combination: *****#7378423#**** (i.e. *****#service#****)



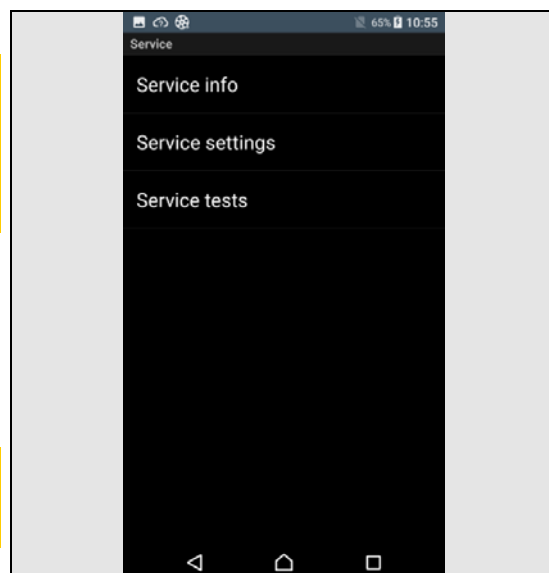
Service info: Information about Model, Software, SIM lock, Configuration (IMEI, bands, codec's), Factory charging, DTCP-IP, Firmware, WLAN Mac address etc.

Service settings: Do not use

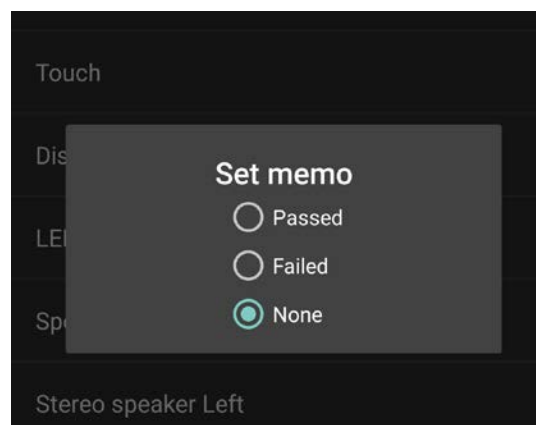
Service test: Follow instruction below

- 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 the Back key

For more information, refer to Generic Repair Manual – Mechanical - 000154064.34 (RE4250)



In Service tests, long tap any test item and the result can be saved.



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

Tests

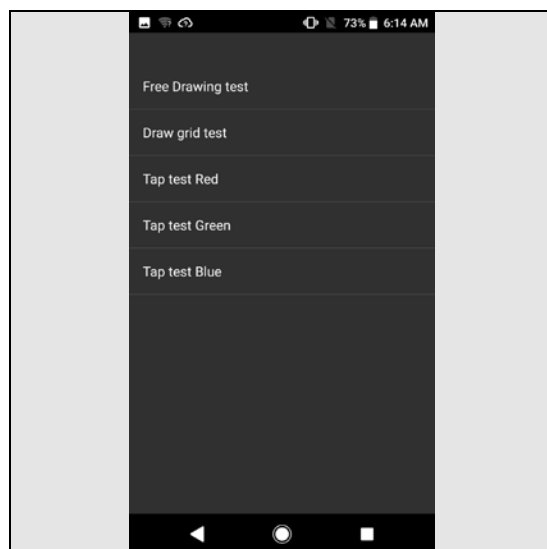
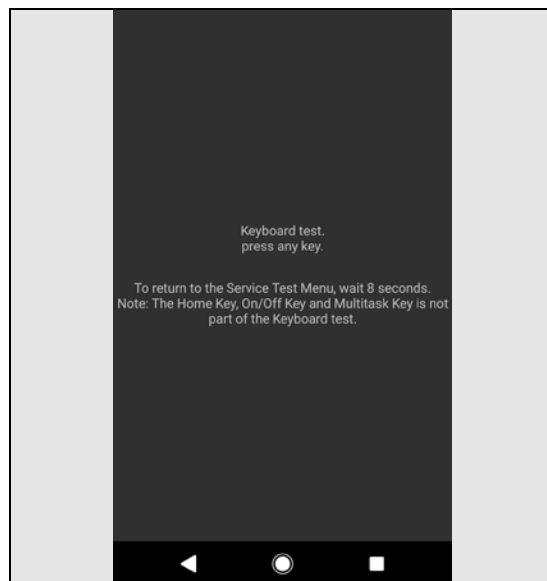
2.2 Service Tests

2.2.1 Keyboard & Switch

To return to the Service Test Menu, wait for 8 seconds.

Press all keys:

- **Back key:** notification on screen.
- **Home key:** will leave the Service tests menu.
- **Task navigation key:** taskbar will be shown, press Service Menu to return.
- **Power key:** the screen will enter sleep mode, press the Power key one more time to wake up.
- **Volume up key:** notification on screen.
- **Volume down key:** notification on screen.
- **Auto Focus key (short press) / Camera key (long press):** notification on screen.



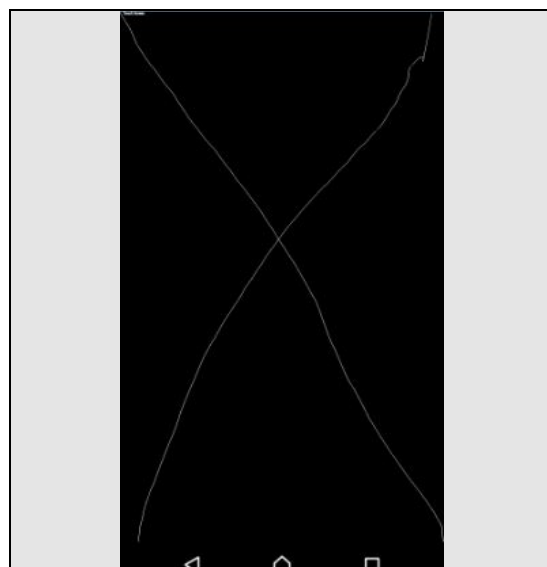
2.2.1 Touch

Free Drawing Test

Move a finger across the touch screen, a line will be drawn as it touches.

Check all area of the touch screen as indicated by the two lines.

Press the Back key to return to the Service Test Menu.



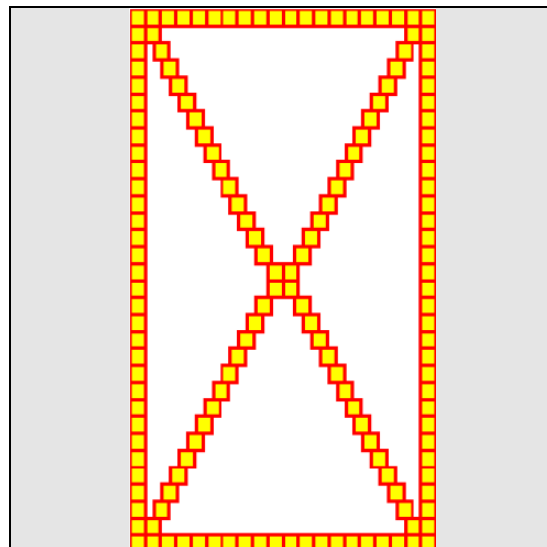
Tests: Service Tests

Draw grid test

Move a finger across the boxes and they should switch colour.

Check all boxes as indicated, if you can't fill a box yellow it indicate a problem with the lines in TP sensor.

Swipe from bottom of screen to get the Press the Back key to return to the Service Test Menu.

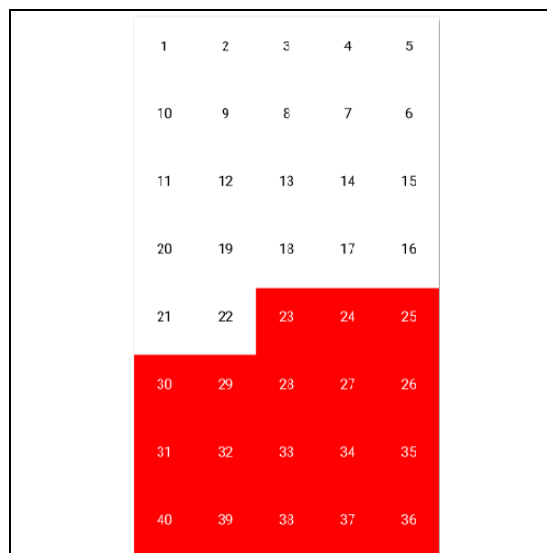


Tap test Red, Green, Blue

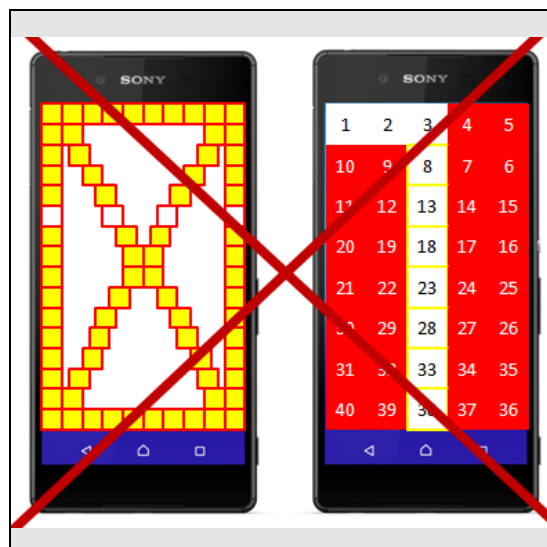
For the Red, Green and Blue test, move a finger across the boxes (numbers) and they should switch colour to white.

Check all boxes / numbers, if there is any other color except the original color and white after touching, there is a problem with shadows.

Swipe from bottom of screen to get the Press the Back key to return to the Service Test Menu.



Incorrect examples from Draw grid and Tap test.



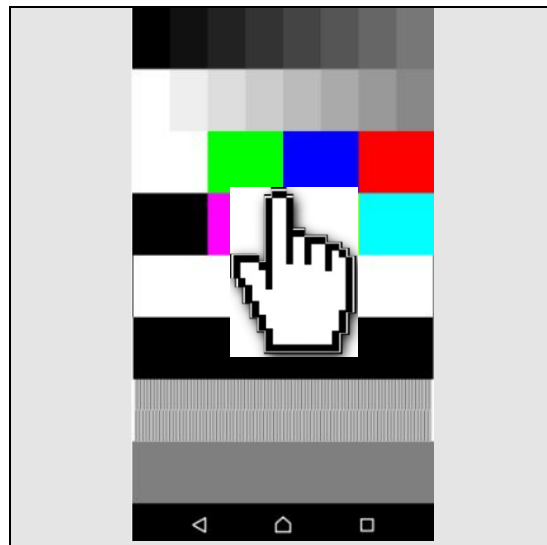
Tests

2.2.2 Display

Minor variations in the display's brightness and color may occur between phones.
If any tiny bright dots on the display are found, this indicates defective pixels which occur when individual dots have malfunctioned and cannot be adjusted.
Two defective pixels are considered to be acceptable.

Touch the display using a finger. With every touch, the display will show Nine test patterns of White, Gray, Black, Red, Green, Blue, Rainbow Colors, Cross-Line and TV Pattern on the full screen. Make sure that there are no missing segments and that the colors and contrast are OK.

Press the Back key to return to the Service Test Menu.

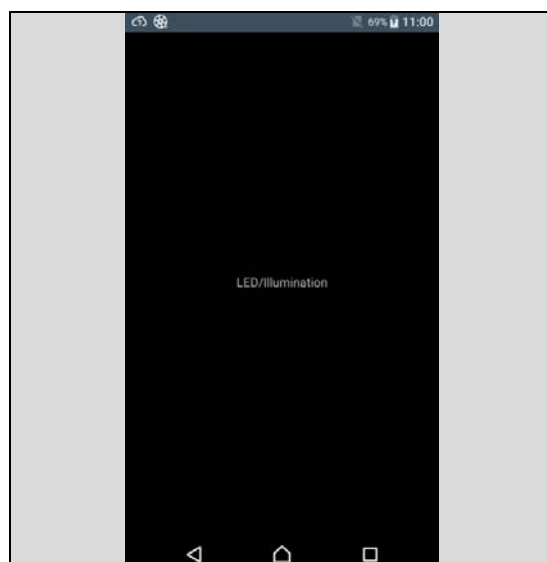


2.2.3 LED/Illumination

Check that the:

- Display Backlight illumination goes from low to high strength back to low again.
- Notification LED changes, showing four colors in the following sequence: green, green, blue, blue, off and red, red.

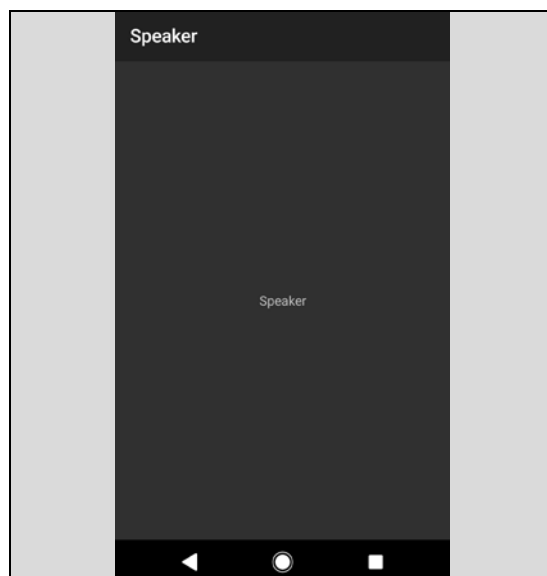
Press the Back key to return to the Service Test Menu.



