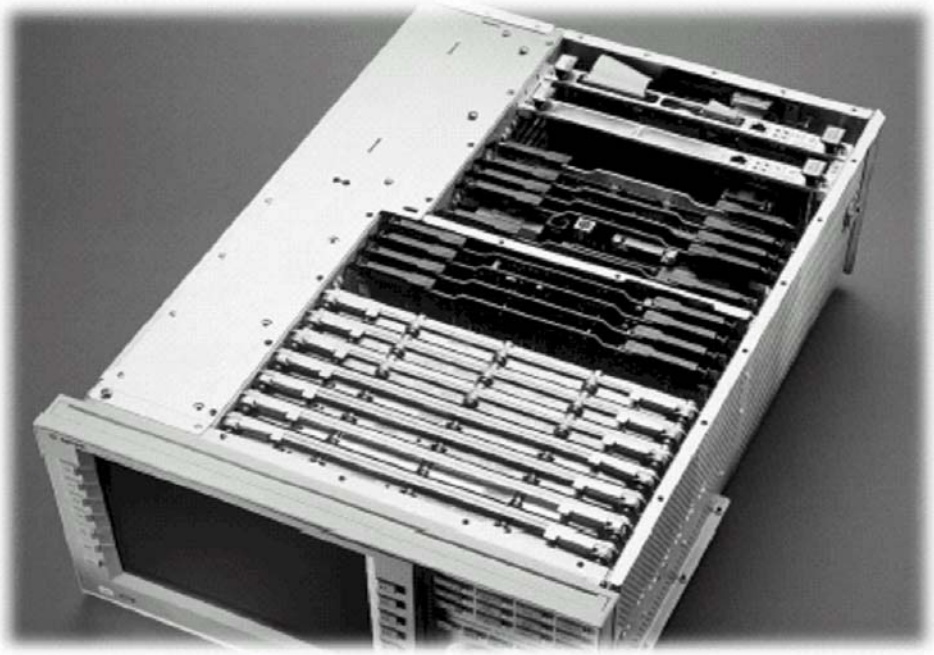
Installation Note

Agilent Technologies 8960 Wireless Communication Test Set
Option 003 CDMA Emulator 3
Kit Part Number: E5515CU-603



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Agilent Technologies 8960 Wireless Communication Test Set
Option 003 CDMA Emulator 3
Kit Part Number: E5515CU-603

Product Affected:	E5515C
Associated Options:	Options 508, 515, 607, 613
Applications Supported:	See Appendix 1
To Be Performed By:	(X) Agilent Technologies Service Center (X) Personnel Qualified by Agilent Technologies
Estimated Installation Time:	0.5 hours
Estimated Verification Time:	0.5 hours

Introduction

This kit provides the instructions for installing Option 603 Digital and Analog LSS boards into the E5515C Wireless Test Set. This is equivalent to installing Option 003. This may be one of several HW upgrades that are required to enable the latest E5515C high speed capabilities and features.

NOTE: This upgrade kit requires the installation of the most current revisions of application software that is compatible with this HW. Failure to install compatible applications may result in boot-up failures.

NOTE: It is assumed that the E5515 is fully operational prior to a HW upgrade. Installing HW upgrades in a non-operational instrument may complicate a successful installation and verification process.

If this kit is one of several HW options being installed, the following installation sequence is recommended. The actual installation will depend on the specific HW option kit(s) being installed:

1) Bottom section RF modules (RFIO, Attenuators)
2) Top section RF modules (Vector, Synth Doubler, BBG)
3) Digital modules (ADC, DSP, RTI, LSS, Protocol)
4) Rear section modules (HDD, Host Processor, Rear Panel)

Installation Kit Parts List

Item	Qty	Description
1	1	Analog LSS
2	1	Digital LSS
3	1	Mini 60 Cable Assembly
4	6	Screw 2.5 x 0.45
5	1	E1962B_E1963A License Certificate, 7 day temp

Tools Required

TORX T-8 and T-20 drivers
PC with LAN capabilities

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Safety Considerations

WARNING: Before you disassemble the test set, turn the power switch off and unplug the power cord. Failure to unplug the test set can result in personal injury.

CAUTION: Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assembles should be performed at a static-safe workstation.

Install Compatible Versions of Existing Applications:

Upgrade all existing compatible applications to the latest revision.

HW compatibility info is available at: www.agilent.com/find/e5515releasenotes
Test Application downloads are available at: www.agilent.com/find/8960TA
Lab Application downloads are available at: www.agilent.com/find/8960upgrades

1. Make active one of the new application versions. This will ensure the instrument will boot to a compatible application after the HW installation.
2. Follow the Firmware installation instructions that come with the Applications

Remove Non-compatible Applications:

1. Remove all non-compatible applications from the test set. Removing older application revisions prevents improper operation of the test set. The test set must be connected to a PC using a cross-over cable via the test set's LAN port.
   a. Run the Agilent 8960 File Utility (installs with application download).
   b. Select the Direct Connection (Single test set) button.
   c. Select the Test Application tab.
   d. Highlight the old revision(s) of application(s) and select the Delete From test set button. All licenses should remain on the instrument. Removing an application does not remove the license for that application.

