



**FCC CFR47 PART 22H AND PART 24E  
&  
INDUSTRY CANADA RSS-132 AND RSS-133**

**FOR**

**850/900/1800/1900/2100 MHZ USB MODEM**

**MODEL NUMBER: COMPASS 885**

**FCC ID: N7NC885  
IC: 2417C-C885**

**REPORT NUMBER: 08U11646-1**

**ISSUE DATE: APRIL 22, 2008**

*Prepared for*  
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RICHMOND, BC V6V 3A4, CANADA**

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**NVLAP®**

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
---	04/15/08	Initial Issue	T. Chan

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SIERRA WIRELESS  
13811 WIRELESS WAY  
RICHMOND, BC V6V 3A4, CANADA

**EUT DESCRIPTION:** 850/900/1800/1900/2100 MHZ USB WIRELESS MODEM

**MODEL:** COMPASS 885

**SERIAL NUMBER:** 2130

**DATE TESTED:** APRIL 3 - 14, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H and 24E	No Non-Compliance Noted (Radiated only)
IC RSS-132 ISSUE 2 and RSS-133 ISSUE 3	No Non-Compliance Noted (Radiated only)

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. 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 Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

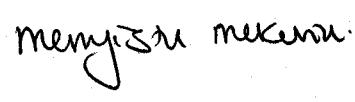
Approved & Released For CCS By:



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THU CHAN  
EMC SUPERVISOR  
COMPLIANCE CERTIFICATION SERVICES

Tested By:



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MENGISTU MEKURIA  
EMC ENGINEER  
COMPLIANCE CERTIFICATION SERVICES

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C (2004), FCC CFR 47 Part 2, FCC CFR 47 Part 22H, 24E, RSS-GEN, RSS132, RSS133, SPSR503, and SPSR510.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

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. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Radiated Emission, Above 2000 MHz	+/- 4.3 dB
Power Line Conducted Emission	+/- 2.9 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 operating on the GSM/GPRS/EDGE/UMTS network. In the US and Canada, only cellular and PCS bands are used for EDGE/GPRS/UMTS operation, so this test report only contains data for these two bands (850MHz and 1900MHz). The EUT was tested in all modes of operation: GMSK Modulation, 8PSK and WCDMA modulation.

### 5.2. SOFTWARE AND FIRMWARE

The following settings were used to configure the Wireless Communications Test Set, Agilent 8960 Series 10, E5515C.

#### **Instrument information:** (by press SYSTEM CONFIG)

Application: WCDMA Lap App C  
E6703C C.03.11  
Format: WCDMA

#### **Call Control:** (by press CALL SETUP)

2 of 4 Cell Parameters: PS Domain Information > Present  
ATT (IMSI Attach) Flag State > Set  
4 of 4 Security Info: Security Parameter - System Operations > None

#### **Call Params:** (by press CALL SETUP)

1 of 3  
Channel Type: 12.2k RMC  
Paging Service: RB Test Mode

#### **HSDPA Parameters:**

1 of 2  
HSDPA RB Test Mode Setup  
FRC Type > H-Set 5 QPSK  
CN Domain > PS Domain  
Uplink 64k DTCH for HSDPA Loopback State > On  
HS-DSCH Data Pattern > CCITT PRBS15  
RLC Header on HS-DSCH > Present

Channel (UARFCN) Params: DL Channel: 4357 / 4407 / 4458  
UL Channel: 4132 / 4182 / 4233  
UL Sep (Band) > 400MHz (Band 4)  
Freq Bnad Ind > On

2 of 3  
DL DTCH Data: ALL ONES  
RLC Reestablish: Off  
Call Limit State: Off  
Call Drop Timer: Off

SRB Config.: 13.6k DCCH  
3 of 3  
UE Target Power: -5 dBm  
UL CL Pwr CtrlParms: Active bits (Select "All Up bits" after linked to get maximum power)  
DL Channel: 9662 / 9800 / 9938 / 4357 / 4407 / 4458  
UL Channel: 9262 / 9400 / 9538 / 4132 / 4182 / 4233

### 5.3. WORST-CASE CONFIGURATION AND MODE

Based on past experience, GPRS was the worst case among all modulations. The worst-case channel is determined as the channel with the highest output power.

### 5.4. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

Test Peripherals				
Device Type	Manufacturer	Model Number	Serial Number	FCC ID
Laptop	Ganz	U2CWFL	R7300013	DoC
AC Adapter	FUJITSU	ADP-80NB A	07208421B	DoC
Communications Test Set	Agilent	E5515C	GB46160222	DoC