2.2.4 Speaker

Do not use this test!

N/A, use Stereo Speaker test below.



Tests

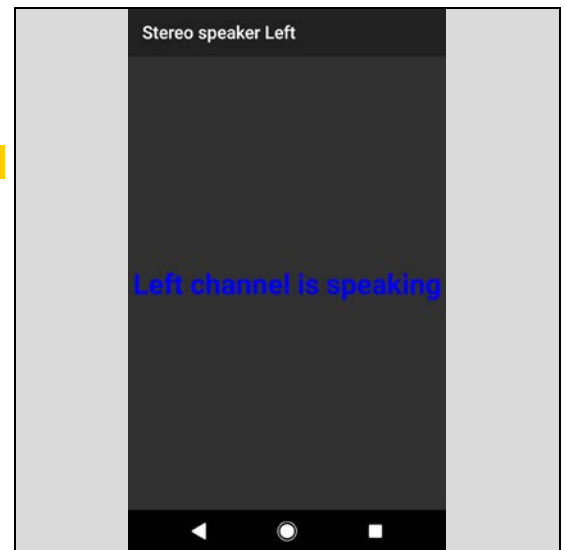
2.2.5 Stereo speaker Left

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

Make sure that the sound from the speaker port at top is emitted loud and clear and that the test include maximum volume.

Press Volume up/Volume down key to adjust speaker volume.

Press Back key to return to Service Test Menu.



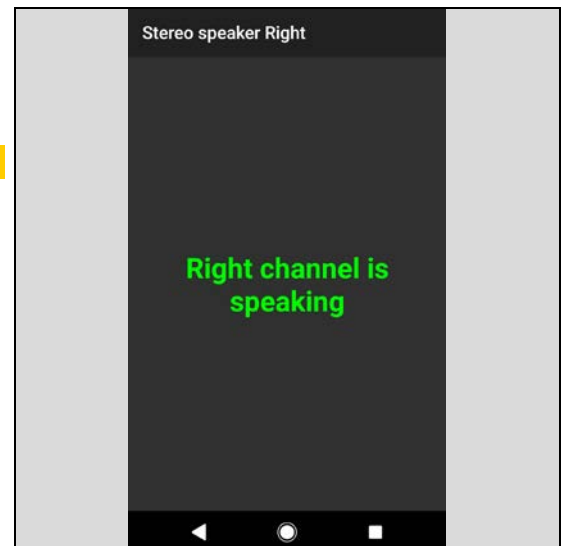
2.2.6 Stereo speaker Right

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

Make sure that the sound from the speaker port at bottom is emitted loud and clear and that the test include maximum volume.

Press Volume up/Volume down key to adjust speaker volume.

Press Back key to return to Service Test Menu.



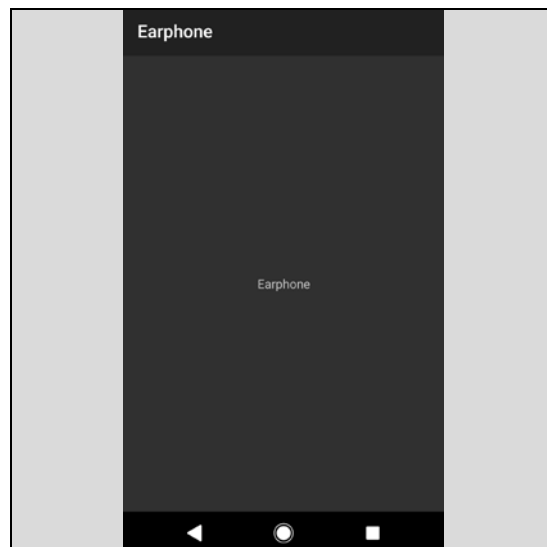
Tests: Service Tests

2.2.7 Earphone

Make sure that the sound from the earphone port is emitted loud and clear and the test includes maximum volume.

Press the volume up/volume down key to adjust the earphone volume.

Press the Back key to return to the Service Test Menu.

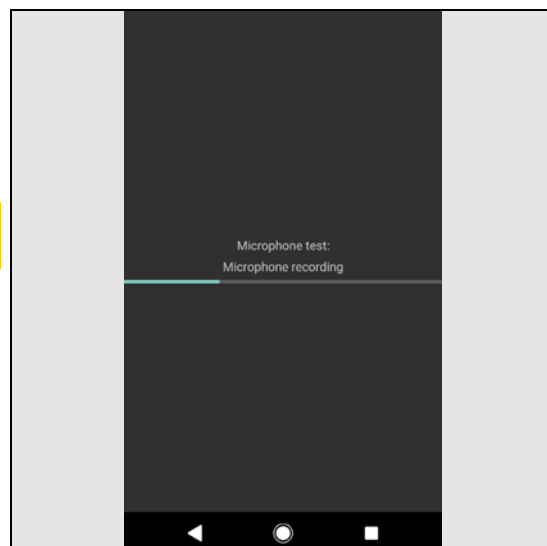


2.2.8 Microphone

The previous 'Stereo Speaker' test must have been successfully carried out before doing this test!

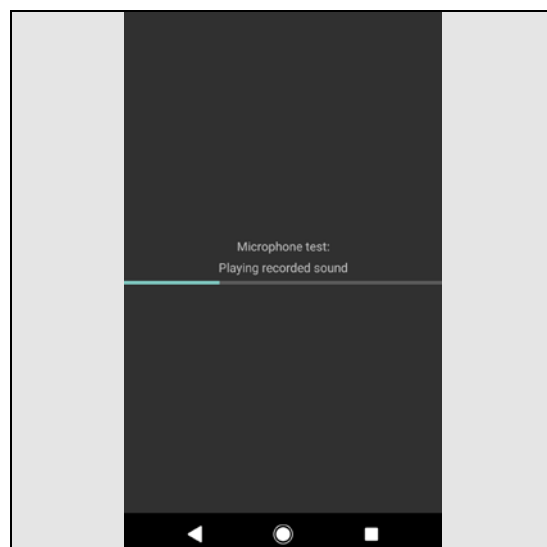
The phone will start to record and after approximately ten seconds the sound is played back through the speaker.

Step 1: Speak into the microphone during the 'Microphone Recording' phase.



Step 2: Check the quality by listening to the recording from the speaker during the 'Playing recorded sound' phase at maximum volume.

Press the Back key to return to the Service Test Menu.



Tests: Service Tests

2.2.9 Secondary Microphone

The previous 'Stereo Speaker' test must have been successfully carried out before doing this test!

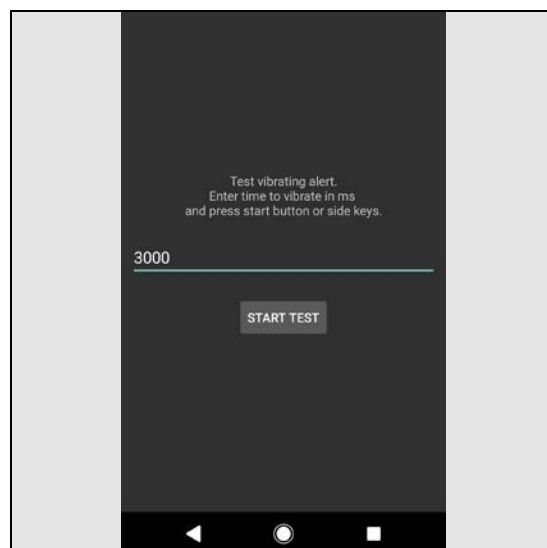
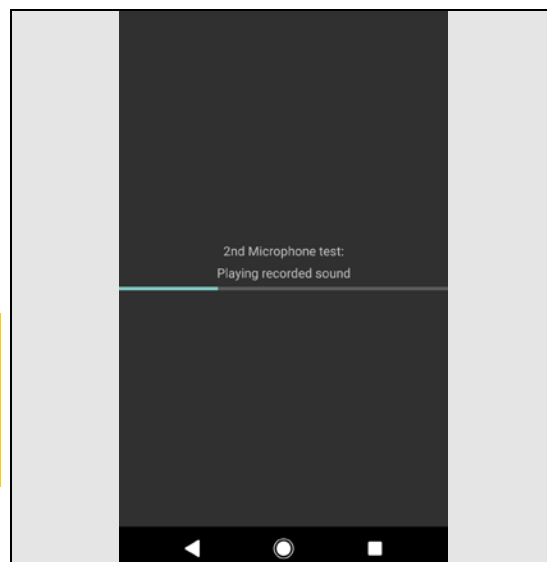
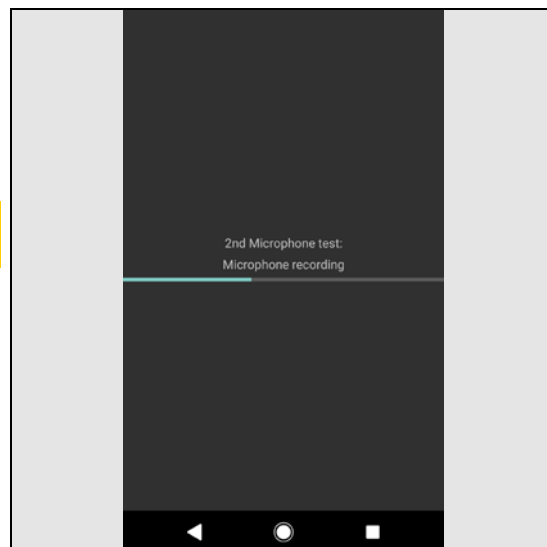
The phone will start to record and after approximately ten seconds the sound is played back through the speaker.

Step 1: Speak into the secondary microphone during the 'Microphone Recording' phase.

Step 2: Check the quality by listening to the recording from the speaker during the 'Playing recorded sound' phase at maximum volume.

Press the Back key to return to the Service Test Menu.

Note! Covering the secondary microphone hole accidentally will greatly affect voice quality when making a call by using the hands free function mode. Refer to Test Enablers for the secondary microphone location.



2.2.10 Vibrator

Press the Menu key or side keys to start the vibrator test. It is possible to modify the duration of this test.

Press the Back key to return to the Service Test Menu.

Tests: Service Tests

2.2.11 Camera

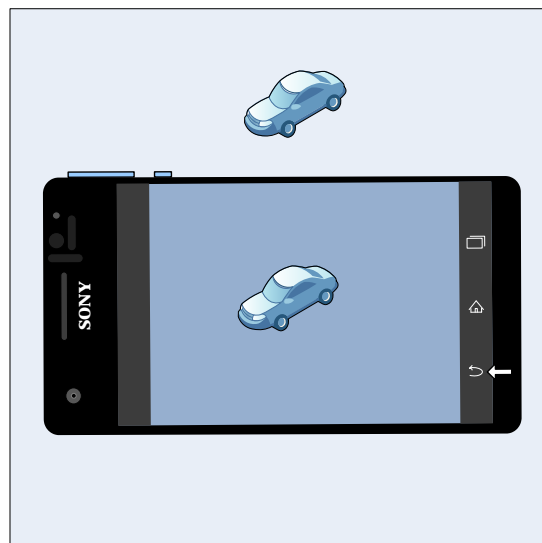
Minor variations in image appearance may occur between phones, but is not uncommon and should not be regarded as an indication of a defective camera module!

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

Touch the screen to take picture and preview the photo's auto focus quality.

Photos are taken but not saved during this test!

Press the Back key to return to the Service Test Menu.



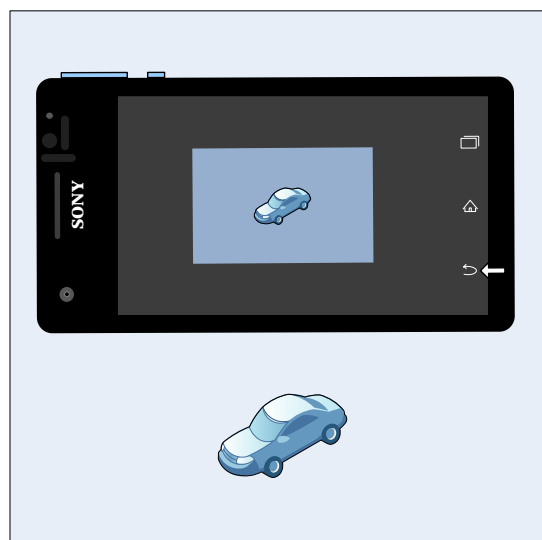
Only symbolic view

2.2.12 Secondary 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 in front of the phone) at an object and check the quality of the image shown in the display.

Press the Back key to return to the Service Test Menu.

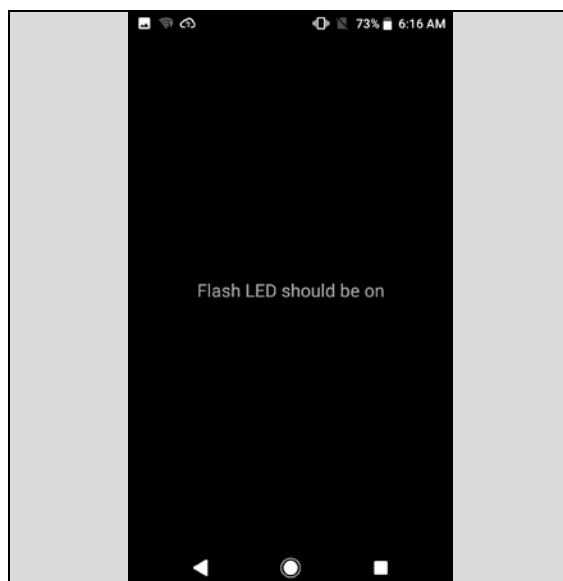


Only symbolic view

2.2.13 Flash LED

Check the Flash LED at the back side of phone whether it's turned on.

