

Test Instruction, Electrical

Applicable for K850

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1 General

This document describes the test procedures for the electrical repair package.

2 Go/No-Go Test

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

There are two options available for performing the GNG test, SERP GNG or a Stand alone GNG. The SERP GNG can be downloaded from CSPN as described in Installation Instructions, Electrical (1001-5675). To perform a Stand alone GNG a test script must be written in accordance with the GO/NO GO Test Script Specification, Electrical (1206-6958) located on CSPN.

2.1 Go/No-Go Test Preparations

2.1.1 RF Probe (Conducted Test Method)

1. Remove the Back cover according to Working Instructions, Mechanical.
2. Insert a test USIM that is compatible with your Test Instrument and install a fully charged standard battery 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. Install the RF Probe to the RF Cable and attach to the mobile according to the picture.



2.1.2 RF Coupler (Radiated Test Method)

1. Insert a test USIM that is compatible with your Test Instrument 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 on the Grid Positioning plate in the coupler as shown with the Reference point at F7. Additional information on the Grid Positioning plate and other supported SEMC handsets that utilize the Grid Positioning plate, is available in "SERPINFO.htm - R&S Grid plate for SERP" which is located on the windows desktop after SERP is installed.



Rohde & Schwarz Shield Box and Coupler (F7)

2.2 SERP GNG

NOTE! For complete and detailed user instructions, see the *SERP Users Manual* located in the *SERPINFO.htm* 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 setting in the “**RF Connection-GoNogo**” Drop down window is correct. 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.)

2.3 Stand alone GNG

A Stand alone GNG test script must be written in accordance with the GO/NO GO Test Script Specification, Electrical (1206-6958) located on CSPN.

3 Calibration

The Calibration Program in SERP should only be run as directed by the Electrical Troubleshooting Guide or the Electrical Parts List.

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.*

3.1 Flashing the Test Program (ITP) into the Mobile

Flash the “K850 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 Icon appears in the EMMA III window, you may release the “c” button.)
5. Select the “K850 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.*

3.2 Calibration Instructions

NOTE! For complete and detailed user instructions, see the *SERP Users Manual* located in the *SERPINFO.htm* 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.
3. Click on the **"Station Setup"** tab and select **"Cable"** or **"Cable in Shield box"** under the **"RF Connection-Calibration"** Drop down window. Click on **"Apply"** and then the **"OK"** button.
4. 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.
5. In the SERP window, check either the **"GSM Calibration"** or **"WCDMA Calibration"** box that applies.

NOTE! Due to the sensitivity of the phone from outside interference during WCDMA calibration, a Shield box and Service Tool Test Interface setup are required for WCDMA Calibration. These can be also used for GSM Calibration.

6. Connect the mobile to the test instrument using the RF Probe (refer to section 2.1.1).
7. Connect the Sony Ericsson Programming Interface Cable to the mobile's system connector.
8. Click on the **"Start Test"** button in the SERP window to start the Calibration routine (mobile will automatically turn on).
9. Monitor the progress of the calibration routine by viewing the information presented in the **"Test Manager"** window.
10. If a calibration routine fails, troubleshoot according to the K850 Electrical Troubleshooting Guide.
11. After successful calibration, reinstall the antenna cover plug. Refer to the Working Instruction, Mechanical.

3.3 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 K850 Build Swap Customization Instruction document for further details on the Customization process.

4 Revision History

Rev.	Date	Changes / Comments
A	2007-10-09	Initial Release
2	2008-04-23	Updated to include WCDMA Calibration Section 3