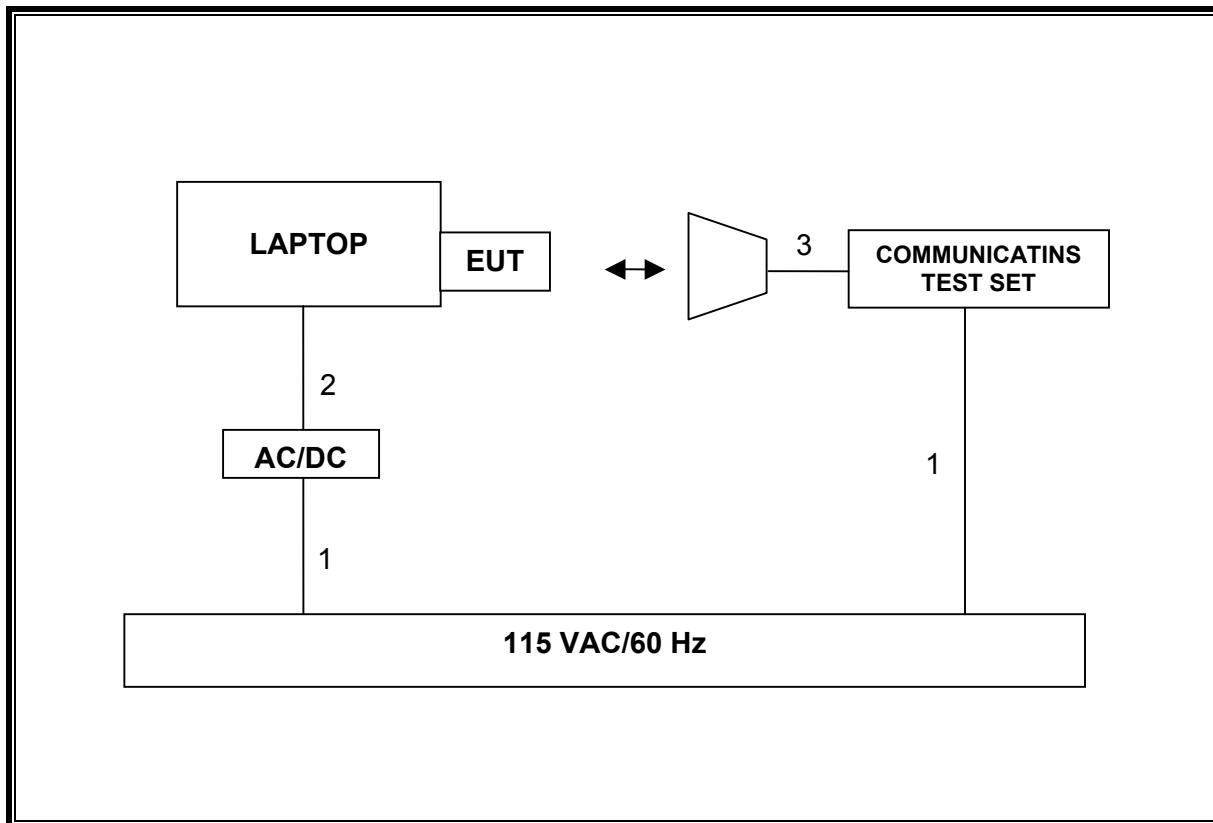
#### I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	2	US 115V	Un-shielded	2 m	N/A
2	DC	1	DC	Un-shielded	2m	N/A
3	RF In/Out	1	SMA	Un-shielded	1m	N/A

#### TEST SETUP

The EUT directly plugged into the laptop during the tests. The Wireless Communication test set exercised the EUT.

**RADIATED TEST SETUP DIAGRAM**



## 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	Serial Number	Cal Due
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	9/27/2008
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	4/15/2008
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	4/15/2008
Signal Generator 2 -40 GHz	R & S	SMP04	DE 34210	2/16/2009
Signal Generator 1024 MHz	R & S	SMY01	DE 12311	5/28/2009
Dipole	EMCO	3121C-DB2	22435	5/7/2008
2.7GHz HPF	MicroTronic	HPM13194	2	CNR
1.5GHz HPF	MicroTronic	HPM13195	1	CNR
Communication Test Set	Agilent	E5515C	91936	6/29/2008
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	MY45300064	10/27/2008

## 7. LIMITS AND RESULTS

### 7.1. RADIATED OUTPUT POWER

#### LIMIT

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

24.232(b) & RSS133 § 6.4 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.

RSS-132 § 4.4 The maximum ERP shall be 6.3 Watts for mobile stations.

#### TEST PROCEDURE

RSS-132, RSS-133, & ANSI / TIA / EIA 603C Clause 2.2.17

#### RESULTS

No non-compliance noted.

850 MHz GPRS Mode

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	31.90	1548.82
Middle	837.0	30.80	1202.26
High	848.8	29.00	794.33

850 MHz EGPRS Mode

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	27.00	501.19
Middle	837.0	25.90	389.05
High	848.8	24.10	257.04

850 MHz WCDMA Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.4	25.60	363.08
Middle	836.4	28.00	630.96
High	846.6	25.10	323.59

850 MHz WCDMA + HSDPA Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.4	26.10	407.38
Middle	836.4	28.40	691.83
High	846.6	25.70	371.54

1900 MHz GPRS Mode

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	30.30	1071.52
Middle	1880.00	29.10	812.83
High	1909.8	30.60	1148.15

1900 MHz EGPRS Mode

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	27.50	562.34
Middle	1880.00	26.40	436.52
High	1909.8	27.70	588.84

1900 MHz WCDMA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.4	27.50	562.34
Middle	1880.00	26.40	436.52
High	1907.6	28.20	660.69

1900 MHz WCDMA + HSDPA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.4	27.40	549.54
Middle	1880.00	27.30	537.03
High	1907.6	28.30	676.08

1900 MHz WCDMA + HSUPA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.40	27.40	549.54
Middle	1880.00	27.20	524.81
High	1907.60	26.80	478.63

**CELL BAND GPRS OUTPUT POWER (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/11/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, CELL GPRS MODE																	
<b><u>Test Equipment:</u></b>																		
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)																		
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002																		
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes									
824.20	104.4	V	30.8	0.5	0.0	30.3	38.5	-8.1										
824.20	107.7	H	32.4	0.5	0.0	31.9	38.5	-6.6										
836.50	103.3	V	30.3	0.6	0.0	29.7	38.5	-8.8										
836.50	106.5	H	31.4	0.6	0.0	30.8	38.5	-7.6										
848.80	102.0	V	28.8	0.7	0.0	28.1	38.5	-10.3										
848.80	105.2	H	29.7	0.7	0.0	29.0	38.5	-9.4										
Rev. 1.24.7																		

**CELL BAND EGPRS OUTPUT POWER (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/11/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, CELL EGPRS MODE																	
<u>Test Equipment:</u>																		
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)																		
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002																		
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes									
824.20	99.2	V	25.6	0.5	0.0	25.1	38.5	-13.3										
824.20	102.8	H	27.5	0.5	0.0	27.0	38.5	-11.5										
836.50	98.1	V	25.1	0.6	0.0	24.5	38.5	-14.0										
836.50	101.6	H	26.5	0.6	0.0	25.9	38.5	-12.5										
848.80	97.1	V	23.9	0.7	0.0	23.2	38.5	-15.2										
848.80	100.3	H	24.8	0.7	0.0	24.1	38.5	-14.4										

