FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
CERTIFICATION TEST REPORT

FOR

USB MODEM WITH EXTERNAL MULTI-BAND DIPOLE ANTENNS

MODEL NUMBER: AC250U

FCC ID: N7NAC250U

REPORT NUMBER: 10U13459-1

ISSUE DATE: OCTOBER 23, 2010

Prepared for

SIERRA WIRELESS INC.
2200 FARADAY AVENUE, SUITE 150
CARLSBAD, CA 92008, U.S.A.

Prepared by

COMPLIANCE CERTIFICATION SERVICES (UL CCS)
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	10/25/10	Initial Issue	T. Chan

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SIERRA WIRELESS INC.
2200 FARADAY AVENUE, SUITE 150
CARLSBAD, CA 92008, U.S.A.

EUT DESCRIPTION: USB MODEM WITH EXTERNAL MULTI-BAND DIPOLE ANTENNAS

MODEL: AC250U

SERIAL NUMBER: 4

DATE TESTED: OCTOBER 23 AND 24, 2010

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 22H and 24E	PASS

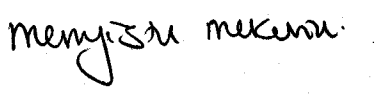
Compliance Certification Services, Inc. (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

THU CHAN
ENGINEERING MANAGER
UL CCS

Tested By:



MENGISTU MEKURIA
EMC ENGINEER
UL CCS

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 2, FCC CFR 47 Part 22, and FCC CFR Part 24.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Multi band wireless modem that operates on CDMA2000 1xRTT, EVDO and WiMax networks. The USB modem is manufactured by Sierra Wireless.

5.2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

The major change filed under this application is adding an external multi-band dipole antenna for AC250U.

5.3. MAXIMUM RF CONDUCTED OUTPUT POWER

The test measurement passed within ± 0.5dBm of the original output power.

5.4. MAXIMUM RF RADIATED OUTPUT POWER

The transmitter has a maximum ERP / EIRP output power as follows:

Part 22 Cellular Band

Frequency range (MHz)	Modulation	ERP	
		dBm	mW
824.7 – 848.31	1xRTT (RC1, SO55)	23.8	239.9
824.7 – 848.31	EV-DO - REV A	25.1	323.6

Part 24 PCS Band

Frequency range (MHz)	Modulation	EIRP	
		dBm	mW
1851.25 – 1908.8	1xRTT (RC1, SO55)	31.5	1412.5
1851.25 – 1908.8	EV-DO - REV A	31.7	1479.1

5.5. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an external multi-band dipole antenna for the 800MHz and 1900MHz bands with a maximum peak gain of 2.7 and 4.2dBi for Cell and PCS band respectively.

5.6. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was P2A11600.

The EUT driver software installed during testing was Alta-MUX 0.55, software version, 2.7.

5.7. WORST-CASE CONFIGURATION AND MODE

The worst-position was the EUT with highest emissions, to determine the worst-case,
Worst case modes:

- For Cellular and PCS band: 1xRTT (RC1 SO55)
- For Cellular and PCS band: CDMA2000 1xEV-DO Revision A (Rev. A)

PROCEDURE USED TO ESTABLISH TEST SIGNAL

CDMA2000 1xRTT

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
CDMA2000 Mobil Test	B.10.11, L

1xRTT

- Call Setup > Shift & Preset
- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > RC3 (Fwd3, Rvs3)
- FCH Service Option (SO) Setup > 55
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps
  > R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Cell Info > Cell Parameters > System ID (SID) > 4395
  > Network ID (NID) > 0

Once “Active Cell” show “Connected ” then change “Rvs Power Ctrl” from “Active bits” to “**All Up bits**” to get the maximum power.

Worst-case Measurement Result @ Low, Middle and High Channel

Worst-case Measurement Result for Low, Middle and High Channel under Radio Configuration RC3 and Service Option 55.

CDMA2000 EVDO REV A.