Press Back key to return to Service Test Menu.



Tests: Service Tests

2.2.14 Bluetooth

During this test, the distance between the phone and the target Bluetooth device must be 1.5 to 5 meters!
Make sure the target Bluetooth device is enabled and visible always!

The Bluetooth test will be done in following sequences:

Step 1: Enable Bluetooth; wait 4-5 seconds, shows OK;

There is a permission request, select 'Yes'.

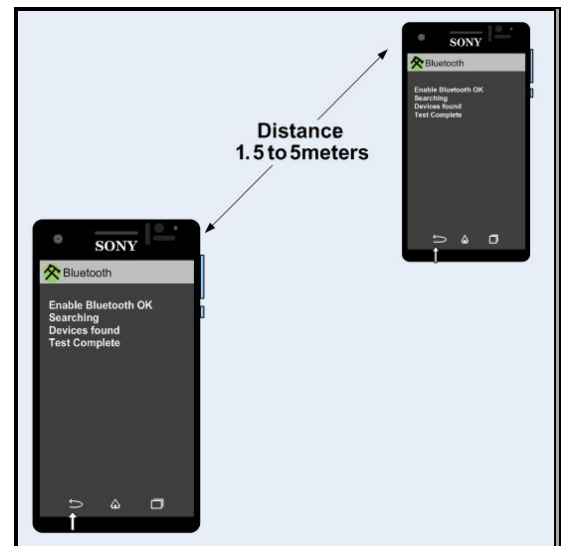
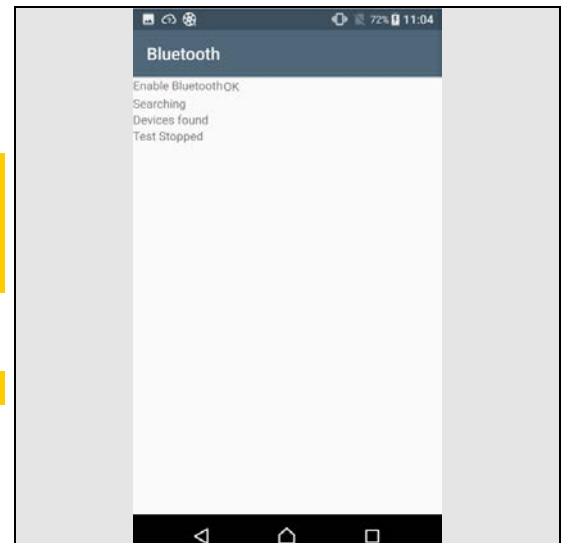
Step 2: Searching;

Step 3: Show the Device Found list;

Step 4: Select the Target Bluetooth Device,

Step 5: Check the Pairing PIN code on both Target Bluetooth Device and unit, press Pair on both, when succeeded, it shows "Test Complete".

Press Back key to return to Service Test Menu.

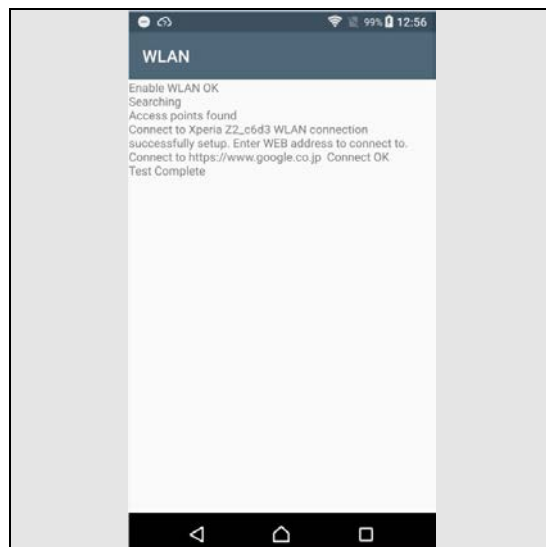


Tests: Service Tests

2.2.15 WLAN

Make sure there's a WLAN network before performing this test.

The WLAN test will be done in following sequences:
 Step 1: Enable WLAN; wait 4-5 seconds, shows OK;
 Step 2: Searching;
 Step 3: Access points found list;
 Step 4: Select the Target WLAN network, and type the password to get connected;
 Step 5: Enter a web address (e.g. Google.com);
 Step 6: When connection succeed, it shows 'Test Complete'.
 Press the Back key to return to the Service Test Menu.

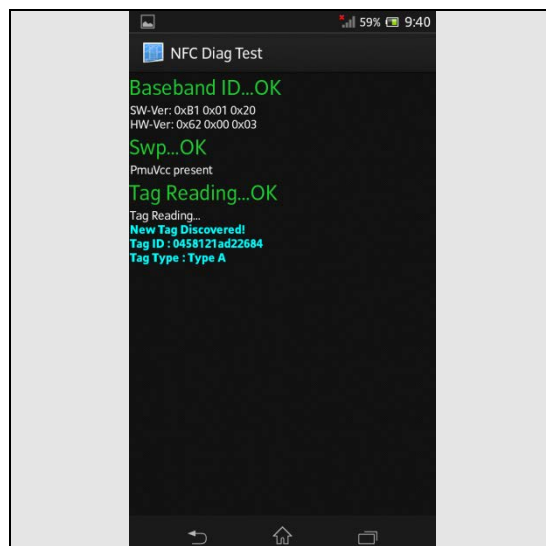


2.2.16 NFC

A NFC SIM card 4FF should be inserted in the phone before the start of this test!

The NFC test will be done in following sequences:
 Step 1: Select 'NFC';
 Step 2: Select 'NFC Diag Test';
 Step 3: After 'Tag Reading...Enabled' can be seen on the display, bring a NFC Tag close to NFC icon in the middle of the Panel Rear.
 Step 4: When Tag is identified, a sound will be made and an OK message will be displayed.

Press the Back key two times to return to Service Test Menu.

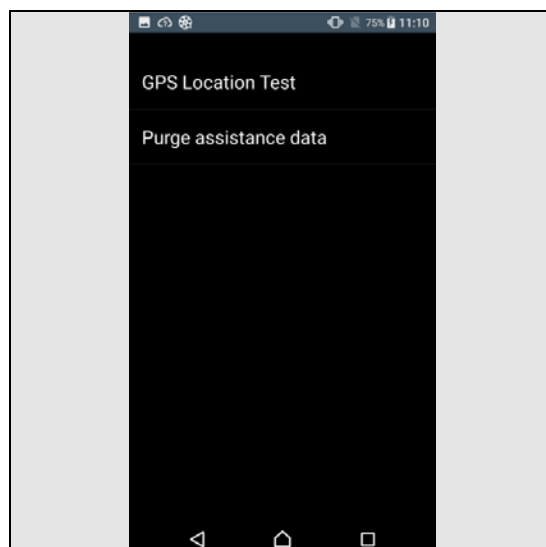


2.2.17 GPS

Enter the GPS Location Test and wait for the GPS location data.

Press the Back key to return to the Service Test Menu.

For GPS testing, refer to 1220-1333: Generic Repair Manual – mechanical



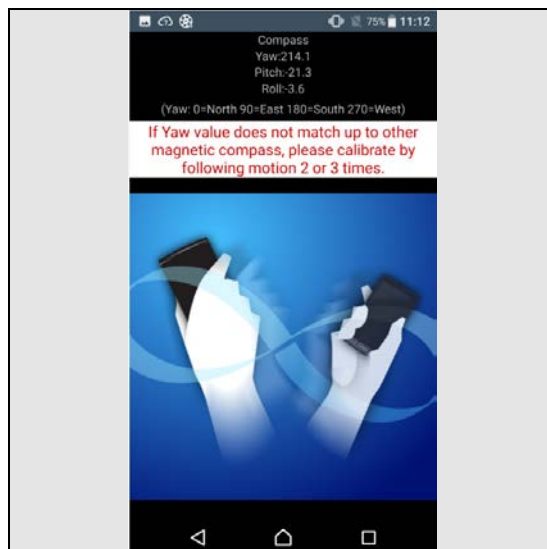
Tests: Service Tests

2.2.18 Compass

Do the test with hand movements as shown in the phone, and then check the actual direction with measured Yaw value.

(Yaw:0=North, 90=East, 180=South, 270=West)

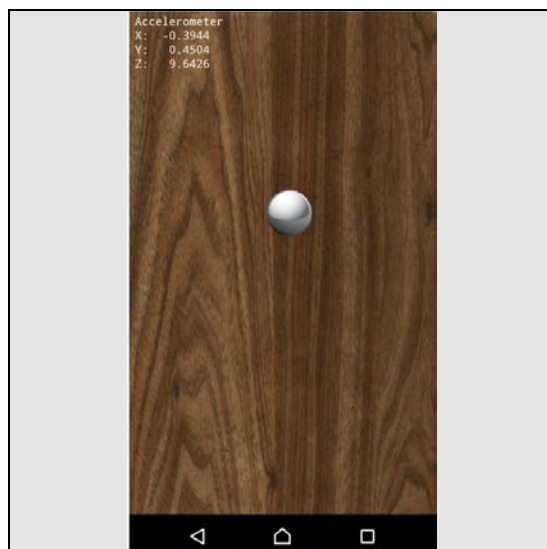
Press the Back key to return to the Service Test Menu.



2.2.19 Accelerometer

The accelerometer test displays the actual position of the phone as a 3D coordinate X: Y: Z.

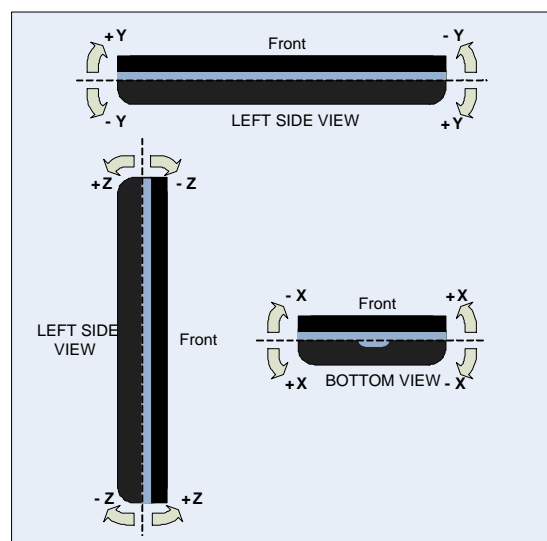
Press the Back key to return to the Service Test Menu.



By tilting the phone in various directions, the X: Y: Z values will change in size and polarity depending on the angle and direction as shown in the adjacent picture.

Check by tilting the phone that the X: Y: Z values shown in the display are in accordance with the tilting shown in the picture.

Press the Back key to return to the Service Test Menu.



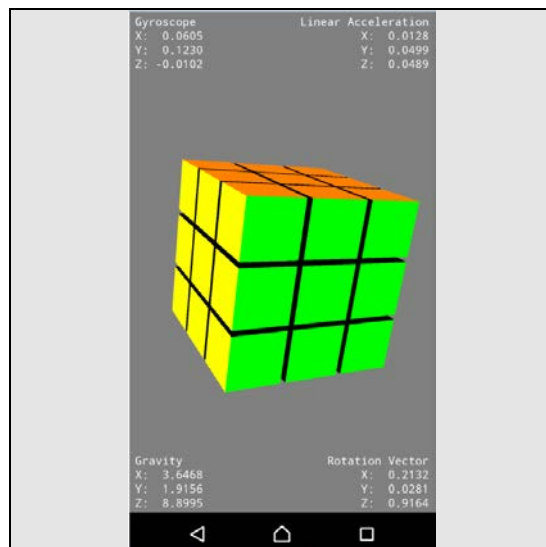
Tests: Service Tests

2.2.20 Gyroscope

The gyroscope test displays the actual position of the phone as a 3D coordinate X: Y: Z.

Check by moving the phone that the X: Y: Z values shown in the display are in accordance with the moving.

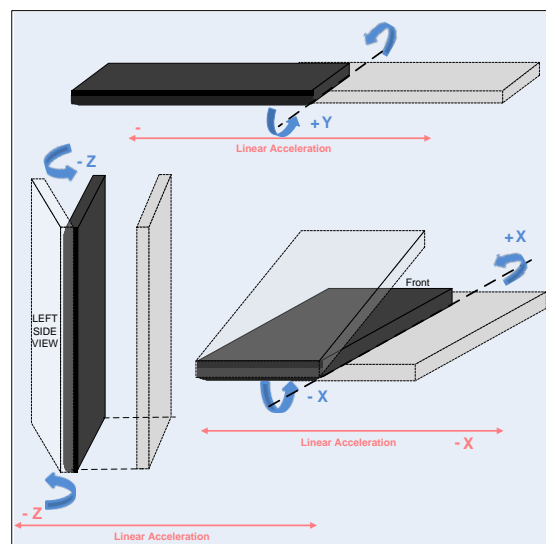
Press the Back key to return to the Service Test Menu.



Check 'Gravity Values' 'Linear Acceleration Values' 'Rotation Vector Values' and 'Gyroscope Values' by moving the phone:

'Gravity Values' can be refer to Accelerometer;
'Linear Acceleration Values' and 'Rotation Vector Values' are in accordance with the action shown in the picture.
'Gyroscope Values' are updated while moving the phone.