Rev. 1.24.7

**CELL BAND WCDMA OUTPUT POWER (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/11/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, CELL WCDMA MODE																	
<u>Test Equipment:</u>																		
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)																		
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002																		
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes									
826.40	97.8	V	24.2	0.5	0.0	23.7	38.5	-14.8										
826.40	101.4	H	26.1	0.5	0.0	25.6	38.5	-12.8										
836.40	100.2	V	27.2	0.6	0.0	26.6	38.5	-11.8										
836.40	103.7	H	28.6	0.6	0.0	28.0	38.5	-10.4										
846.60	98.4	V	25.2	0.7	0.0	24.5	38.5	-13.9										
846.60	101.3	H	25.8	0.7	0.0	25.1	38.5	-13.4										
Rev. 1.247																		

**CELL BAND WCDMA + HSDPA OUTPUT POWER (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/11/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, CELL HSDPA MODE																	
<b>Test Equipment:</b>																		
Receiving: Sunol T122, and 5m Chamber N-type Cable (Setup this one for testing EUT)																		
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 177081002																		
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes									
826.40	98.2	V	24.6	0.5	0.0	24.1	38.5	-14.3										
826.40	101.9	H	26.6	0.5	0.0	26.1	38.5	-12.4										
836.40	100.5	V	27.5	0.6	0.0	26.9	38.5	-11.6										
836.40	104.1	H	29.0	0.6	0.0	28.4	38.5	-10.0										
846.60	98.7	V	25.5	0.7	0.0	24.8	38.5	-13.7										
846.60	101.9	H	26.4	0.7	0.0	25.7	38.5	-12.7										
Rev. 1.24.7																		

**PCS BAND GPRS OUTPUT POWER (EIRP)**

High Frequency Fundamental Measurement Compliance Certification Services, Morgan Hill 5m Chamber Site																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/14/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, PCS GPRS MODE																	
<u>Test Equipment:</u>																		
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT) Thanh Cable																		
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002, Thanh cable																		
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes									
Low Ch																		
1.850	95.1	V	22.9	0.9	8.3	30.3	33.0	-2.7										
1.850	93.8	H	20.6	0.9	8.3	28.0	33.0	-5.0										
Mid Ch																		
1.880	93.7	V	21.6	0.9	8.3	29.1	33.0	-4.0										
1.880	92.7	H	20.2	0.9	8.3	27.6	33.0	-5.4										
High Ch																		
1.909.8	95.4	V	23.1	0.9	8.4	30.6	33.0	-2.4										
1.909.9	91.7	H	19.5	0.9	8.4	27.0	33.0	-6.0										
Rev. 1.24.7																		

**PCS BAND EGPRS OUTPUT POWER (EIRP)**

High Frequency Fundamental Measurement Compliance Certification Services, Morgan Hill 5m Chamber Site																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/14/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, PCS EGPRS MODE																	
<u>Test Equipment:</u>																		
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT) Thanh Cable																		
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002, Thanh cable																		
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes									
Low Ch																		
1.850	92.3	V	20.1	0.9	8.3	27.5	33.0	-5.5										
1.850	90.9	H	17.6	0.9	8.3	25.0	33.0	-8.0										
Mid Ch																		
1.880	91.1	V	19.0	0.9	8.3	26.4	33.0	-6.6										
1.880	90.0	H	17.4	0.9	8.3	24.8	33.0	-8.2										
High Ch																		
1.909.8	92.5	V	20.3	0.9	8.4	27.7	33.0	-5.3										
1.909.9	89.0	H	16.9	0.9	8.4	24.4	33.0	-8.7										

Rev. 1.24.7

**PCS BAND WCDMA OUTPUT POWER (EIRP)**

High Frequency Fundamental Measurement Compliance Certification Services, Morgan Hill 5m Chamber Site																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/14/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, PCS WCDMA MODE																	
<b>Test Equipment:</b>																		
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT) Thanh Cable																		
Substitution: Horn T60 Substitution, 4ft SMA Cable Warehouse S/N: 177081002, Thanh cable																		
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes									
Low Ch																		
1.852	92.2	V	20.1	0.9	8.3	27.5	33.0	-5.6										
1.852	93.0	H	19.8	0.9	8.3	27.2	33.0	-5.8										
Mid Ch																		
1.880	91.0	V	18.9	0.9	8.3	26.4	33.0	-6.7										
1.880	91.2	H	18.6	0.9	8.3	26.0	33.0	-7.0										
High Ch																		
1.908	92.4	V	20.1	0.9	8.4	27.6	33.0	-5.4										
1.908	92.9	H	20.7	0.9	8.4	28.2	33.0	-4.8										
Rev. 1.24.7																		

**PCS BAND WCDMA + HSDPA OUTPUT POWER (EIRP)**

High Frequency Fundamental Measurement Compliance Certification Services, Morgan Hill 5m Chamber Site																		
Company:	SIERRA WIRELESS																	
Project #:	08U11646																	
Date:	4/14/2008																	
Test Engineer:	MENGISTU MEKURIA																	
Configuration:	EUT WITH SUPPORT LAPTOP																	
Mode:	TX, PCS HSDPA MODE																	
<u>Test Equipment:</u>																		
Receiving: Horn T73, and 12ft S/N: 197209005 (Setup this one for testing EUT) Thanh Cable																		
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f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes									
<b>Low Ch</b>																		
1.852	92.2	V	20.0	0.9	8.3	27.4	33.0	-5.6										
1.852	92.9	H	19.7	0.9	8.3	27.1	33.0	-5.9										
<b>Mid Ch</b>																		
1.880	92.0	V	19.8	0.9	8.3	27.3	33.0	-5.7										
1.880	91.2	H	18.6	0.9	8.3	26.1	33.0	-6.9										
<b>High Ch</b>																		
1.908	92.3	V	20.0	0.9	8.4	27.5	33.0	-5.5										
1.908	93.0	H	20.8	0.9	8.4	28.3	33.0	-4.7										
Rev. 1.24.7																		

## 7.2. FIELD STRENGTH OF SPURIOUS EMISSION

### LIMIT

§22.917 (e) and §24.238 (a) Out of band emissions. 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

RSS-132, RSS-133, & ANSI / TIA / EIA 603C Clause 2.2.12

### RESULTS

No non-compliance noted.