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application	Rev, License
1xEV-DO Terminal Test	A.09.13

EVDO Rev. A – RETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > RETAP
- R-Data Pkt Size > 4096
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2 > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000: 00000000: 00000000: 00000000> Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

EVDO Rev. A - FETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > FETAP
- F-Traffic Format > 4 (1024, 2,128) Canonical (307.2k, QPSK)
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2 > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000: 00000000: 00000000: 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

5.8. DESCRIPTION OF TEST SETUP

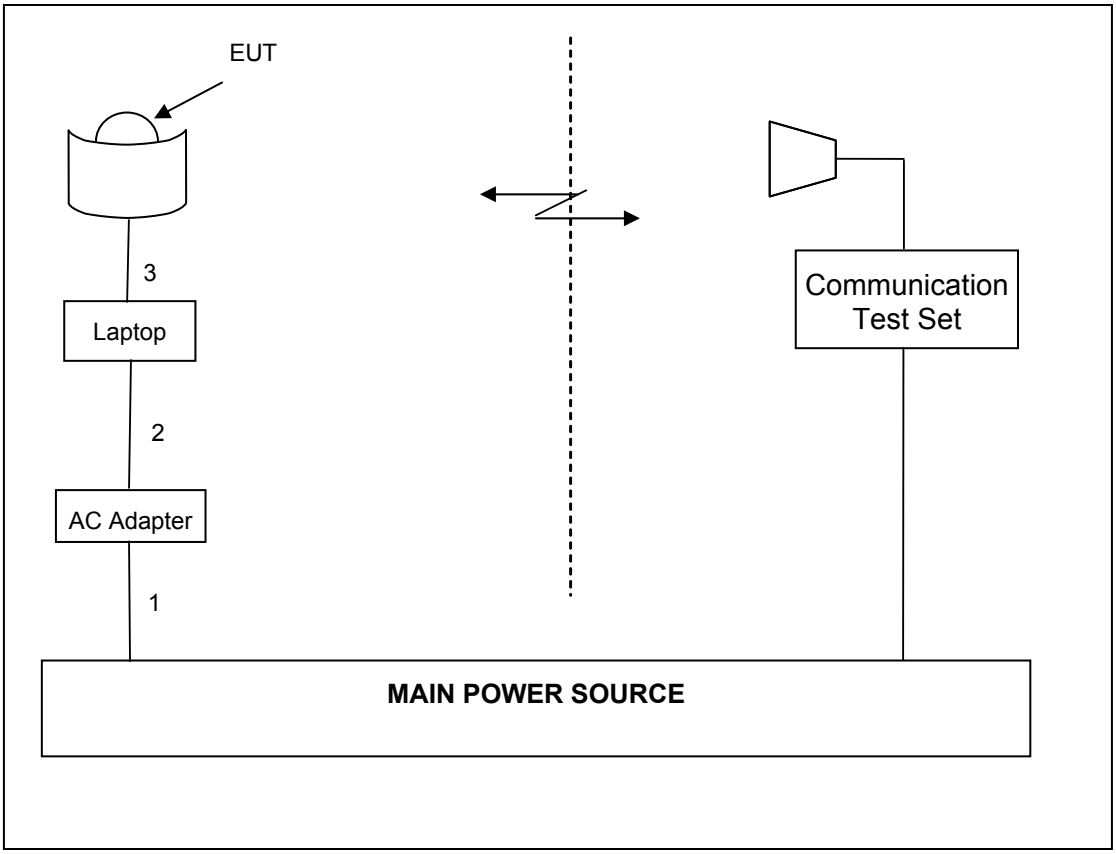
SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Laptop	IBM	Thinkpad T60	ZZ89085	DoC
AC Adapter	IBM	92P1158	570002150B	DoC
Dipole Antenna	Sierra Wireless	Clear	NA	NA

I/O CABLES (RF RADIATED TEST)

I/O CABLE LIST						
Cable No.	**Port**	**# of Identica Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	AC	1	US 115V	Un-shielded	2.0m	NA
2	DC	1	DC	Un-shielded	2.0m	Ferrite at one end
3	Antenna Port	1	Dipole Antenna	Un-shielded	2.0m	NA

SETUP DIAGRAM FOR RDIATED TESTS



TEST SETUP

The EUT is a stand-alone device. The Wireless Communication test set exercised the EUT.