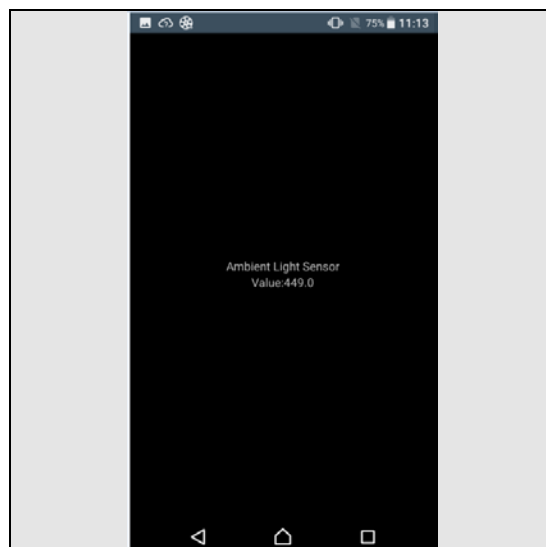
Press the Back key to return to the Service Test Menu.



2.2.21 Ambient Light Sensor

The Ambient light test states a value. The value should increase when the window gets more light and decrease when the window gets less light.

Press the Back key to return to the Service Test Menu.



Tests: Service Tests

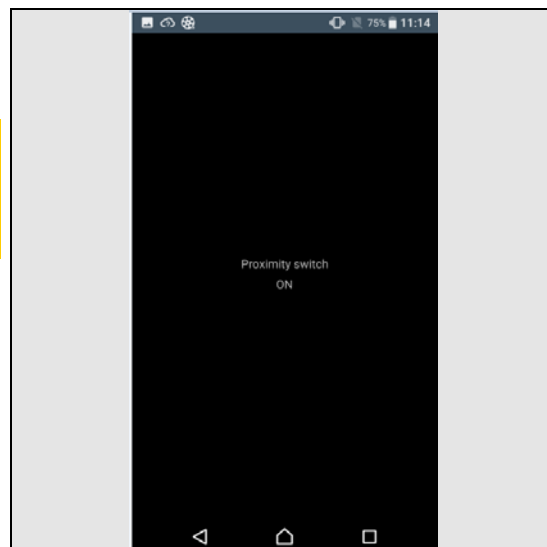
2.2.22 Proximity switch

***The previous 'Stereo Speaker' test should have been successfully carried out before doing this test!
Make sure the phone is not in 'silent mode' before performing this test.***

When entering into the test, the screen shows 'Proximity switch OFF' and a tone is emitted.

When covering the proximity switch area, the screen will show 'Proximity switch ON' with a different type of tone.

Press the Back key to return to the Service Test Menu.

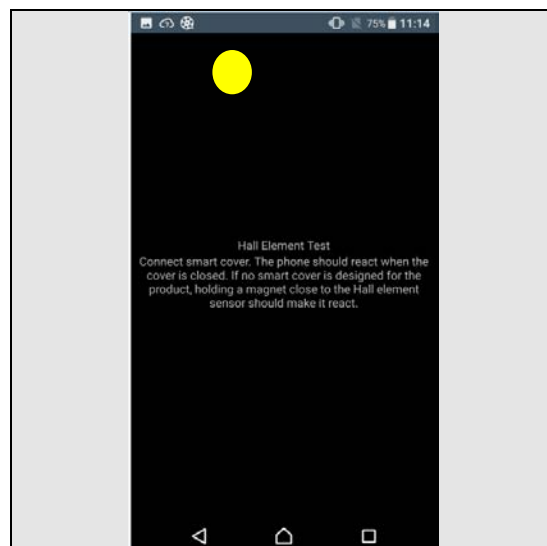


2.2.23 Hall Element Test

Enter this test and press power key to enter sleep mode!

Put the magnet on yellow dot area and then remove the magnet, the phone will wake up.

Press the Back key to return to the Service Test Menu.

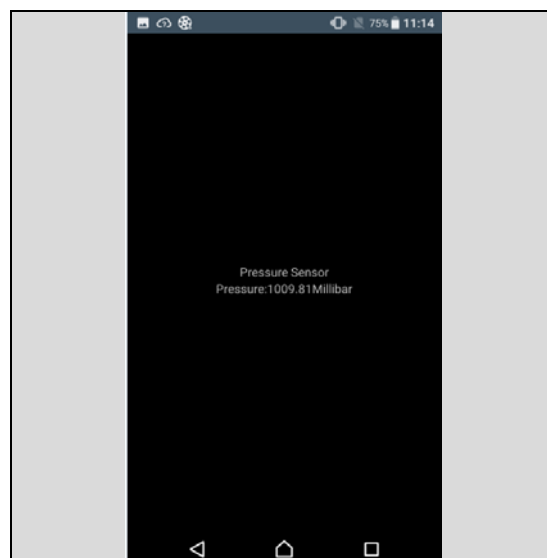


2.2.24 Pressure Sensor

The Pressure Sensor test will check the atmospheric pressure around the phone and states a value. When you put the phone on the floor, read the value. When you raise the phone up as high as you can, the value should decrease about approx 0.2 to 0.3 Millibar.

The value shouldn't be static.

Press the Back key to return to the Service Test Menu.

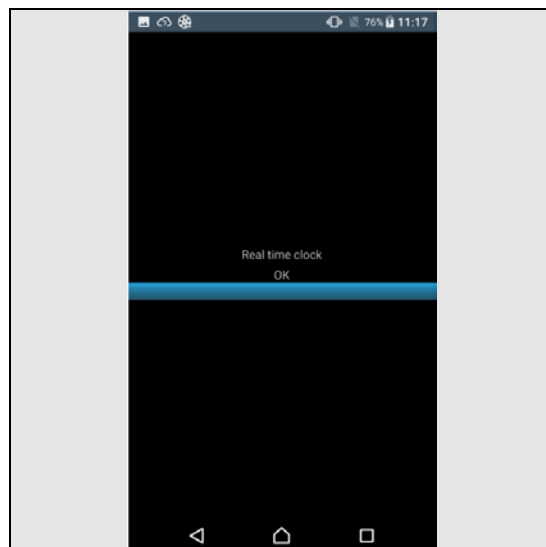


Tests: Service Tests

2.2.25 Real time clock

During the actual test the text 'Real time clock' is displayed, and then followed by a message stating whether the test was OK or not.

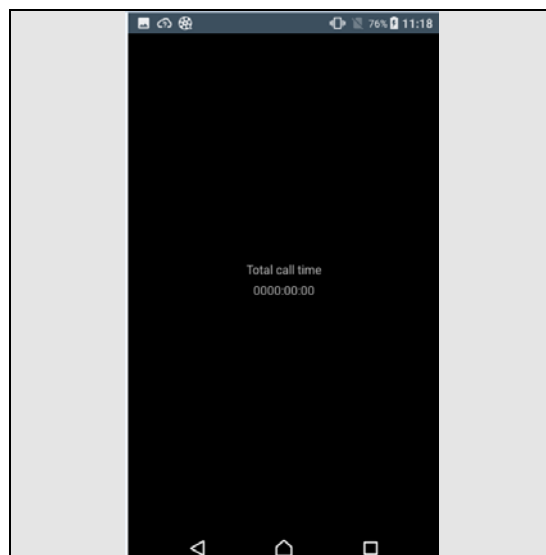
Press the Back key to return to the Service Test Menu.



2.2.26 Total call time

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

Press the Back key to return to the Service Test Menu.



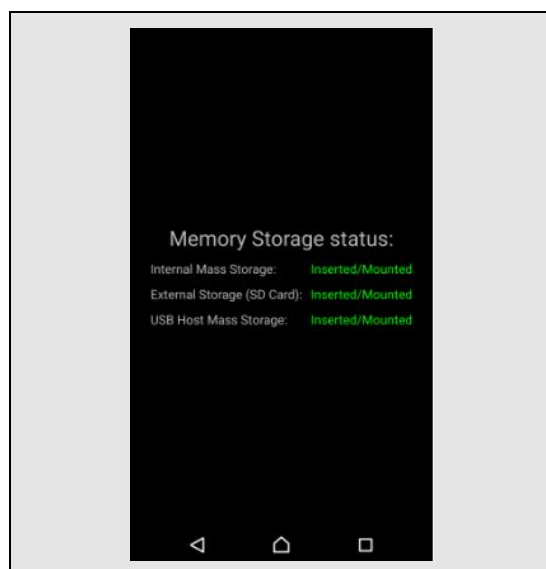
2.2.27 Storage

A memory card should be inserted in the phone and attach USB Adaptor between phone and a USB disk before starting this test.

After you inserted USB disk go to Settings/Xperia Connectivity/USB Connectivity/Detect USB device/OK

- Internal Mass Storage is 'Inserted/Mounted' as shown on the screen.
- External Storage (SD Card) is 'Inserted/Mounted' as shown on the screen.
- The USB Host Mass Storage is 'Inserted/Mounted' as shown on the screen.

Press the Back key to return to the Service Test Menu.

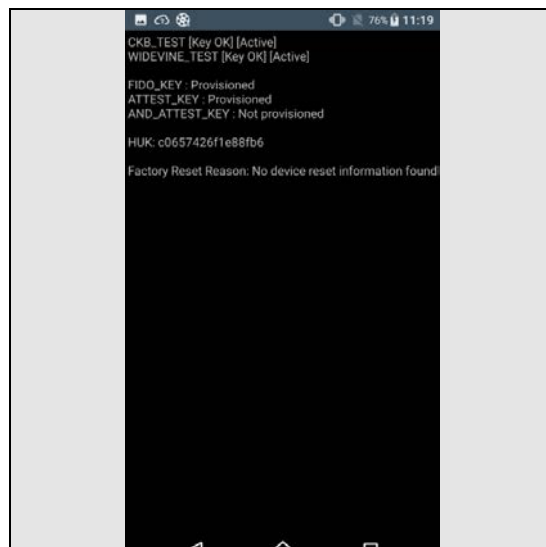


Tests: Service Tests

2.2.28 Security

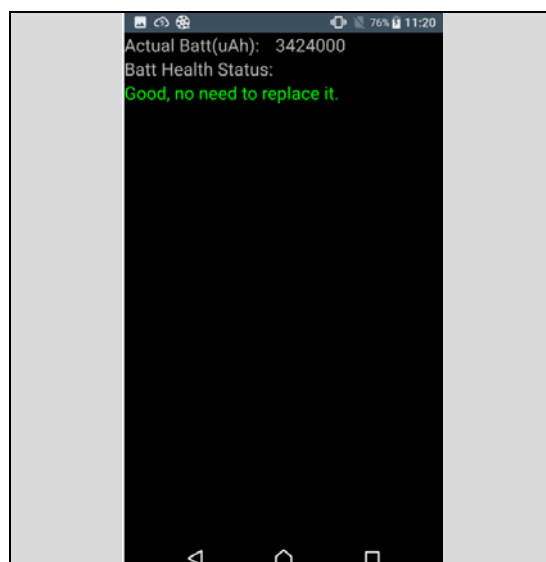
The DRM keys are shown in the display.
There may be different content shown based on different market software versions.

Press the Back key to return to the Service Test Menu.



2.2.29 Battery Health Test

The Battery Health Status is shown in the display.
Press the Back key to return to the Service Test Menu.

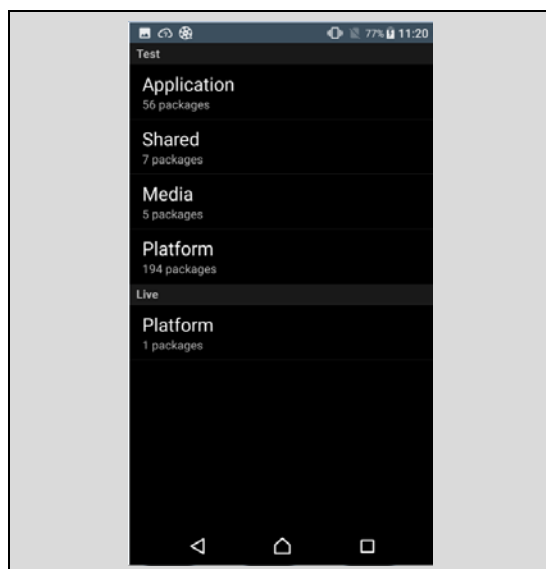


2.2.30 Verify certificates

When entering the test, five information categories will be shown:
Test: Media, Application, Shared, Platform
Live: Application.

Do not use this test!

Press the Back key to return to the Service Test Menu.



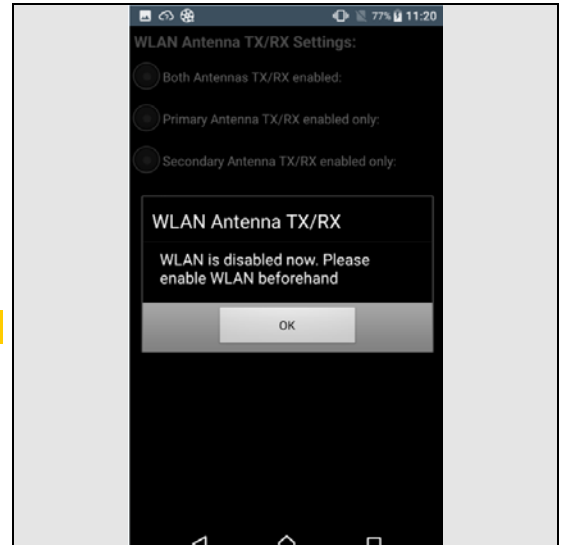
Tests: Service Tests

2.2.31 WLAN Antenna TX/RX

N/A

Do not use this test!