Note: No emissions were found within 30-1000MHz & after the third harmonic of 20dB below the system noise.

**CELL BAND GPRS SPURIOUS & HARMONIC (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber										
Company:	SIERRA WIRELESS									
Project #:	08U11646									
Date:	4/3/2008									
Test Engineer:	MENGISTU MEKURIA									
Configuration:	EUT WITH SUPPORT LAPTOP									
Mode:	TX, CELL GPRS MODE									
<b>Test Equipment:</b>										
EMCO Horn 1-18GHz			Horn > 18GHz			Limit			High Pass Filter	
T60; S/N: 2238 @3m						FCC 22			<input checked="" type="checkbox"/>	
Hi Frequency Cables										
<input type="checkbox"/> (2 ft)			<input type="checkbox"/> (2 ~ 3 ft)			<input type="checkbox"/> (4 ~ 6 ft)			<input checked="" type="checkbox"/> (12 ft)	
Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			T34 HP 8449B				
<b>f</b> GHz	<b>SA reading</b> (dBuV/m)	<b>Ant. Pol.</b> (H/V)	<b>SG reading</b> (dBm)	<b>CL</b> (dB)	<b>Gain</b> (dBi)	<b>Gain</b> (dBd)	<b>ERP</b> (dBm)	<b>Limit</b> (dBm)	<b>Margin</b> (dB)	<b>Notes</b>
<b>Low Ch. (824.2MHz)</b>										
1.648	60.8	H	-44.4	3.8	7.1	4.9	-43.3	-13.0	-30.3	
2.473	67.1	H	-35.8	4.9	9.3	7.1	-33.5	-13.0	-20.5	
3.297	47.1	H	-51.8	5.6	9.4	7.3	-50.1	-13.0	-37.1	
4.121	49.4	H	-46.1	6.3	10.0	7.8	-44.6	-13.0	-31.6	
1.648	67.3	V	-38.5	3.8	7.1	4.9	-37.5	-13.0	-24.5	
2.473	64.2	V	-38.8	4.9	9.3	7.1	-36.6	-13.0	-23.6	
3.297	48.9	V	-50.0	5.6	9.4	7.3	-48.3	-13.0	-35.3	
4.121	51.9	V	-43.9	6.3	10.0	7.8	-42.4	-13.0	-29.4	
<b>Mid Ch. (836.6 MHz)</b>										
1.673	58.4	H	-46.7	3.9	7.2	5.0	-45.6	-13.0	-32.6	
2.510	65.7	H	-37.0	4.9	9.3	7.1	-34.8	-13.0	-21.8	
3.346	46.3	H	-52.3	5.6	9.5	7.3	-50.7	-13.0	-37.7	
4.183	48.6	H	-46.7	6.3	10.0	7.9	-45.2	-13.0	-32.2	
1.673	65.2	V	-40.6	3.9	7.2	5.0	-39.5	-13.0	-26.5	
2.510	63.4	V	-39.4	4.9	9.3	7.1	-37.2	-13.0	-24.2	
3.346	48.2	V	-50.5	5.6	9.5	7.3	-48.8	-13.0	-35.8	
4.183	50.3	V	-45.4	6.3	10.0	7.9	-43.9	-13.0	-30.9	
<b>Hi Ch. (848.8 MHz)</b>										
1.698	59.8	H	-45.2	3.9	7.2	5.1	-44.1	-13.0	-31.1	
2.546	67.3	H	-35.1	4.9	9.3	7.1	-32.9	-13.0	-19.9	
3.395	47.9	H	-50.6	5.7	9.5	7.3	-48.9	-13.0	-35.9	
4.244	49.7	H	-45.6	6.4	10.1	8.0	-44.0	-13.0	-31.0	
1.698	60.4	V	-45.3	3.9	7.2	5.1	-44.2	-13.0	-31.2	
2.546	58.0	V	-44.7	4.9	9.3	7.1	-42.5	-13.0	-29.5	
3.395	46.5	V	-52.0	5.7	9.5	7.3	-50.4	-13.0	-37.4	
4.244	51.4	V	-44.3	6.4	10.1	8.0	-42.7	-13.0	-29.7	

Rev. 4.12.7

**CELL BAND EGPRS SPURIOUS & HARMONIC (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber											
Company:	SIERRA WIRELESS										
Project #:	08U11646										
Date:	4/3/2008										
Test Engineer:	MENGISTU MEKURIA										
Configuration:	EUT WITH SUPPORT LAPTOP										
Mode:	TX, CELL EGPRS MODE										
<u>Test Equipment:</u>											
EMCO Horn 1-18GHz		Horn > 18GHz		Limit		High Pass Filter					
T60; S/N: 2238 @3m				FCC 22		<input checked="" type="checkbox"/> High Pass Filter					
Hi Frequency Cables											
<input type="checkbox"/> (2 ft)		<input type="checkbox"/> (2~3 ft)		<input type="checkbox"/> (4~6 ft)		<input checked="" type="checkbox"/> (12 ft)		Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz	
T34 HP 8449B											
<b>f</b> <b>GHz</b>	<b>SA reading</b> <b>(dBuV/m)</b>	<b>Ant. Pol.</b> <b>(H/V)</b>	<b>SG reading</b> <b>(dBm)</b>	<b>CL</b> <b>(dB)</b>	<b>Gain</b> <b>(dBi)</b>	<b>Gain</b> <b>(dBd)</b>	<b>ERP</b> <b>(dBm)</b>	<b>Limit</b> <b>(dBm)</b>	<b>Margin</b> <b>(dB)</b>	<b>Notes</b>	
<b>Low Ch. (824.2MHz)</b>											
1.648	62.4	H	-42.8	3.8	7.1	4.9	-41.7	-13.0	-28.7		
2.473	56.6	H	-46.3	4.9	9.3	7.1	-44.0	-13.0	-31.0		
3.297	44.4	H	-54.4	5.6	9.4	7.3	-52.7	-13.0	-39.7		
1.648	62.8	V	-43.1	3.8	7.1	4.9	-42.0	-13.0	-29.0		
2.473	54.6	V	-48.5	4.9	9.3	7.1	-46.2	-13.0	-33.2		
3.297	44.6	V	-54.3	5.6	9.4	7.3	-52.6	-13.0	-39.6		
<b>Mid Ch. (836.6 MHz)</b>											
1.673	63.9	H	-41.2	3.9	7.2	5.0	-40.0	-13.0	-27.0		
2.510	52.6	H	-50.0	4.9	9.3	7.1	-47.8	-13.0	-34.8		
3.346	45.7	H	-53.0	5.6	9.5	7.3	-51.3	-13.0	-38.3		
1.673	62.2	V	-43.6	3.9	7.2	5.0	-42.5	-13.0	-29.5		
2.510	52.7	V	-50.1	4.9	9.3	7.1	-47.9	-13.0	-34.9		
3.346	45.0	V	-53.7	5.6	9.5	7.3	-52.1	-13.0	-39.1		
<b>Hi Ch. (848.8 MHz)</b>											
1.698	62.8	H	-42.2	3.9	7.2	5.1	-41.0	-13.0	-28.0		
2.546	50.5	H	-51.9	4.9	9.3	7.1	-49.7	-13.0	-36.7		
3.395	45.2	H	-53.2	5.7	9.5	7.3	-51.5	-13.0	-38.5		
1.698	61.0	V	-44.8	3.9	7.2	5.1	-43.6	-13.0	-30.6		
2.546	47.2	V	-55.4	4.9	9.3	7.1	-53.2	-13.0	-40.2		
3.395	44.9	V	-53.7	5.7	9.5	7.3	-52.0	-13.0	-39.0		