6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	**Manufacturer**	**Model**	**Asset**	**Cal Due**
Antenna, Horn, 18 GHz	EMCO	3115	C00783	06/29/11
Antenna, Horn, 18 GHz	EMCO	3115	C00943	CNR
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01016	07/12/11
Communications Test Set	Agilent / HP	E5515C	C01086	06/17/11
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	03/05/11
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	07/14/11
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02688	CNR

7. RADIATED TEST RESULTS

7.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232

LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

TEST PROCEDURE

ANSI / TIA / EIA 603C

MODES TESTED

- 1xRTT – RC1, SO55
- CDMA2000 1xEV-DO Revision A (Rev. A)

RESULTS for Cellular Band (ERP)

Mode	Channel	f (MHz)	ERP	
			dBm	mW
1xRTT (RC1, SO55)	1013	824.70	23.40	218.78
	384	836.52	23.80	239.88
	777	848.31	22.60	181.97
EVDO-REV A	1013	824.70	23.70	234.42
	384	836.52	25.10	323.59
	777	848.31	24.20	263.03

RESULTS for PCS Band (EIRP)

Mode	Channel	f (MHz)	EIRP (Standard Cover)	
			dBm	mW
1xRTT (RC1, SO55)	25	1851.25	29.90	977.24
	600	1880.00	31.50	1412.54
	1175	1908.75	30.40	1096.48
EVDO-REV A	25	1851.25	29.50	891.25
	600	1880.00	31.70	1479.11
	1175	1908.75	30.70	1174.90

ERP for 1xRTT Mode (Cellular Band)

High Frequency Substitution Measurement
Compliance Certification Services Chamber B

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 22-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, 1xRTT CELL BAND

Test Equipment:
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.

f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
824.70	-9.2	V	32.6	23.4	38.5	-15.0	
824.70	-8.9	H	30.4	21.5	38.5	-17.0	
836.52	-8.8	V	32.7	23.8	38.5	-14.6	
836.52	-8.3	H	30.7	22.5	38.5	-16.0	
848.31	-9.4	V	32.0	22.6	38.5	-15.9	
848.31	-8.3	H	30.8	22.4	38.5	-16.0	

Rev. 1.24.7

ERP for CDMA2000 1xEV-DO Rev. A (Cellular Band)

High Frequency Substitution Measurement
Compliance Certification Services Chamber B

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 22-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, EVDO REV. A CELL BAND

Test Equipment:
Receiving: Sunol T130, and 3m Chamber N-type Cable (Setup this one for testing EUT)
Substitution: Dipole S/N: 00022117, 6ft SMA Cable (SN # 208947003) Warehouse.

f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
824.70	-8.9	V	32.6	23.7	38.5	-14.8	
824.70	-8.2	H	30.4	22.2	38.5	-16.3	
836.52	-7.5	V	32.7	25.1	38.5	-13.3	
836.52	-8.0	H	30.7	22.7	38.5	-15.7	
848.31	-7.8	V	32.0	24.2	38.5	-14.2	
848.31	-8.3	H	30.8	22.4	38.5	-16.0	

Rev. 1.24.7

EIRP for 1xRTT Mode (PCS Band)

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 22-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, 1xRTT PCS BAND

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.850	-10.3	V	40.2	29.9	33.0	-3.1	-12.3
1.850	-13.2	H	39.5	26.3	33.0	-6.7	-15.5
1.880	-8.8	V	40.3	31.5	33.0	-1.5	-12.5
1.880	-12.1	H	40.1	28.0	33.0	-5.0	-15.8
1.910	-9.8	V	40.2	30.4	33.0	-2.6	-12.8
1.910	-13.4	H	40.1	26.7	33.0	-6.3	-15.9