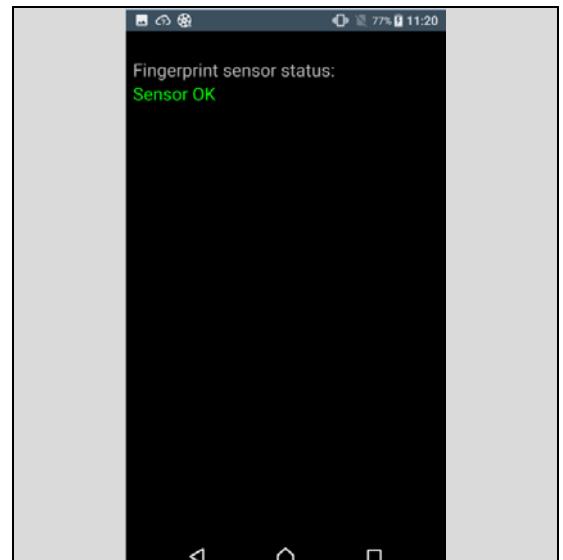
Press the Back key to return to the Service Test Menu.



2.2.32 Fingerprint Test

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

Press the Back key to return to the Service Test Menu.



Tests: Service Tests

2.2.33 Speaker Calibration Status

This is indication of Speaker Calibration status (If calibration is completed).

If calibration is completed, “**CALIBRATED**” is displayed.

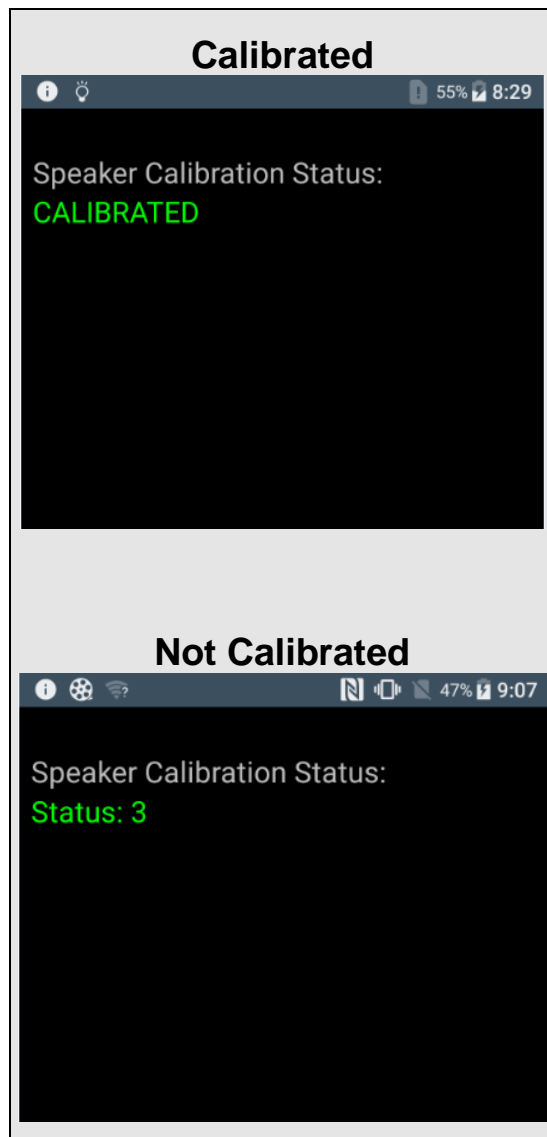
If calibration is not completed, “**Status: 3**” is displayed.

When speaker (either top or bottom) is replaced, erasing of calibration data is required by flashing the latest software (Customization, Refurbish, or SUCE in EMMA), or implement the Factory data reset.

And leave the phone (connect the charger in to the USB connector) more than 30 minutes without any access to the phone, and then calibration will be done as automatically.

If the phone is accessed during the period, calibration process is reset, and another 30 minutes will be taken.

It is not mandatory to leave the phone for 30 minutes at repair process. Because it will be done automatically during customer using the phone.



Tests: Service Tests

2.2.34 RGBC-IR sensor

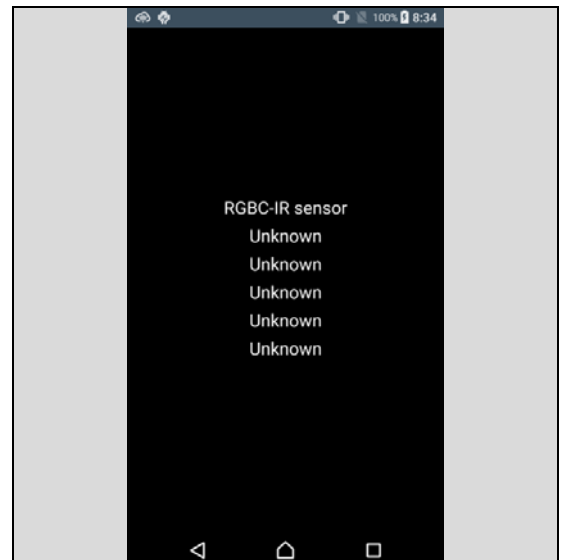
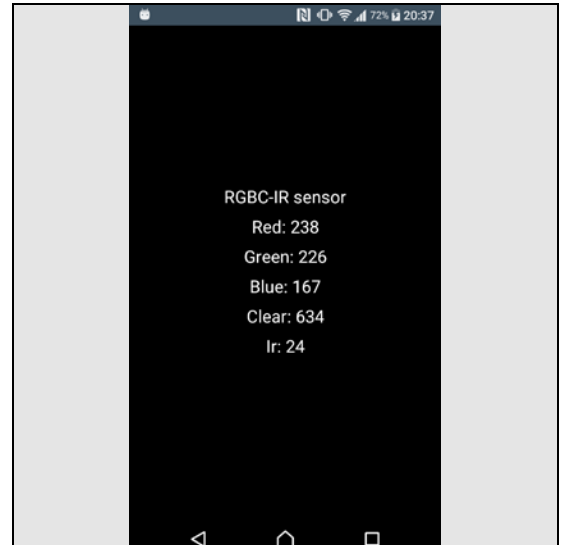
When start the test, five items of the values will be indicated on the screen as shown in the picture.

Point a sensor window at the light and check values.

Shade a sensor window and check values.

- **Pass:** value is changed
- **Fail:** value is not changed

Press the Back key to return to the Service Test Menu.



If Unknown is indicated, reboot the phone and retry the test.

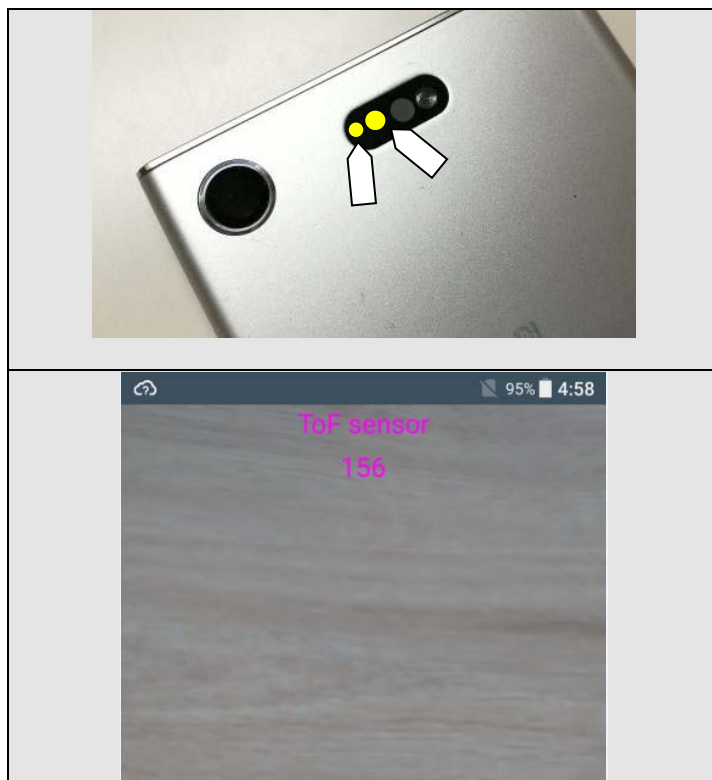
If Unknown is still indicated even reboot, refer to Trouble Shooting Guide.

Tests: Service Tests

2.2.35 ToF sensor

Clean ToF sensor window before test.

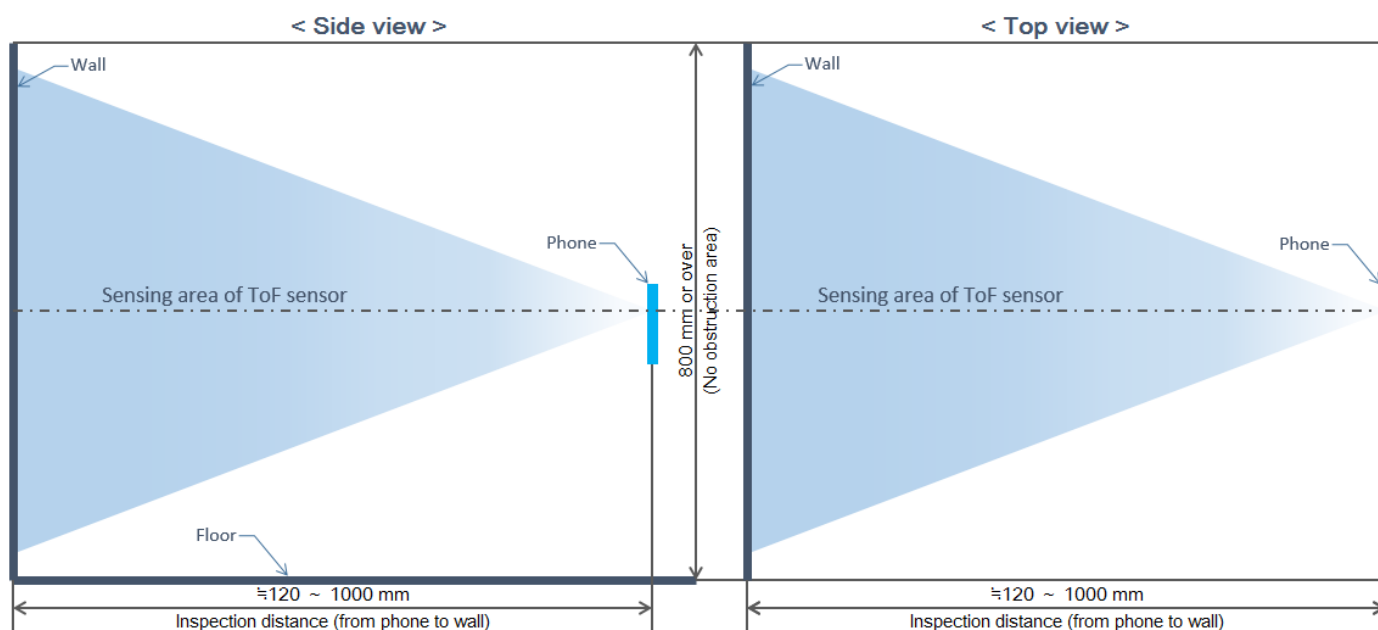
When start the test, distance value will be indicated on the screen.



Move the phone with following conditions, and check the value.

Test condition

- No obstruction in the following area (800×800 mm).
- Inspection distance (operating range of ToF sensor) : around 120~1000 mm



Tests: Service Tests

Criteria

Pass

Value is changed by distance.

When distance will be around 1000 mm or over, value will indicate over 8000.

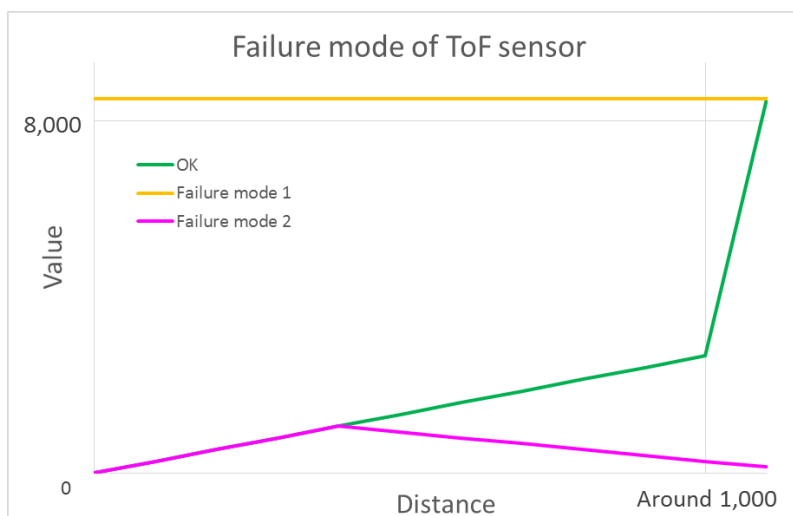
But it is not failure.

Fail

Mode 1: Value is always over 8000 regardless of the distance.

Mode 2: Value is not changed with distance.

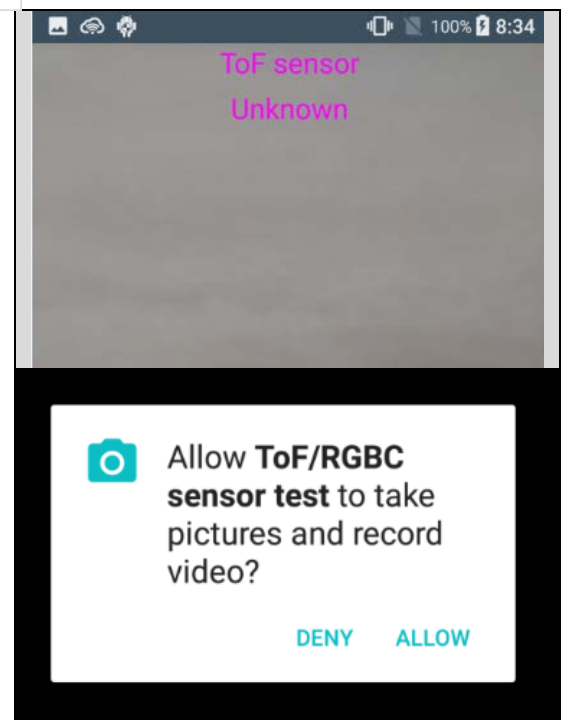
Refer the graph and movie for the detail of each failure mode.