Rev. 4.12.7

**CELL BAND WCDMA SPURIOUS & HARMONIC (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber										
Company:	SIERRA WIRELESS									
Project #:	08U11646									
Date:	4/3/2008									
Test Engineer:	MENGISTU MEKURIA									
Configuration:	EUT WITH SUPORT LAPTOP									
Mode:	TX, CELL WCDMA MODE									
<u>Test Equipment:</u>										
EMCO Horn 1-18GHz			Horn > 18GHz			Limit		High Pass Filter		
T60; S/N: 2238 @3m						FCC 22		<input checked="" type="checkbox"/>		
Hi Frequency Cables										
<input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)			Pre-amplifier 1-26 GHz			Pre-amplifier 26-40 GHz				
			T34 HP 8449B							
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
<b>Low Ch. (826.4MHz)</b>										
1.653	52.7	H	-52.5	3.8	7.1	4.9	-51.4	-13.0	-38.4	
2.479	60.5	H	-42.3	4.9	9.3	7.1	-40.1	-13.0	-27.1	
3.306	53.9	H	-44.8	5.6	9.4	7.3	-43.1	-13.0	-30.1	
4.132	45.7	H	-49.8	6.3	10.0	7.8	-48.2	-13.0	-35.2	
1.653	54.8	V	-51.1	3.8	7.1	4.9	-50.0	-13.0	-37.0	
2.479	56.8	V	-46.2	4.9	9.3	7.1	-44.0	-13.0	-31.0	
3.306	56.3	V	-42.6	5.6	9.4	7.3	-40.9	-13.0	-27.9	
4.132	45.4	V	-50.4	6.3	10.0	7.8	-48.9	-13.0	-35.9	
<b>Mid Ch. (836.4 MHz)</b>										
1.673	53.4	H	-51.7	3.9	7.2	5.0	-50.6	-13.0	-37.6	
2.509	62.7	H	-39.9	4.9	9.3	7.1	-37.7	-13.0	-24.7	
3.346	55.2	H	-43.4	5.6	9.5	7.3	-41.7	-13.0	-28.7	
4.182	45.3	H	-50.0	6.3	10.0	7.9	-48.5	-13.0	-35.5	
1.673	56.0	V	-49.8	3.9	7.2	5.0	-48.7	-13.0	-35.7	
2.509	58.8	V	-44.1	4.9	9.3	7.1	-41.9	-13.0	-28.9	
3.346	57.1	V	-41.7	5.6	9.5	7.3	-40.0	-13.0	-27.0	
4.182	66.0	V	-29.7	6.3	10.0	7.9	-28.2	-13.0	-15.2	
<b>Hi Ch. (846.6 MHz)</b>										
1.693	53.4	H	-51.7	3.9	7.2	5.1	-50.5	-13.0	-37.5	
2.540	65.9	H	-36.6	4.9	9.3	7.1	-34.4	-13.0	-21.4	
3.386	55.2	H	-43.2	5.7	9.5	7.3	-41.6	-13.0	-28.6	
4.233	45.0	H	-50.3	6.4	10.1	7.9	-48.8	-13.0	-35.8	
1.693	55.6	V	-50.1	3.9	7.2	5.1	-48.9	-13.0	-35.9	
2.540	62.8	V	-39.8	4.9	9.3	7.1	-37.6	-13.0	-24.6	
3.386	55.0	V	-43.5	5.7	9.5	7.3	-41.9	-13.0	-28.9	
4.233	46.1	V	-49.6	6.4	10.1	7.9	-48.0	-13.0	-35.0	

