



Test Instruction, Electrical

Applicable for Z520a, Z520c, Z520i, Z525a and Z525i

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1 General

This document describes the process for functionally testing a mobile at the Electrical repair level. Mobiles repaired at the Electrical repair level must have all Mechanical and Electrical level tests performed and must pass without error to be considered a functional unit. If there are any failures, repair the mobile according to the Mechanical and the Electrical Troubleshooting Guides.

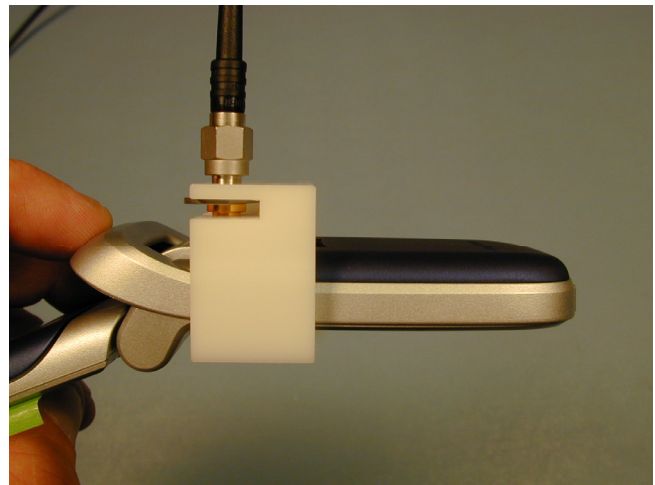
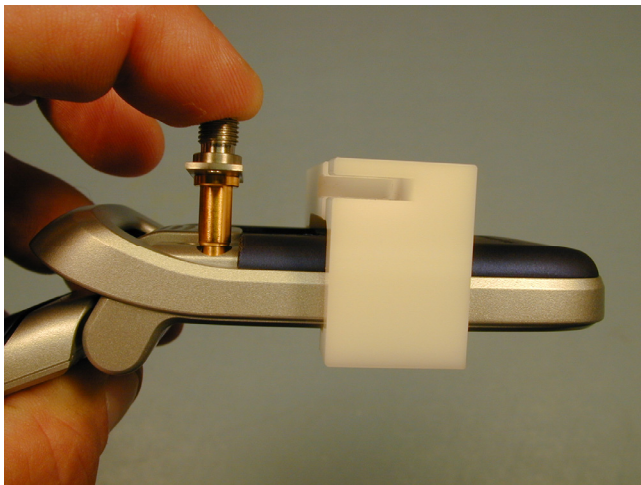
2 Test Preparations

2.1 RF Test Fixture (Conducted Test Method)

1. Remove the battery cover and antenna cover plug according to Working Instructions, Mechanical.
2. Insert a test SIM, install a fully charged standard battery and install the Battery Eliminator Support to the mobile.

NOTE! A Battery Eliminator (Dummy Battery) may be used in place of a standard fully charged battery if you use a power supply that meets the requirements that are documented in the Electrical Equipment List.

3. Attach the RF Probe/RF Holder to the mobile according to the pictures. (Install RF cable to probe.)





2.2 RF Coupler (Radiated Test Method)

1. Insert a test SIM, a fully charged standard battery and battery cover. It is very important that a standard fully charged battery is used otherwise there is a risk for wrong test results.
2. Position the handset in the Rohde & Schwarz Coupler as shown.



Rohde & Schwarz Coupler

3 Go/No Go Test

This test verifies that the radio parameters of a mobile fulfil the GSM specifications. A mobile is considered good if all measurements pass. All results will be presented on the screen and can be printed out if a printer is available.

There are two options available for performing the GNG test. Choose one of the options outlined below.



3.1 Willtek 4202 GNG

NOTE! Presently the Willtek 4202 does not support quad band testing. This functionality will be released sometime in the near future. Until this time you will be required to run two (2) dual band scripts to verify radio performance.