Rev. 1.24.7

EIRP for CDMA2000 1xEV-DO Rev. A

High Frequency Fundamental Measurement
Compliance Certification Services Chamber B

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 22-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, EVDO PCS BAND

Test Equipment:
Receiving: Horn T59, and Camber B SMA Cables
Substitution: Horn T72 Substitution, 6ft SMA Cable (208947003) Warehouse

f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Path Loss (dBm)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
1.850	-10.7	V	40.2	29.5	33.0	-3.5	
1.850	-12.9	H	39.5	26.5	33.0	-6.5	
1.880	-8.5	V	40.3	31.7	33.0	-1.3	
1.880	-12.1	H	40.1	28.0	33.0	-5.0	
1.910	-9.5	V	40.2	30.7	33.0	-2.4	
1.910	-13.7	H	40.1	26.4	33.0	-6.6	

Rev. 1.24.7

7.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238

LIMIT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

MODES TESTED

- 1xRTT – RC1, SO55
- CDMA2000 1xEV-DO Revision A (Rev. A)

RESULTS

1xRTT Mode (Cellular Band)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 23-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, 1xRTT CELL BAND

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	FCC PART 22

f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (824.70 MHz)										
1.649	-58.8	V	3.0	36.8	35.5	1.0	-56.5	-13.0	-43.5	
2.474	-57.2	V	3.0	41.7	35.4	1.0	-49.9	-13.0	-36.9	
1.649	-57.9	H	3.0	37.2	35.5	1.0	-55.3	-13.0	-42.3	
2.474	-60.8	H	3.0	39.8	35.4	1.0	-55.4	-13.0	-42.4	
Mid Channel (836.52 MHz)										
1.673	-57.2	V	3.0	37.1	35.5	1.0	-54.6	-13.0	-41.6	
2.510	-53.8	V	3.0	41.8	35.4	1.0	-46.4	-13.0	-33.4	
1.673	-56.5	H	3.0	37.5	35.5	1.0	-53.5	-13.0	-40.5	
2.510	-57.1	H	3.0	39.9	35.4	1.0	-51.6	-13.0	-38.6	
Hi Channel (848.31 MHz)										
1.697	-56.9	V	3.0	37.4	35.5	1.0	-54.0	-13.0	-41.0	
2.545	-49.3	V	3.0	42.0	35.4	1.0	-41.8	-13.0	-28.8	
1.697	-58.1	H	3.0	37.7	35.5	1.0	-55.0	-13.0	-42.0	
2.545	-58.6	H	3.0	40.1	35.4	1.0	-52.9	-13.0	-39.9	

Rev. 03.03.09

CDMA2000 1xEV-DO Rev. A (Cellular Band)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 23-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, EVOD REV A. CELL BAND

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	FCC PART 22

f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (824.70 MHz)										
1.649	-57.3	V	3.0	36.8	35.5	1.0	-55.1	-13.0	-42.1	
2.474	-53.5	V	3.0	41.7	35.4	1.0	-46.2	-13.0	-33.2	
1.649	-57.5	H	3.0	37.2	35.5	1.0	-54.8	-13.0	-41.8	
2.474	-57.4	H	3.0	39.8	35.4	1.0	-52.0	-13.0	-39.0	
Mid Channel (836.52 MHz)										
1.673	-55.7	V	3.0	37.1	35.5	1.0	-53.1	-13.0	-40.1	
2.510	-50.1	V	3.0	41.8	35.4	1.0	-42.7	-13.0	-29.7	
1.673	-56.1	H	3.0	37.5	35.5	1.0	-53.1	-13.0	-40.1	
2.510	-53.7	H	3.0	39.9	35.4	1.0	-48.2	-13.0	-35.2	
Hi Channel (848.31 MHz)										
1.697	-55.5	V	3.0	37.4	35.5	1.0	-52.6	-13.0	-39.6	
2.545	-45.6	V	3.0	42.0	35.4	1.0	-38.1	-13.0	-25.1	
1.697	-57.7	H	3.0	37.7	35.5	1.0	-54.6	-13.0	-41.6	
2.545	-55.2	H	3.0	40.1	35.4	1.0	-49.5	-13.0	-36.5	