Rev. 4.12.7

**CELL BAND WCDMA+HSDPA SPURIOUS & HARMONIC (ERP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber										
Company:	SIERRA WIRELESS									
Project #:	08U11646									
Date:	4/3/2008									
Test Engineer:	MENGISTU MEKURIA									
Configuration:	EUT WITH SUPORT LAPTOP									
Mode:	TX, CELL HSDPA MODE									
<u>Test Equipment:</u>										
EMCO Horn 1-18GHz			Horn > 18GHz			Limit		High Pass Filter		
T60; S/N: 2238 @3m						FCC 22		<input checked="" type="checkbox"/>		
Hi Frequency Cables										
<input type="checkbox"/> (2 ft)			<input type="checkbox"/> (2 ~ 3 ft)			<input type="checkbox"/> (4 ~ 6 ft)			<input checked="" type="checkbox"/> (12 ft)	
Pre-amplifier 1-26GHz			T34 HP 8449B			Pre-amplifier 26-40GHz				
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
<u>Low Ch. (826.4MHz)</u>										
1.653	49.4	H	-55.8	3.8	7.1	4.9	-54.7	-13.0	-41.7	
2.479	60.5	H	-42.3	4.9	9.3	7.1	-40.1	-13.0	-27.1	
3.306	55.2	H	-43.6	5.6	9.4	7.3	-41.9	-13.0	-28.9	
4.132	45.8	H	-49.7	6.3	10.0	7.8	-48.2	-13.0	-35.2	
1.653	53.2	V	-52.6	3.8	7.1	4.9	-51.5	-13.0	-38.5	
2.479	56.3	V	-46.7	4.9	9.3	7.1	-44.5	-13.0	-31.5	
3.306	59.0	V	-39.9	5.6	9.4	7.3	-38.2	-13.0	-25.2	
4.132	45.6	V	-50.2	6.3	10.0	7.8	-48.7	-13.0	-35.7	
<u>Mid Ch. (836.4 MHz)</u>										
1.673	52.2	H	-52.9	3.9	7.2	5.0	-51.8	-13.0	-38.8	
2.509	61.9	H	-40.7	4.9	9.3	7.1	-38.5	-13.0	-25.5	
3.346	55.6	H	-43.1	5.6	9.5	7.3	-41.4	-13.0	-28.4	
4.182	46.1	H	-49.3	6.3	10.0	7.9	-47.8	-13.0	-34.8	
1.673	55.1	V	-50.8	3.9	7.2	5.0	-49.6	-13.0	-36.6	
2.509	57.9	V	-44.9	4.9	9.3	7.1	-42.7	-13.0	-29.7	
3.346	57.8	V	-41.0	5.6	9.5	7.3	-39.3	-13.0	-26.3	
4.182	46.5	V	-49.2	6.3	10.0	7.9	-47.7	-13.0	-34.7	
<u>Hi Ch. (846.6 MHz)</u>										
1.693	52.7	H	-52.4	3.9	7.2	5.1	-51.2	-13.0	-38.2	
2.540	64.3	H	-38.2	4.9	9.3	7.1	-36.0	-13.0	-23.0	
3.386	55.4	H	-43.1	5.7	9.5	7.3	-41.4	-13.0	-28.4	
4.233	45.1	H	-50.2	6.4	10.1	7.9	-48.7	-13.0	-35.7	
1.693	54.6	V	-51.2	3.9	7.2	5.1	-50.0	-13.0	-37.0	
2.540	61.1	V	-41.5	4.9	9.3	7.1	-39.4	-13.0	-26.4	
3.386	55.9	V	-42.7	5.7	9.5	7.3	-41.0	-13.0	-28.0	
4.233	46.5	V	-49.1	6.4	10.1	7.9	-47.6	-13.0	-34.6	

Rev. 4.12.7

**PCS BAND GPRS SPURIOUS & HARMONIC (EIRP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber										
Company:	SIERRA WIRELESS									
Project #:	08U11646									
Date:	4/3/2008									
Test Engineer:	MENGISTU MEKURIA									
Configuration:	EUT WITH SUPPORT LAPTOP									
Mode:	TX, PCS GPRS MODE									
<u>Test Equipment:</u>										
EMCO Horn 1-18GHz			Horn > 18GHz			Limit		High Pass Filter		
T60; S/N: 2238 @3m						FCC 24		<input checked="" type="checkbox"/> High Pass Filter		
Hi Frequency Cables										
<input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz				
T34 HP 8449B										
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch. (1850.2MHz)										
3.700	52.4	H	-44.8	5.9	9.7	7.5	-41.1	-13.0	-28.1	
5.551	49.3	H	-41.5	7.4	11.0	8.9	-37.9	-13.0	-24.9	
7.401	48.1	H	-39.7	8.3	12.0	9.8	-36.0	-13.0	-23.0	
3.700	56.4	V	-40.9	5.9	9.7	7.5	-37.2	-13.0	-24.2	
5.551	48.4	V	-43.4	7.4	11.0	8.9	-39.7	-13.0	-26.7	
7.401	50.9	V	-37.7	8.3	12.0	9.8	-34.0	-13.0	-21.0	
Mid Ch. (1880.0 MHz)										
3.760	51.0	H	-46.0	6.0	9.7	7.5	-42.3	-13.0	-29.3	
5.640	48.4	H	-42.5	7.4	11.2	9.0	-38.8	-13.0	-25.8	
7.520	48.5	H	-39.0	8.3	12.0	9.8	-35.3	-13.0	-22.3	
3.760	54.0	V	-43.1	6.0	9.7	7.5	-39.4	-13.0	-26.4	
5.640	47.2	V	-44.7	7.4	11.2	9.0	-41.0	-13.0	-28.0	
7.520	52.3	H	-35.2	8.3	12.0	9.8	-31.5	-13.0	-18.5	
Hi Ch. (1909.8 MHz)										
3.715	51.0	H	-46.2	5.9	9.7	7.5	-42.5	-13.0	-29.5	
5.723	46.2	H	-44.9	7.5	11.3	9.1	-41.1	-13.0	-28.1	
7.730	45.4	H	-41.6	8.4	12.0	9.8	-38.0	-13.0	-25.0	
3.715	54.7	V	-42.5	5.9	9.7	7.5	-38.8	-13.0	-25.8	
5.723	47.4	V	-44.7	7.5	11.3	9.1	-40.9	-13.0	-27.9	
7.730	51.7	V	-36.1	8.4	12.0	9.8	-32.5	-13.0	-19.5	
Rev. 4.12.7										