1. Start the instrument and run the test script:
 - “Z520 Z525 HL1 and Z520 Z525 HL2” if using the RF fixture to test the Z520a, Z520c, Z520i, Z525a or the Z525i.
 - “Z520a RS CP1 and Z520a RS CP2” if using the Rhode & Schwarz coupler to test the Z520a.
 - “Z520i RS CP1 and Z520i RS CP2” if using the Rhode & Schwarz coupler to test the Z520c, Z520i or the Z525i.
 - “Z525a RS CP1 and Z525a RS CP2” if using the Rhode & Schwarz coupler to test the Z525a.
2. Follow the instructions presented on the test instruments display.

3.2 SERP GNG

NOTE! For complete and detailed user instructions see the SERP Users Manual that will be stored on the Desktop after SERP is installed.

1. On a PC with SERP installed, start the SERP program by double clicking on the “**RepairManager.exe**” icon on the desktop.
2. In the SERP window, click on “**Settings**” and verify that the test instrument and the GPIB address correspond. Also, verify that the “**cable**” (or the **coupler**) and “**Signalling**” settings are selected under the “**Coupler**” and “**Mode**” windows respectively. Click on “**Apply**” and then the “**OK**” button.
3. In the SERP window, enter (or scan) the IMEI number of the mobile to be tested into the “**Enter IMEI**” box and click on the “**Enter**” button. The appropriate phone model will be displayed.
4. In the SERP window, ✓check the “**Final GoNogo Test**” box only. Click on the “**Start Test**” button and follow the instructions. (Power on the phone when the “**Call Connection**” dialog box appears.)

4 Calibration

NOTE! A Test Program must be loaded in the handset before performing the calibration routine. After calibration the handsets must be re-customized with Signalling SW.

4.1 Flashing the Test Program (ITP) into the Mobile

NOTE! Flashing instructions may vary depending on the interface used.



Flash the Z520/Z525 Test Program software into the mobile by doing the following:

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 symbol appears in the lower left corner of the EMMA III window you may release the “C” button.)
5. Select the “Z520 ITP” (or “Z525 ITP” if flashing a Z525) protocol and follow the on screen instructions.

NOTE! Under most circumstances the display on the mobile will be blank when the Test Program is installed.

4.2 Calibration Instructions

NOTE! For complete and detailed user instructions see the SERP Users Manual that gets placed on the Desktop after SERP is installed.

1. On a PC with SERP installed, start the SERP program by double clicking on the “**RepairManager.exe**” icon on the desktop.
2. In the SERP window, verify the test instrument and the GPIB address matches the SERP settings by clicking on the “**Settings**” button. Click on “**Apply**” and then the “**OK**” button.
3. In the SERP window, enter (or scan) the IMEI number of the mobile to be calibrated into the “**Enter IMEI**” box and click on the “**Enter**” button.
4. In the SERP window, ✓check the “**Calibration**” box.
5. Connect the mobile to the test instrument using the RF fixture (refer to section 2.1).
6. Connect the Sony Ericsson Programming Interface Cable to the mobile’s system connector. (Ensure that the battery charger is connected to the interface cable.)
7. To start the calibration routine click on the “**Start Test**” button in the SERP window (mobile will automatically turn on).
11. Monitor the progress of the calibration routine by viewing the information presented in the “**Test Manager**” window.
12. If a calibration routine fails, troubleshoot according to the Z520/Z525 Electrical Troubleshooting Guide.
13. After successful calibration, reinstall the antenna cover plug. Refer to the Working Instruction, Mechanical.

4.3 Updating the Commercial Software into the Mobile after Calibration

To be able to use the handset after calibration requires going through the Customization process which reloads the appropriate signalling code for the desired operator. Refer to the Z520/Z525 Build Swap Customization Instruction document for further details on the Customization process.



5 Revision History

Rev.	Date	Changes / Comments
A	2005-08-15	Initial Release
B	2005-08-19	Updated Photo showing how to install RF probe to handset.
C	2005-10-03	Updated photo showing how to install handset in the R&S coupler.
D	2005-11-02	Updated the GNG test script names for the Willtek 420x instrument.
E	2005-12-20	Added instructions to use a battery cover during the radiated GNG test (section 2.2).
F	2006-04-17	Added support for the Z525a.
G	2006-05-04	Updated GNG script names for the Z520 and Z525.
H	2006-06-21	Added support for the Z525i.