If Unknown is indicated, reboot the phone and retry the test.

If Unknown is still indicated even reboot, refer to Trouble Shooting Guide.

If the message that shown in the picture is appeared, press **“ALLOW”** button to continue the test.



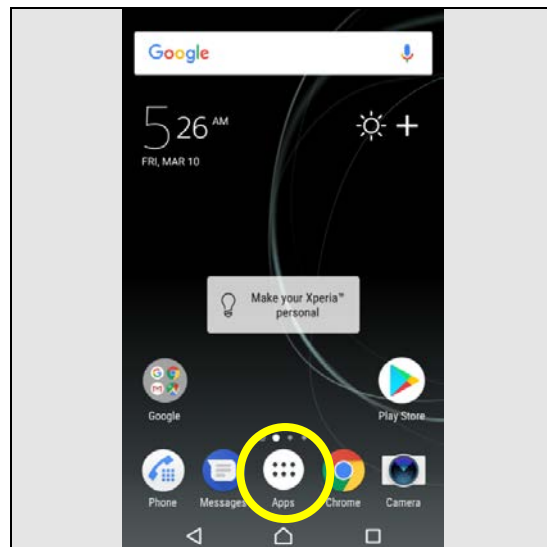
Tests: Android Setting Tests

2.3 Android Setting Tests

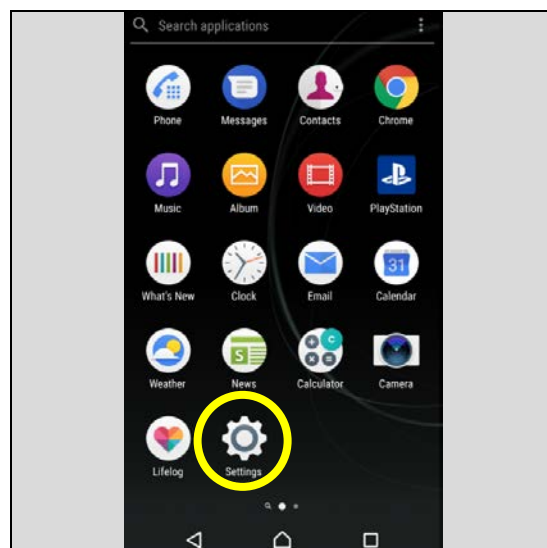
2.3.1 Fingerprint Sensor function test

Step 1: Go to Fingerprint Manager.

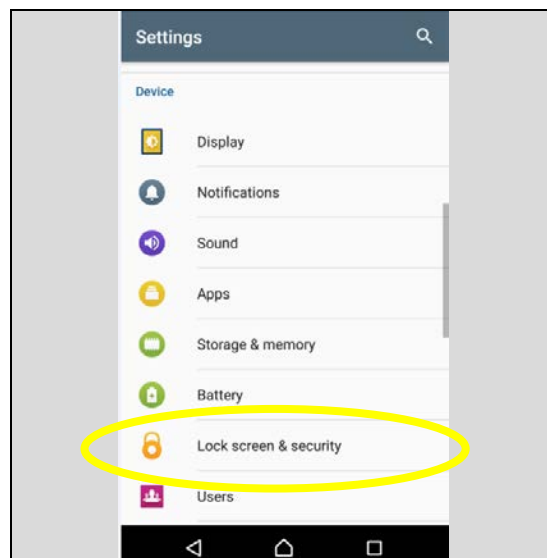
Tap “Apps”.



Tap “Settings”.

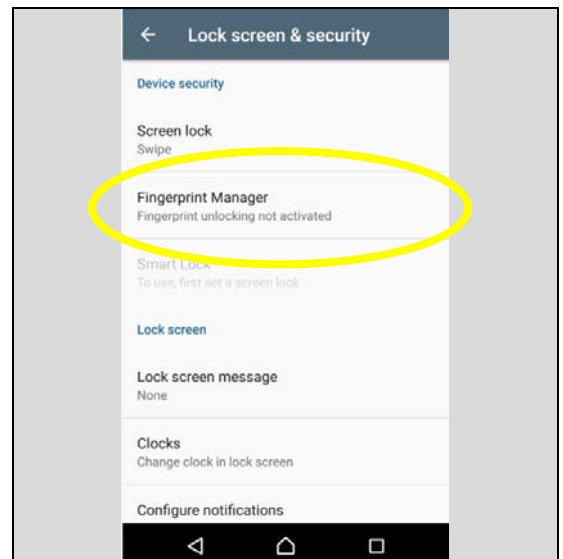


Tap “Lock screen & security”.

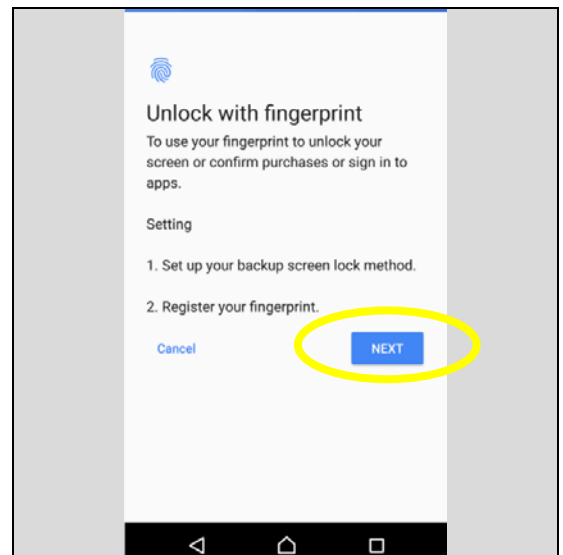


Tests: Android Setting Tests

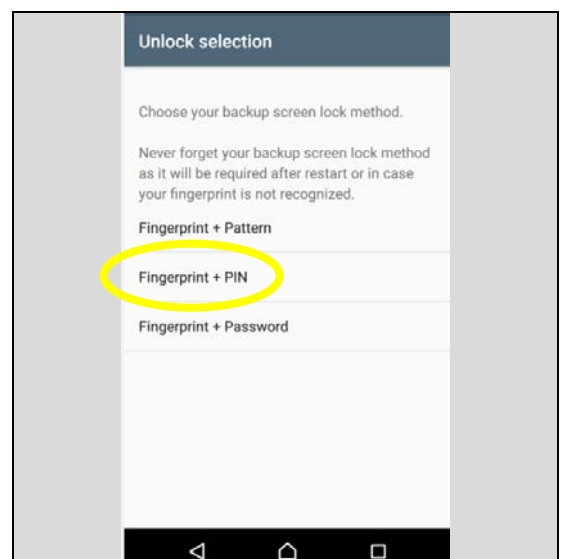
Tap “Fingerprint Manager”.



Step 2: Set PIN code
Tap “NEXT”.

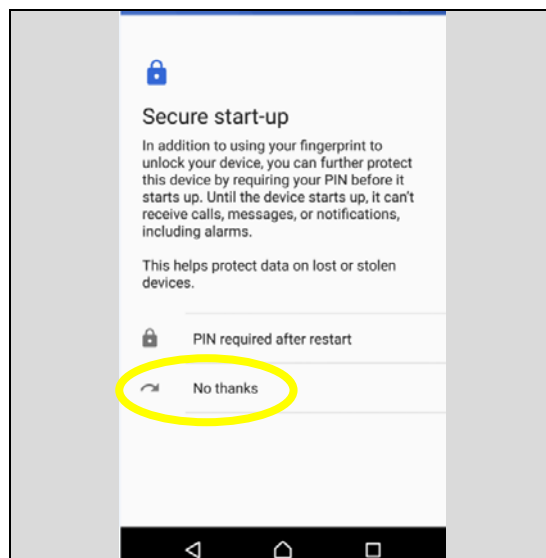


Tap “Fingerprint + PIN”.

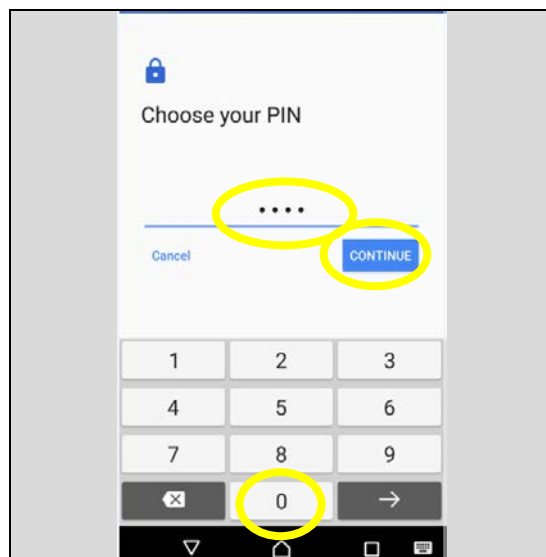


Tests: Android Setting Tests

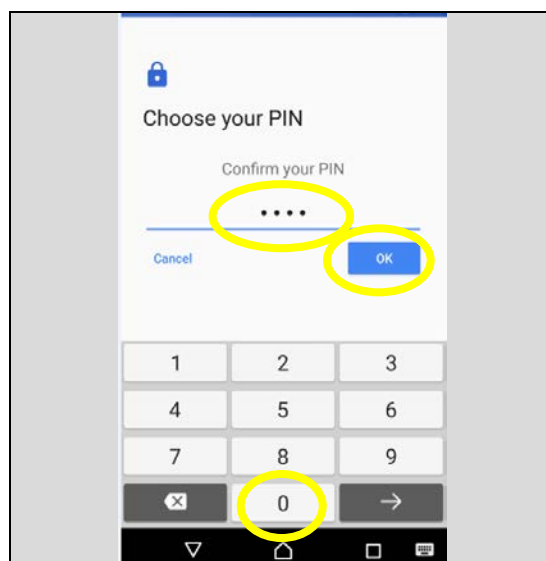
Tap “No thanks”.



Enter 0000 as PIN to avoid mistake.
Tap “CONTINUE”.



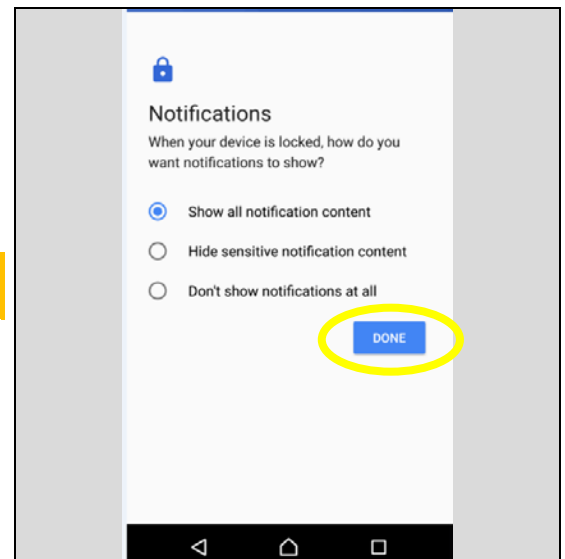
Enter 0000 one more time, and tap “OK”.



Tests: Android Setting Tests

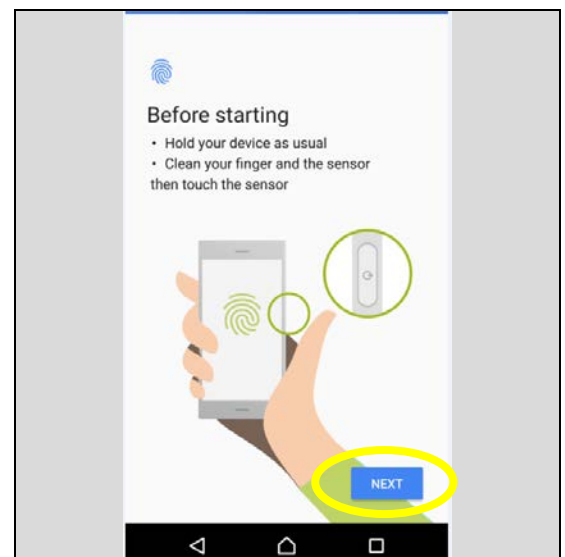
Tap "DONE".

After finish test, PIN code must be reset.
Make sure to follow **Step 4: Reset PIN**.

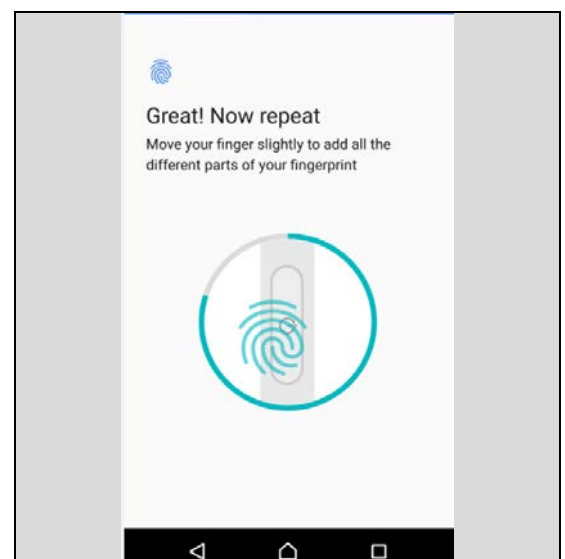


Step 3: Fingerprint function test

Tap "NEXT".