**PCS BAND EGPRS SPURIOUS & HARMONIC (EIRP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber																		
<p>Company: SIERRA WIRELESS Project #: 08U11646 Date: 4/3/2008 Test Engineer: MENGISTU MEKURIA Configuration: EUT WITH SUPORT LAPTOP Mode: TX, PCS EGPRS MODE</p> <p><u>Test Equipment:</u></p> <table border="1"> <tr> <td>EMCO Horn 1-18GHz T60; S/N: 2238 @3m</td> <td>Horn &gt; 18GHz</td> <td>Limit FCC 24</td> <td><input checked="" type="checkbox"/> High Pass Filter</td> </tr> <tr> <td colspan="2">Hi Frequency Cables <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)</td> <td>Pre-amplifier 1-26GHz T34 HP 8449B</td> <td>Pre-amplifier 26-40GHz</td> </tr> </table>											EMCO Horn 1-18GHz T60; S/N: 2238 @3m	Horn > 18GHz	Limit FCC 24	<input checked="" type="checkbox"/> High Pass Filter	Hi Frequency Cables <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)		Pre-amplifier 1-26GHz T34 HP 8449B	Pre-amplifier 26-40GHz
EMCO Horn 1-18GHz T60; S/N: 2238 @3m	Horn > 18GHz	Limit FCC 24	<input checked="" type="checkbox"/> High Pass Filter															
Hi Frequency Cables <input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)		Pre-amplifier 1-26GHz T34 HP 8449B	Pre-amplifier 26-40GHz															
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes								
<b>Low Ch. (1850.2MHz)</b>																		
3.700	47.3	H	-50.0	5.9	9.7	7.5	-46.2	-13.0	-33.2									
5.551	43.5	H	-47.3	7.4	11.0	8.9	-43.6	-13.0	-30.6									
3.705	49.4	V	-47.9	5.9	9.7	7.5	-44.2	-13.0	-31.2									
5.557	45.2	V	-46.6	7.4	11.0	8.9	-43.0	-13.0	-30.0									
<b>Mid Ch. (1880.0 MHz)</b>																		
3.760	47.7	H	-49.2	6.0	9.7	7.5	-45.5	-13.0	-32.5									
5.640	43.5	H	-47.5	7.4	11.2	9.0	-43.7	-13.0	-30.7									
3.760	49.0	V	-48.1	6.0	9.7	7.5	-44.4	-13.0	-31.4									
5.640	43.6	V	-48.4	7.4	11.2	9.0	-44.7	-13.0	-31.7									
<b>Hi Ch. (1909.8 MHz)</b>																		
3.715	48.0	H	-49.1	5.9	9.7	7.5	-45.4	-13.0	-32.4									
5.723	44.2	H	-46.9	7.5	11.3	9.1	-43.1	-13.0	-30.1									
3.715	49.2	V	-48.1	5.9	9.7	7.5	-44.3	-13.0	-31.3									
5.723	44.4	V	-47.6	7.5	11.3	9.1	-43.8	-13.0	-30.8									

Rev. 4.12.7

**PCS BAND WCDMA SPURIOUS & HARMONIC (EIRP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber										
Company:	SIERRA WIRELESS									
Project #:	08U11646									
Date:	4/3/2008									
Test Engineer:	MENGISTU MEKURIA									
Configuration:	EUT WITH SUPPORT LAPTOP									
Mode:	TX, PCS WCDMA MODE									
<b>Test Equipment:</b>										
EMCO Horn 1-18GHz		Horn > 18GHz		Limit						
T60; S/N: 2238 @3m				FCC 24		<input checked="" type="checkbox"/> High Pass Filter				
Hi Frequency Cables										
<input type="checkbox"/> (2 ft)		<input type="checkbox"/> (2 ~ 3 ft)		<input type="checkbox"/> (4 ~ 6 ft)		<input checked="" type="checkbox"/> (12 ft)		Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz
T60; S/N: 2238 @3m				T34 HP 8449B						
<b>f</b> GHz	<b>SA reading</b> (dBuV/m)	<b>Ant. Pol.</b> (H/V)	<b>SG reading</b> (dBm)	<b>CL</b> (dB)	<b>Gain</b> (dBi)	<b>Gain</b> (dBd)	<b>EIRP</b> (dBm)	<b>Limit</b> (dBm)	<b>Margin</b> (dB)	<b>Notes</b>
<b>Low Ch. (1852.4MHz)</b>										
3.705	68.2	H	-29.0	5.9	9.7	7.5	-25.3	-13.0	-12.3	
5.557	45.4	H	-45.4	7.4	11.0	8.9	-41.8	-13.0	-28.8	
7.410	46.3	H	-41.5	8.3	12.0	9.8	-37.7	-13.0	-24.7	
3.705	64.9	V	-32.4	5.9	9.7	7.5	-28.7	-13.0	-15.7	
5.557	47.6	V	-44.3	7.4	11.0	8.9	-40.6	-13.0	-27.6	
7.410	47.1	V	-41.5	8.3	12.0	9.8	-37.8	-13.0	-24.8	
<b>Mid Ch. (1880.0 MHz)</b>										
3.760	67.1	H	-29.9	6.0	9.7	7.5	-26.2	-13.0	-13.2	
5.640	44.8	H	-46.1	7.4	11.2	9.0	-42.4	-13.0	-29.4	
7.520	44.6	H	-42.9	8.3	12.0	9.8	-39.3	-13.0	-26.3	
3.760	64.7	V	-32.3	6.0	9.7	7.5	-28.6	-13.0	-15.6	
5.640	46.2	V	-45.8	7.4	11.2	9.0	-42.1	-13.0	-29.1	
7.520	47.3	V	-41.0	8.3	12.0	9.8	-37.3	-13.0	-24.3	
<b>Hi Ch. (1907.6 MHz)</b>										
3.715	71.0	H	-26.1	5.9	9.7	7.5	-22.4	-13.0	-9.4	
5.723	47.6	H	-43.4	7.5	11.3	9.1	-39.6	-13.0	-26.6	
7.730	46.5	H	-40.5	8.4	12.0	9.8	-36.9	-13.0	-23.9	
3.715	70.1	V	-27.1	5.9	9.7	7.5	-23.4	-13.0	-10.4	
5.723	48.9	V	-43.1	7.5	11.3	9.1	-39.3	-13.0	-26.3	
7.730	47.2	V	-40.6	8.4	12.0	9.8	-37.0	-13.0	-24.0	

