

# Test Instruction, Electrical

Applicable for K770

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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 antenna cover plug according to the Working Instructions, Mechanical.
2. Insert a test SIM, install a fully charged standard battery to the phone.

**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 to the mobile according to the picture.





## 2.2 RF Coupler (Radiated Test Method)

1. Insert a test SIM and a fully charged standard battery. 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 coupler as shown.

**NOTE!** The RF coupler test method has not been fully developed for this handset to date. Please use the RF fixture for testing.



Rohde & Schwarz Shield Box and Coupler (L24)



## 3 Go/No Go Test

This test verifies that the radio parameters of a mobile fulfil the GSM and WCDMA 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.

### 3.1 SERP GNG

**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. Click on **“Settings”** in the SERP Window and verify that the test instrument and the GPIB address correspond.
3. Click on the **“Station Setup”** tab and verify that the **“cable”** (or the **coupler**) settings are selected under the **“RF Connection-GoNogo”** Drop down window. Click on **“Apply”** and then the **“OK”** button.
4. Enter (or scan) the IMEI number of the mobile to be tested into the **“Enter IMEI”** box in the SERP Window and click on the **“Load”** button. The appropriate phone model will be displayed.
5. 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 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 “K770 ITP” 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. Click on the “Settings” button in the SERP Window to verify the test instrument, GPIB address and the COM Port matches the SERP settings. Click on “Apply” and then the “OK” button.
3. Enter (or scan) the IMEI number of the mobile to be calibrated into the “Enter IMEI” box of the SERP Window and click on the “Load” button.
4. In the SERP window, check the “Calibration” box only.
5. Connect the mobile to the test instrument using the RF fixture (refer to section 6.1.1).
6. Connect the Sony Ericsson Programming Interface Cable to the mobile’s system connector.
7. Click on the “Start Test” button in the SERP window to start the Calibration routine (mobile will automatically turn on).
8. Monitor the progress of the calibration routine by viewing the information presented in the “Test Manager” window.
9. If a calibration routine fails, troubleshoot according to the K770 Electrical Troubleshooting Guide.



10. 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 K770 Build Swap Customization Instruction document for further details on the Customization process.



## 5 Revision History

| Rev. | Date       | Changes / Comments |
|------|------------|--------------------|
| A    | 2007-09-24 | Initial Release    |
| 2    | 2007-12-12 | Added picture      |