HW Disassembly:

Remove outer cover and top cover for the 8960

1. Remove handles and rear bumpers.
2. Remove the cover screws on the real panel holding outer cover.
3. Slide outer cover off.
4. Remove the 26 screws holding the top cover on and remove the cover.

Remove the LSS boards:

1. Disconnect the ribbon cable from the Protocol Assembly then pull the board straight up using the 2 black cam-outs on the top of the assembly. The Protocol is the second board from the rear of the instrument.
2. Disconnect the Digital LSS daughter board from the Protocol Board. There are 6 TORX-8 screws holding the DLSS on the Protocol Board.
3. Remove the Analog LSS board. The Analog LSS board is the third board from the rear of the instrument.

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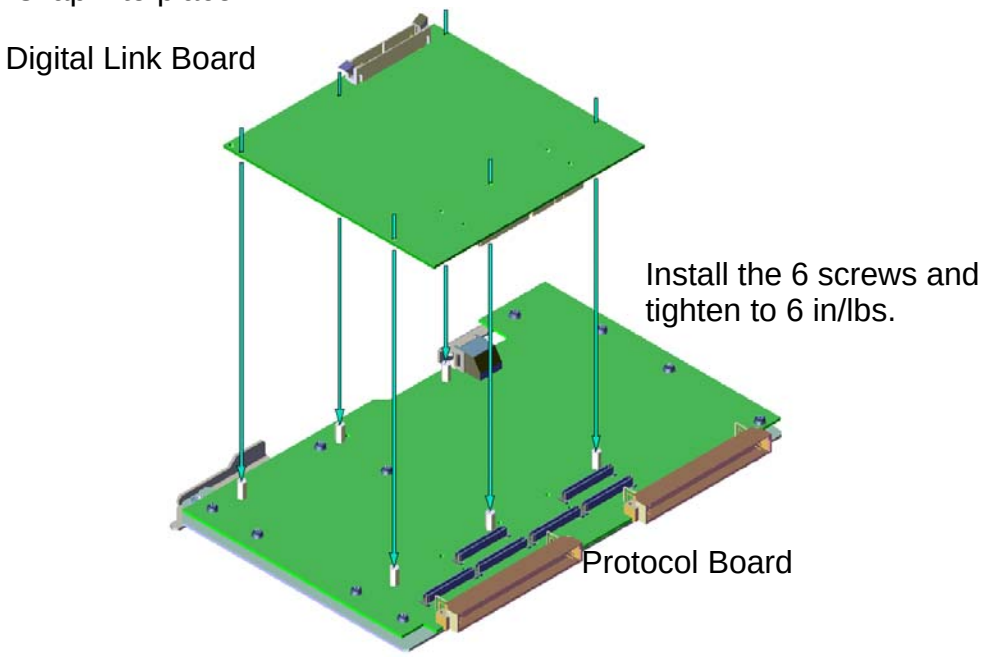
HW Assembly:

Install Board

1. Carefully position the new DLSS board over the corresponding connectors on the Protocol Processor assembly and push the DLSS connectors so they are fully inserted. Make sure the Protocol board is properly supported to avoid flexing the Protocol board.
2. Use the 6 TORX-8 screws to fasten the new DLSS to the Protocol Board.
3. Install the Protocol Processor Assembly back into instrument (2nd slot from rear).
4. Insert the Analog LSS back into the instrument (third slot from rear).
5. Connect the Mini 60 pin cable between the DLSS and Analog LSS boards. Make sure the connectors are fully inserted and the connector end-tabs snap into place.



Replace covers:

1. Replace the top cover and secure it with the 26 screws.
2. Slide the outer cover on.
3. Replace the cover screws on the rear panel
4. Attach the rear bumpers and handles.

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Verification Test after all HW Upgrades are Installed

1. E1962B and E1962A temp licenses were shipped with the upgrade kit. If a CDMA application is not installed in the instrument, install both applications and the licenses so the Option 003 User Calibrations can be performed. After boot-up, select either CDMA application as active.
2. Check for boot up and/or error messages. If any error message are displayed, re-check installation process for errors.
3. After warming up the instrument for at least 30 minutes, perform the user calibrations.

Calibration Procedure for Instruments with the DLSS installed.