Rev. 03.03.09

1xRTT Mode (PCS Band)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 23-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, 1xRTT PCS BAND

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	FCC PART 24

f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1851.25 MHz)										
3.703	-64.1	V	3.0	45.1	35.4	1.0	-53.3	-13.0	-40.3	
5.554	-63.2	V	3.0	49.2	35.4	1.0	-48.5	-13.0	-35.5	
3.703	-63.9	H	3.0	45.3	35.4	1.0	-53.0	-13.0	-40.0	
5.554	-66.2	H	3.0	50.0	35.4	1.0	-50.6	-13.0	-37.6	
Mid Channel (1880.00 MHz)										
3.760	-64.8	V	3.0	45.3	35.3	1.0	-53.9	-13.0	-40.9	
5.640	-64.8	V	3.0	49.3	35.4	1.0	-50.0	-13.0	-37.0	
3.760	-63.5	H	3.0	45.5	35.3	1.0	-52.3	-13.0	-39.3	
5.640	-67.0	H	3.0	50.2	35.4	1.0	-51.3	-13.0	-38.3	
Hi Channel (1908.75 MHz)										
3.818	-62.6	V	3.0	45.4	35.3	1.0	-51.5	-13.0	-38.5	
5.726	-66.2	V	3.0	49.4	35.4	1.0	-51.3	-13.0	-38.3	
3.818	-64.4	H	3.0	45.7	35.3	1.0	-53.0	-13.0	-40.0	
5.726	-66.7	H	3.0	50.3	35.4	1.0	-50.8	-13.0	-37.8	

Rev. 03.03.09

CDMA2000 1xEV-DO Rev. A (PCS Band)

Compliance Certification Services
Above 1GHz High Frequency Substitution Measurement

Company: SIERRA WIRELESS
Project #: 10U13459
Date: 22-Oct-10
Test Engineer: MENGISTU MEKURIA
Configuration: EUT WITH EXTERNAL ANTENNA AND SUPPORT LAPTOP
Mode: TX, EVDO REV A PCS BAND

Chamber	Pre-amplifer	Filter	Limit
5m Chamber B	T145 8449B	Filter 1	FCC PART 24

f GHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Path Loss (dB)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Channel (1851.25 MHz)										
3.703	-63.1	V	3.0	45.1	35.4	1.0	-52.3	-13.0	-39.3	
5.554	-60.0	V	3.0	49.2	35.4	1.0	-45.2	-13.0	-32.2	
3.703	-62.3	H	3.0	45.3	35.4	1.0	-51.3	-13.0	-38.3	
5.554	-65.0	H	3.0	50.0	35.4	1.0	-49.3	-13.0	-36.3	
Mid Channel (1880.00 MHz)										
3.760	-63.8	V	3.0	45.3	35.3	1.0	-52.9	-13.0	-39.9	
5.640	-61.6	V	3.0	49.3	35.4	1.0	-46.7	-13.0	-33.7	
3.760	-61.8	H	3.0	45.5	35.3	1.0	-50.6	-13.0	-37.6	
5.640	-65.7	H	3.0	50.2	35.4	1.0	-50.0	-13.0	-37.0	
Hi Channel (1908.75 MHz)										
3.818	-61.6	V	3.0	45.4	35.3	1.0	-50.5	-13.0	-37.5	
5.726	-63.0	V	3.0	49.4	35.4	1.0	-48.1	-13.0	-35.1	
3.818	-62.8	H	3.0	45.7	35.3	1.0	-51.3	-13.0	-38.3	
5.726	-65.4	H	3.0	50.3	35.4	1.0	-49.5	-13.0	-36.5	

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