

Test Instruction, Electrical

Applicable for S500, W580

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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 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.

There are two methods of running a Stand alone GNG test. The first is to use a script provided by Sony Ericsson for the Willtek 4202 which can be downloaded from CSPN as described in Installation Instructions, Electrical (1/000 21-2/FEA 209 544/603). The second is to write a script in accordance with the GO/NO GO Test Script Specification, Electrical 2/1524-2/FEA 209 544/603 located on CSPN.

2.1 Go/No-Go Test Preparations

2.1.1 RF Test Fixture (Conducted Test Method)

To attach the RF Probe to the RF Test Connector (X100), the Antenna Coaxial Cable must be disconnected from the Antenna Connector (X101). An Antenna Coaxial Cable removal tool is required (Picture 1).

NOTE! THE LOCATION OF THE RF TEST CONNECTOR (X100) AND ANTENNA CONNECTOR (X101) CAN BE FOUND IN COMPONENT PLACING, ELECTRICAL (1078-2/FEA209544/603).

1. Remove the battery cover and rear cover according to Working Instructions, Mechanical.
2. Engage the fingers on the Antenna Coaxial Cable removal tool into the slot on the Antenna Coaxial Cable (Picture 2).
3. Pull the tool upwards to snap open the Antenna Connector.

NOTE! **PULL THE TOOL STRAIGHT UP AT A 90 DEGREE ANGLE TO THE BOARD OTHERWISE THERE IS A RISK OF DAMAGING THE ANTENNA CONNECTOR.**



Picture 1

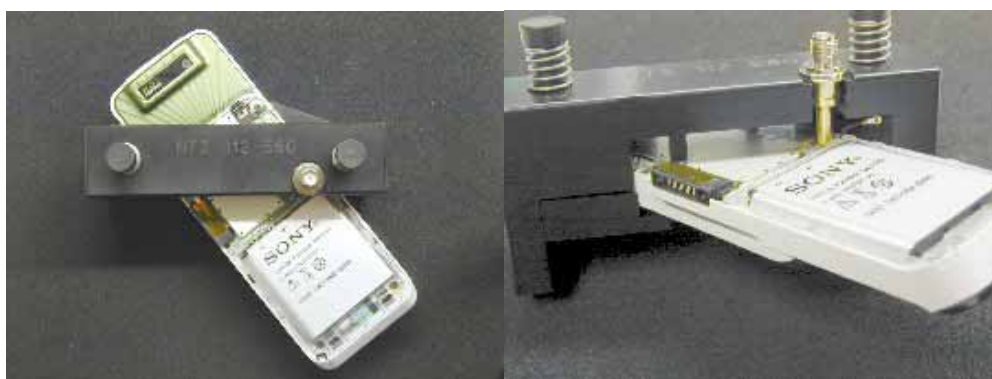


Picture 2

4. Insert a test SIM 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.**

5. Attach the RF Probe/RF Holder to the RF Test Connector on the mobile according to the pictures. It may be necessary to move the Antenna Coaxial Cable away from the RF Test Connector.
6. Install the RF Cable to the RF Probe.



7. After completion of the test, plug in the Antenna Coaxial Cable onto the Antenna Connector. The cable should snap on. Reinstall the rear cover (refer to the Working Instruction, Mechanical).

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 GRID POSITION APPLIES TO BOTH S500 AND W580



Rohde & Schwarz Coupler with a Grid Positioning plate Reference point **N25**

2.2 Willtek 4202 GNG (Stand alone)

1. For the S500, start the instrument and run the test script:
 - “S500 HL” if using the RF fixture.
 - “S500 Grid” if using the Rhode & Schwarz coupler.
 2. Follow the Instructions presented on the test instrument’s display.
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1. For the W580, start the instrument and run the test script:
 - “W580 HL” if using the RF fixture.
 - “W580 Grid” if using the Rhode & Schwarz coupler.
 2. Follow the Instructions presented on the test instrument’s display.

2.3 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 “**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.)

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 “S500 or W580 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 “S500 or W580 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 verify that **"cable"** is selected 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 the **"Calibration"** box only.
6. Connect the mobile to the test instrument using the RF fixture (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 S500, W580 Electrical Troubleshooting Guide.
11. After successful calibration, plug in the Antenna Coaxial Cable on to the Antenna Connector. The cable should snap on. Reinstall the rear cover (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 S500, W580 Build Swap Customization Instruction document for further details on the Customization process.

4 Revision History

Rev.	Date	Changes / Comments
A	2007-05-10	Initial Release
B	2007-07-19	<ul style="list-style-type: none">• Changed a statement in the Calibration section to say Electrical Parts List instead of Component Placing Guide.• Added a note to the grid positioning diagram that indicated the diagram applied to both the S500 and the W580• Added comments describing Stand alone GNG test section 2