<table>
<tr><th></th><th colspan="4">Calibration Interval = 1 year</th><th colspan="3">Calibration Interval = 1 month</th></tr>
<tr><th>Application or Format</th><th>IQ Calibrations (See Note 1)</th><th>Burst Mod Offset 1 Calibration</th><th>Thermal Power Null Adjust</th><th>Digital Average Power Calibration</th><th>Spectrum Monitor Calibration</th><th>Channel Power Calibration</th><th>Calibrate Measurements</th></tr>
<tr><td>Cdma2000/ IS-95/AMPS</td><td rowspan="3">Step 1 Perform IQ1and IQ2 once from one of these applications or formats</td><td rowspan="3">Step 2 Perform once from one of these applications or formats</td><td rowspan="3">Step 3 Perform once from one of these applications or formats</td><td rowspan="2">Step 4A Perform once from one of these applications or formats
Step 4B Cycle Power</td><td rowspan="2">Step 5 Perform once from one of these applications or formats</td><td rowspan="2">Covered by Step 5 (See Note 2)</td><td></td></tr>
<tr><td>1xEV-DO</td><td></td></tr>
<tr><td>W-CDMA</td><td></td><td>Step 6 Perform once from this application</td><td rowspan="3"></td><td>Covered by Step 6 (See Note 2)</td></tr>
<tr><td>GSM/GPRS/ EGPRS</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">Step 7 Perform once from one of these applications or formats</td><td rowspan="2"></td></tr>
<tr><td>AMPS/136</td><td></td></tr>
<tr><td colspan="8">Note 1 – Calibrate Second IQ Modulator only applies to instruments with Option 002: RF Source 2.
Note 2 – You do not need to run this calibration if Spectrum Monitor calibration is run first.</td></tr>
</table>

4. If additional verification testing is desired, tools are available from Agilent to verify the functional and parametric performance of the instrument.
   a. Self Test software – requires no external test equipment. Good for functional verification if traceable parametric measurements are not required. For more information, see http://wireless.marketing.agilent.com/docloader.asp?did=12376
   b. Test Set Verify software and system – requires external test equipment. Best for traceable functional verification parametric measurements. For more information, see http://www.spk.agilent.com/~yerxa/Upgrades/index.htm

Questions and concerns contact Agilent Technologies Support:
Phone: (800) 827-3848 (U.S. & Canada)
Web: www.agilent.com/find/8960support

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Appendix 1

NOTE: For the most up-to-date summary of compatible E5515 applications, access the E5515 Mainframe Revision website at: www.agilent.com/find/e5515releasenotes

All existing Applications must be upgraded to the latest revision and switched to one of the new revisions. All non-compatible Applications must be upgraded to work with the new boards that are included in this upgrade kit. Follow the Firmware installation instruction that come with the Applications.

Summary of Supported Applications		
E1961A	AMPS/136	A.12.00 or greater
E1962B	CDMA 2000 TA	B.14.00 or greater
E1963A	W-CDMA TA	A.13.00 or greater
E1966A	1xEV-DO TA	A.09.00 or greater
E1968A	GSM/GPRS/EGPRS TA	A.09.00 or greater
E1976A	1xEV-DO FTM TA	A.03.00 or greater
E1987A	GSM/GPRS/W-CDMA Fast Switch TA	A.08.00 or greater
E6590A	GSM/GPRS RF Modem -- Anite	B.05.00 or greater
E6701F	GSM/GPRS Lab App F	F.01.00 or greater
E6702B	CDMA 2000 Lab App B	B.07.00 or greater
E6703E	WCDMA/HSPA Lab App E	E.01.00 or greater
E6706B	1xEV-DO Lab App	B.01.00 or greater
E6785E	GSM/GPRS_W-CDMA Lab App E	E.01.00 or greater
Applications Not Compatible		
E1960A	GSM	NOT SUPPORTED
E1962A	CDMA 2000 TA	NOT SUPPORTED
E1964A	GPRS	NOT SUPPORTED
E1985A/B/C	GSM/GPRS_AMPS/136_W-CDMA	NOT SUPPORTED
E1985E	CDMA2000_1xEV-DO	NOT SUPPORTED
E6701A/B/C/D/E	GSM/GPRS Lab App B/C/D/E	NOT SUPPORTED
E6701T/U	GSM/GPRS LA – High Data Rate	NOT SUPPORTED
E6702A	CDMA 2000 Lab App A	NOT SUPPORTED
E6703A/B/C/D	W-CDMA Lab App	NOT SUPPORTED
E6703T/U	WCDMA/HPPA LA – High Data Rate	NOT SUPPORTED
E6706A	1xEV-DO Lab App	NOT SUPPORTED
E6785A/B/C/D	GSM/GPRS_W-CDMA Lab App	NOT SUPPORTED
E6785T/U	Fast Switch LA – High Data Rate	NOT SUPPORTED

Table 1

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