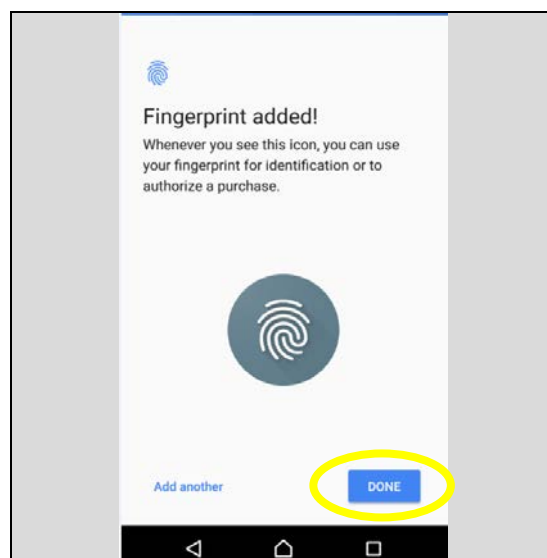


Touch the sensor lightly with your finger and lift it after you feel a vibration.
Move your finger slightly to add all the different parts of your fingerprint.

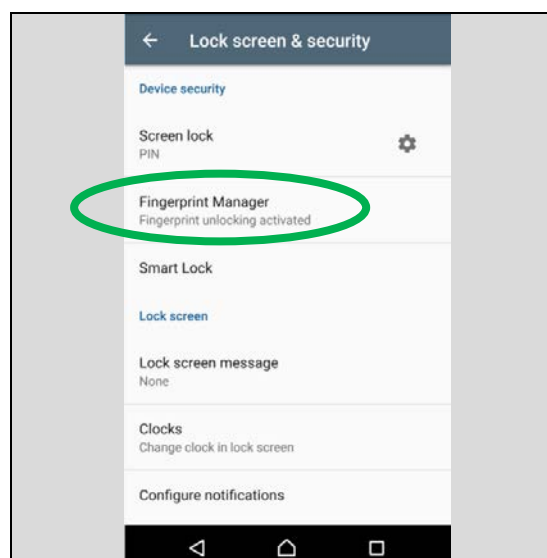


Tests: Android Setting Tests

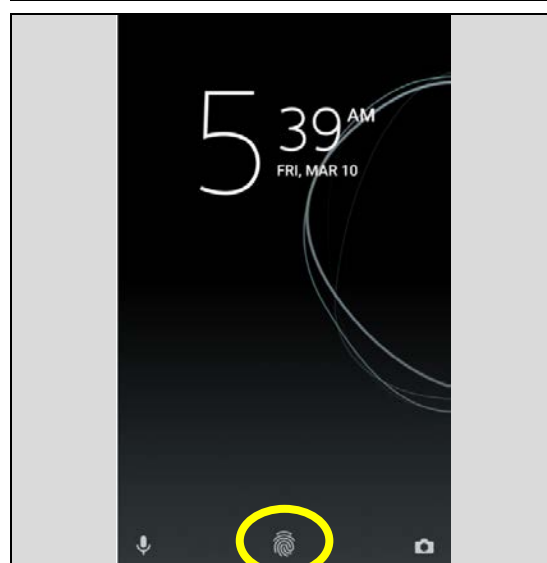
Tap "DONE".



Check if Fingerprint unlocking is activated,

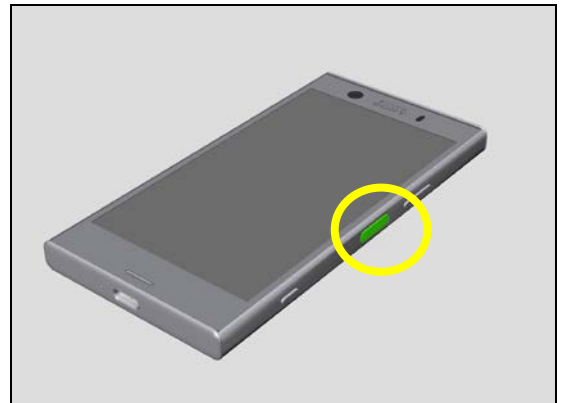


Lock the phone and press power key.
Check if fingerprint icon is appeared.



Tests: Android Setting Tests

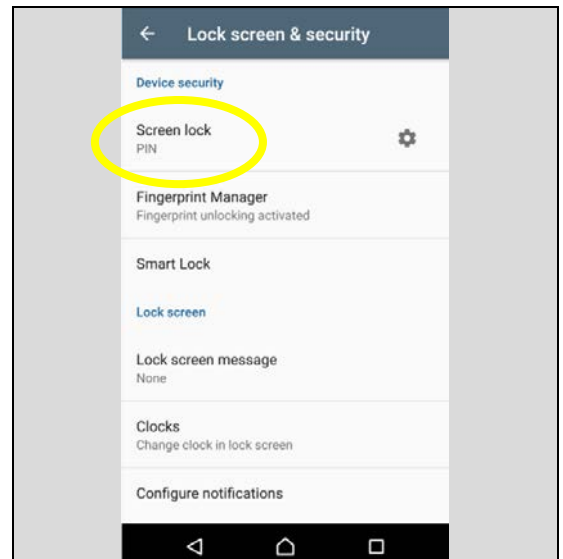
Touch your fingerprint on the sensor to unlock.
If unlock, fingerprint security function is working.



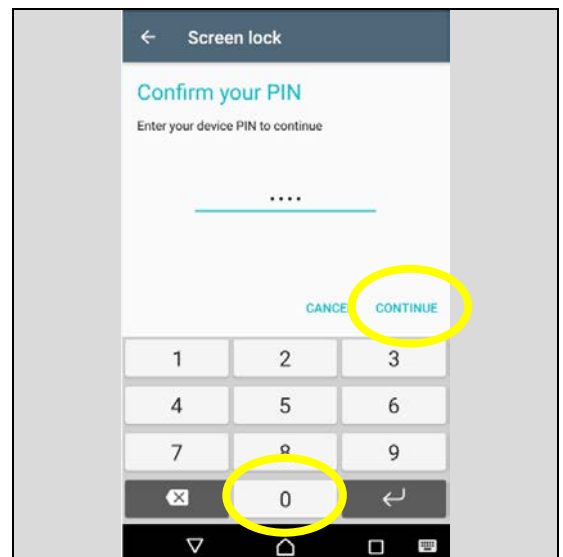
Step 4: Reset PIN

Perform Factory data reset or follow the following instructions.

Go to Apps → Setting → Lock screen & security.
Tap “Screen lock”.

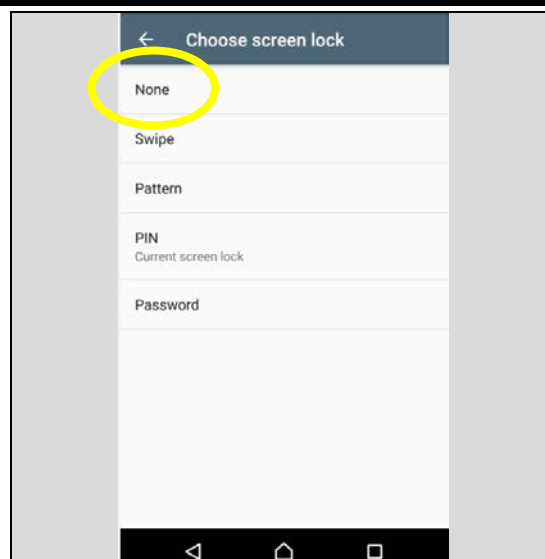


Enter 0000, and tap “CONTINUE”.

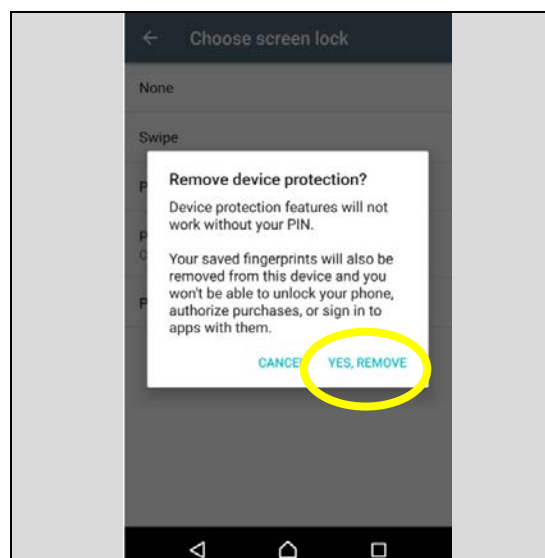


Tests: Android Setting Tests

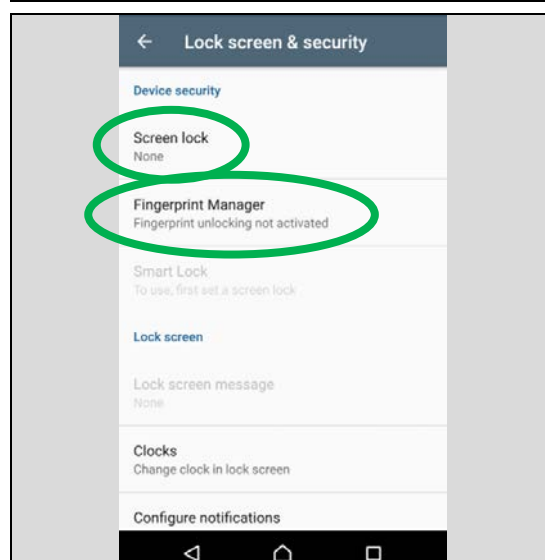
Tap “None”.



Tap “YES, REMOVE”.



Make sure that Screen lock is “None”, and Fingerprint Manager is “Fingerprint unlocking not activated”.



Tests: Manual Tests

2.4 Manual Tests

2.4.1 SIM test

Verify that the phone can detect a SIM card:

Step 1: Insert a SIM card, and start the phone;

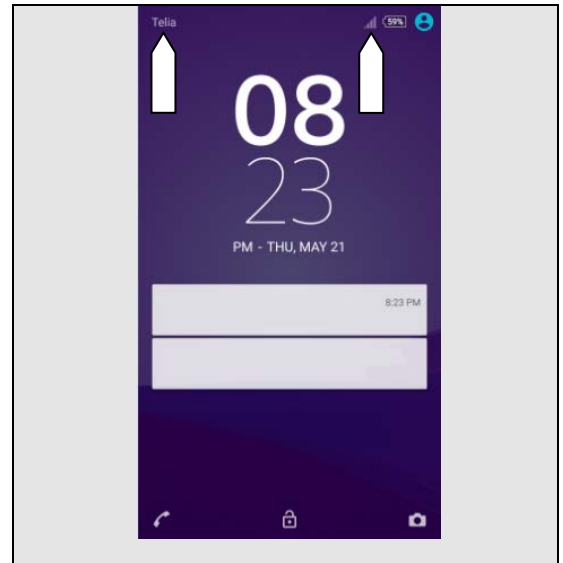
If the SIM card is detected by the phone, the start-up procedure will continue.

Step 2: The operator's name is displayed at the top left corner of the locked screen.

If not detected, the message 'No SIM card-Emergency call only' will be displayed instead.

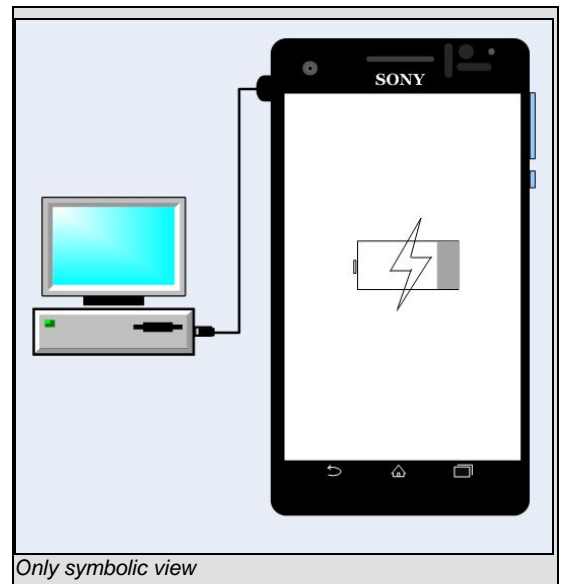
If operator is not detected, the message 'No service' will be displayed instead.

Press Back key to return to Standby Menu.



2.4.2 Data Communication test

- Connect a USB cable from a computer to the started phone.
- Verify that Data Communication works by transferring a file from Computer to phone
- Erase the file



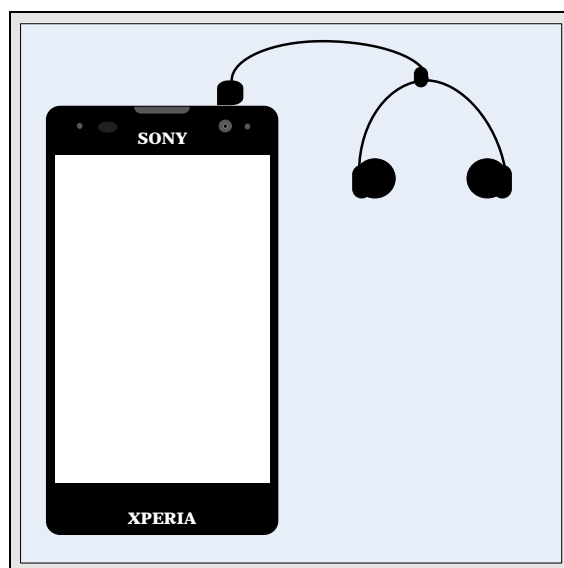
Tests: Manual Tests

2.4.3 Audio Jack test

Connect a Sony Noise canceling headset
(see www.sonymobile.com go to the product and then Accessories for applicable headset)

Repeat the test of “Stereo Speaker”, “Earphone” and “Microphone”.

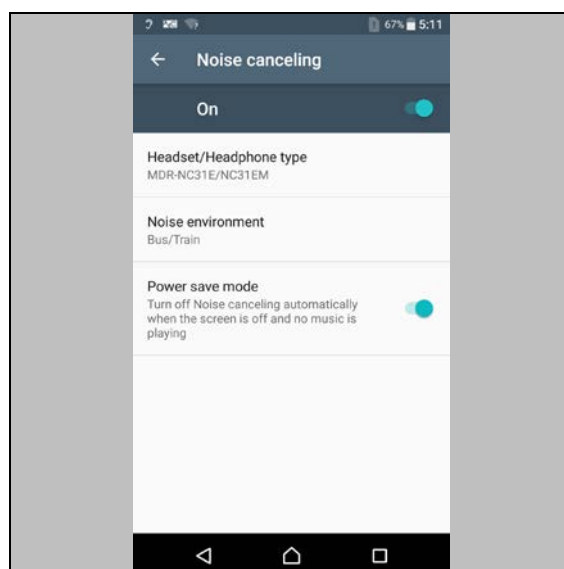
Make sure that the sound to and from Headset is emitted loud and clear and that the units Notification panel at the top show “Noise canceling icon show when you attach the headset.



Drag the status bar down to open the notification panel
Tap the Noise canceling on/off menu and enter the Noise canceling menu (you can also open it via Settings/Sound & notification/Accessory settings)

Turn on and off the switch in the upper right corner of the screen, you should hear a faint noise in the Headset at maximum volume.

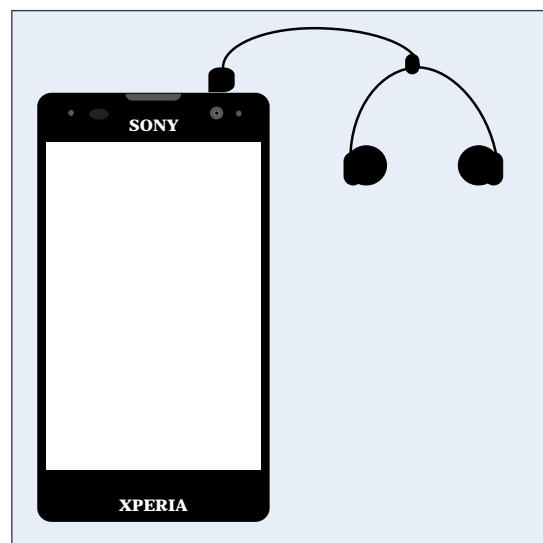
Remove the Sony Noise canceling headset and press task key and chose the Service test again.



Connect a Sony CTIA headset (with microphone).
(see www.sonymobile.com go to the product and then Accessories)

Repeat the test of “Stereo Speaker”, “Earphone” and “Microphone”.

Make sure that the sound to and from Headset is emitted loud and clear.



Only symbolic view

Tests: Manual Tests

2.4.4 Charging (Charger or Computer)

2.4.4.1 Charging via USB (Charger or Computer)

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

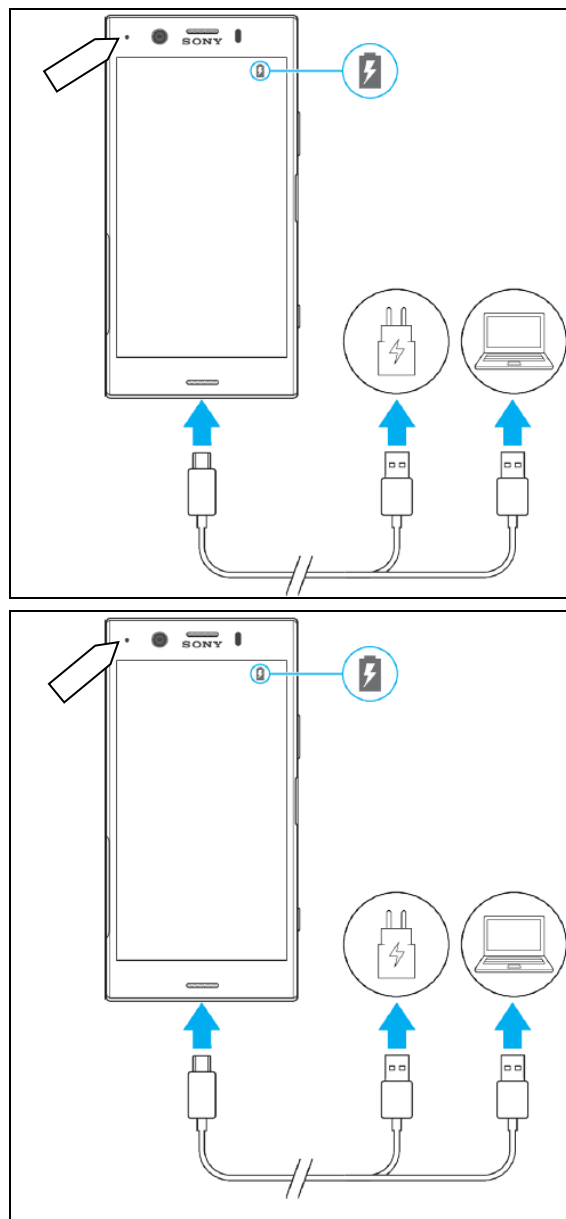
Ensure that no computer application, such as PC Suite or Emma, is active!

Do not start the phone.

Connect a USB cable from a computer or charger to the phone.

Verify that the phone is being charged by the notification LED and Battery icon in the display can take up to 10 min before LED starts.

Remove the USB cable from the connector and verify that the Notification LED (see 1.3 Test Enablers) and Battery icon no longer indicates charging.



The Notification LED (see 1.3 Test Enablers) color status is depended on battery remaining capacity:

- Red: Battery level is between 1% and 10%;
- Orange: Battery level is between 11% and 89%;
- Green: Battery is between 90% and 100%;

Tests: Manual Tests

If above fails, perform below Diagnostic battery / Charging Status check.

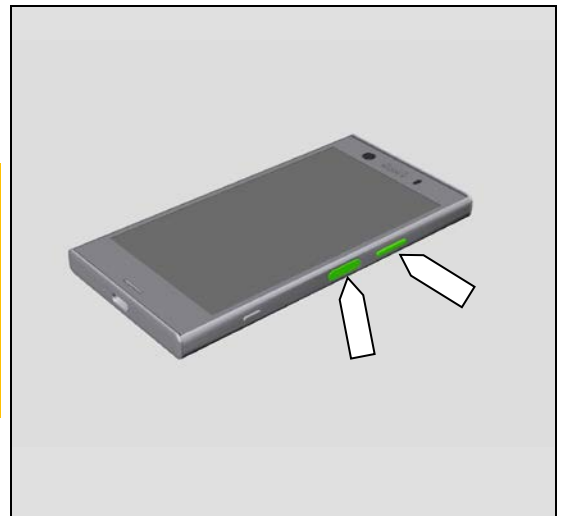
Force Power Down

Press and hold down the power key and the volume up key at the same time for 10 seconds.

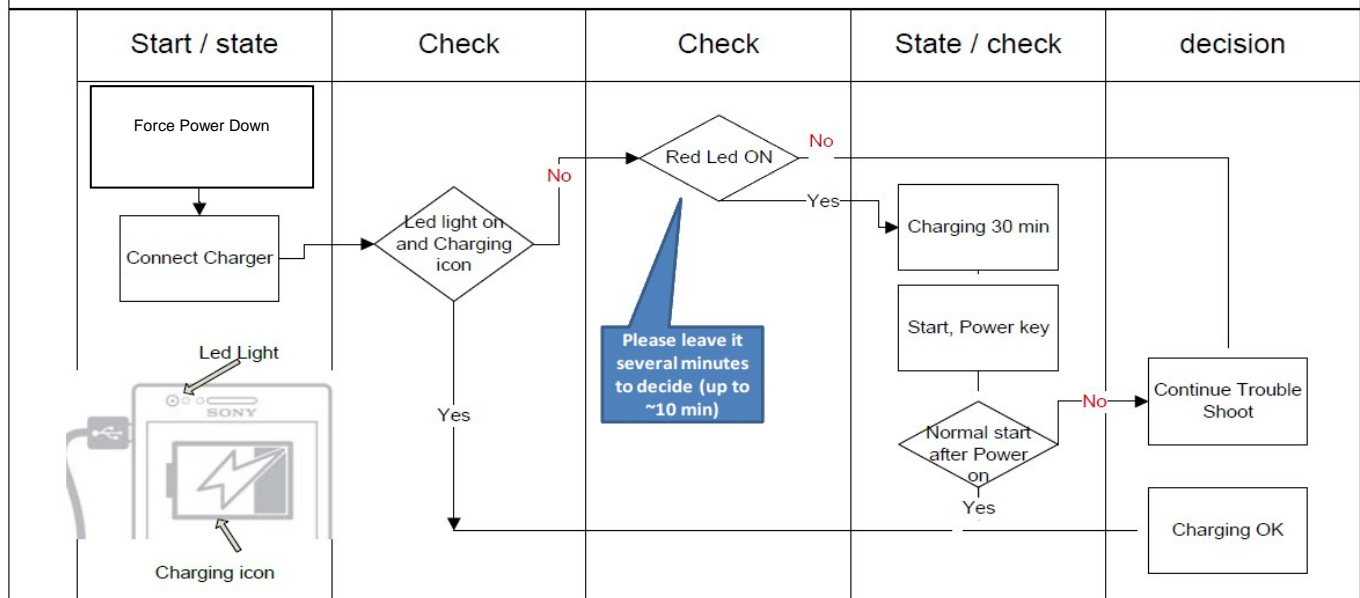
The unit vibrates once.

Continue to keep pressing the keys.

After a few more seconds, the unit vibrates three times and turns off.



Diagnostic Battery / Charging Status



The picture in above flow chart is only symbolic view.

Tests

2.4.5 Network Test

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

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

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

2.4.5.1 On-the-air call to mobile

GSM

Go to the Setting app:

Settings ⇒ More.. ⇒ Mobile networks ⇒ Preferred Network Mode ⇒ GSM only

Ensure that the Network Status icon show signal strength and show no symbol or E at the top of the display.

To verify the radio functions (GSM) of the phone, follow the 'Procedure (GSM & UMTS)' below.

This test is applicable for G8141 and G8142 (G8142 SIM Card 2 only support GSM and its Network mode cannot be selected.)

UMTS (if available)

Go to the Setting app:

Settings ⇒ More.. ⇒ Mobile networks ⇒ Preferred Network Mode ⇒ WCDMA only

Ensure that the Network Status icon show signal strength and show 3G or H+ (HSPA) at the top of the display.

To verify the radio functions (UMTS) of the phone, follow the 'Procedure (GSM & UMTS)'.

This test is applicable for G8141, and G8142 SIM Card 1.

LTE (if available)

Go to the Setting app:

Settings ⇒ More.. ⇒ Mobile networks ⇒ Preferred Network Mode ⇒ LTE (preferred)/WCDMA/GSM

Ensure that the Network Status icon show signal strength and show LTE at the top of the display.

To verify the radio functions (LTE) of the phone, download data package by for ex. Accessing the web.

This test is applicable for G8141, and G8142 SIM Card 1.

Network Type can be checked in *Settings ⇒ About phone ⇒ Status ⇒ Mobile network type*

2.4.5.2 Procedure (GSM & UMTS)

Step 1: Set up a call from a landline phone (PSTN).

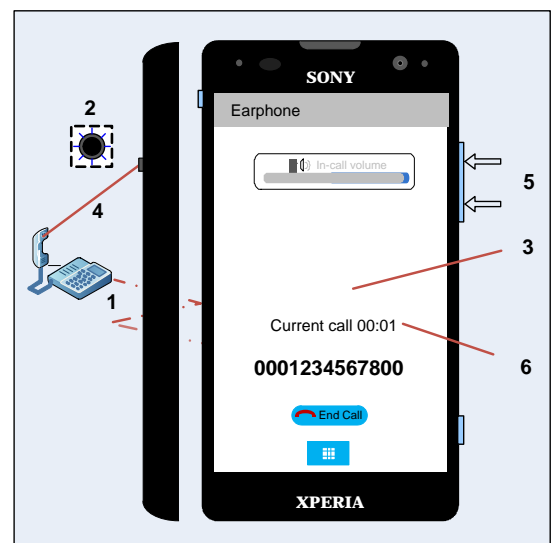
Step 2: Check that there is a ring signal.

Step 3: Check that the display backlight illuminates.

Step 4: Answer the call and check the sound quality in both phones.

Step 5: Adjust the volume up and down with the side keys and verify that the sound level is altered.

Step 6: End the call and check that the elapsed time is displayed and that the termination is done properly.



Only symbolic view

3 Revision History

Rev.	Date	Changes / Comments
1	2017-Sep-15	Initial Release
2	2017-Sep-27	Revise chapter 2.2.35 ToF sensor