Rev. 4.12.7

**PCS BAND WCDMA+HSDPA SPURIOUS & HARMONIC (EIRP)**

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m B-Chamber										
Company:	SIERRA WIRELESS									
Project #:	08U11646									
Date:	4/3/2008									
Test Engineer:	MENGISTU MEKURIA									
Configuration:	EUT WITH SUPORT LAPTOP									
Mode:	TX, PCS HSDPA MODE									
<u>Test Equipment:</u>										
EMC O Horn 1-18GHz			Horn > 18GHz			Limit				
T60; S/N: 2238 @3m						FCC 24			<input checked="" type="checkbox"/> High Pass Filter	
Hi Frequency Cables										
<input type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz				
			T34 HP 8449B							
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dB)	Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
<b>Low Ch. (1852.4MHz)</b>										
3.705	67.2	H	-30.0	5.9	9.7	7.5	-26.3	-13.0	-13.3	
5.557	45.0	H	-45.9	7.4	11.0	8.9	-42.2	-13.0	-29.2	
7.410	45.9	H	-41.9	8.3	12.0	9.8	-38.1	-13.0	-25.1	
3.705	64.2	V	-33.1	5.9	9.7	7.5	-29.4	-13.0	-16.4	
5.557	47.7	V	-44.1	7.4	11.0	8.9	-40.4	-13.0	-27.4	
7.410	47.5	V	-41.1	8.3	12.0	9.8	-37.3	-13.0	-24.3	
<b>Mid Ch. (1880.0 MHz)</b>										
3.760	66.5	H	-30.4	6.0	9.7	7.5	-26.7	-13.0	-13.7	
5.640	45.6	H	-45.3	7.4	11.2	9.0	-41.6	-13.0	-28.6	
7.520	45.6	H	-41.9	8.3	12.0	9.8	-38.2	-13.0	-25.2	
3.760	65.0	V	-32.1	6.0	9.7	7.5	-28.4	-13.0	-15.4	
5.640	46.2	V	-45.7	7.4	11.2	9.0	-42.0	-13.0	-29.0	
7.520	46.4	V	-42.0	8.3	12.0	9.8	-38.3	-13.0	-25.3	
<b>Hi Ch. (1907.6 MHz)</b>										
3.715	71.0	H	-26.1	5.9	9.7	7.5	-22.4	-13.0	-9.4	
5.723	47.5	H	-43.6	7.5	11.3	9.1	-39.8	-13.0	-26.8	
7.730	46.4	H	-40.6	8.4	12.0	9.8	-37.1	-13.0	-24.1	
3.715	69.0	V	-28.2	5.9	9.7	7.5	-24.5	-13.0	-11.5	
5.723	48.4	V	-43.6	7.5	11.3	9.1	-39.8	-13.0	-26.8	
7.730	46.4	V	-41.4	8.4	12.0	9.8	-37.8	-13.0	-24.8	

Rev. 4.12.7

### 7.3. RECEIVER SPURIOUS EMISSIONS

#### LIMIT

Spurious Emission Limits for Receivers:

Spurious Frequency (MHz)	Field Strength (microvolts/m at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960	500

#### TEST PROCEDURE

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable and local oscillator frequencies.

#### RESULTS

No non-compliance noted:

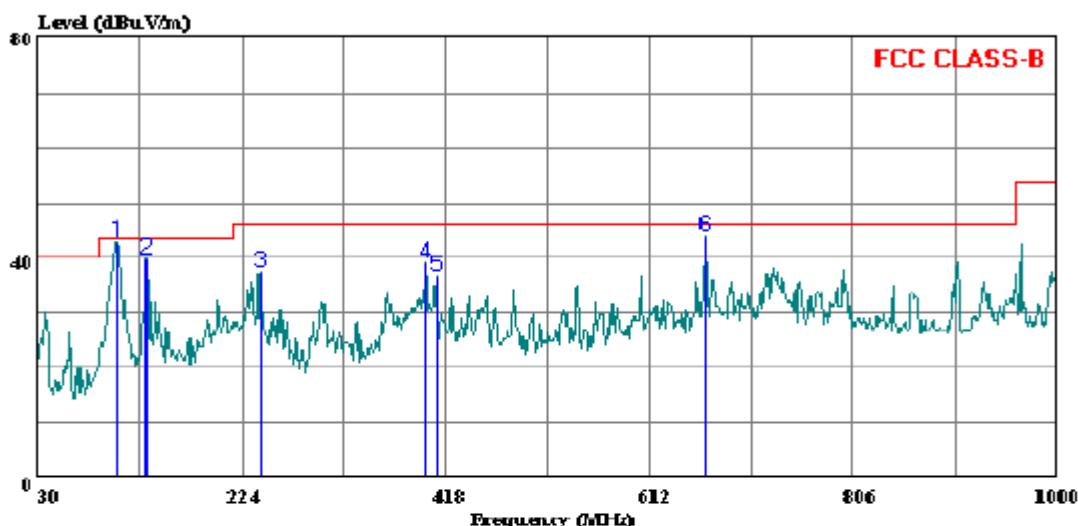
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)**

HORIZONTAL PLOT AND DATA



Compliance Certification Services  
47173 Benicia Street  
Fremont, CA 94538  
Tel: (510) 771-1000  
Fax: (510) 661-0888

Data#: 21 File#: 08U11646.EMI Date: 04-04-2008 Time: 14:53:09



Trace: 20

Ref Trace:

Condition: FCC CLASS-B HORIZONTAL  
Test Operator:: Tom Chen  
Project #: 08U11646  
Company: Sierra Wireless Inc.,  
Configuration:: EUT With Peripheral without USB cable  
Mode : Normal  
Target: FCC Class B

Page: 1

Freq	Read	Limit	Over	Line	Limit	Remark
	Level					
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	105.660	62.33	-19.47	42.87	43.50	-0.63 Peak
2	132.820	56.50	-16.66	39.84	43.50	-3.66 Peak
3	241.460	55.50	-18.06	37.44	46.00	-8.56 Peak
4	399.570	52.50	-13.47	39.03	46.00	-6.97 Peak
5	408.300	50.00	-13.19	36.81	46.00	-9.19 Peak
6	665.350	53.00	-9.02	43.98	46.00	-2.02 Peak

**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

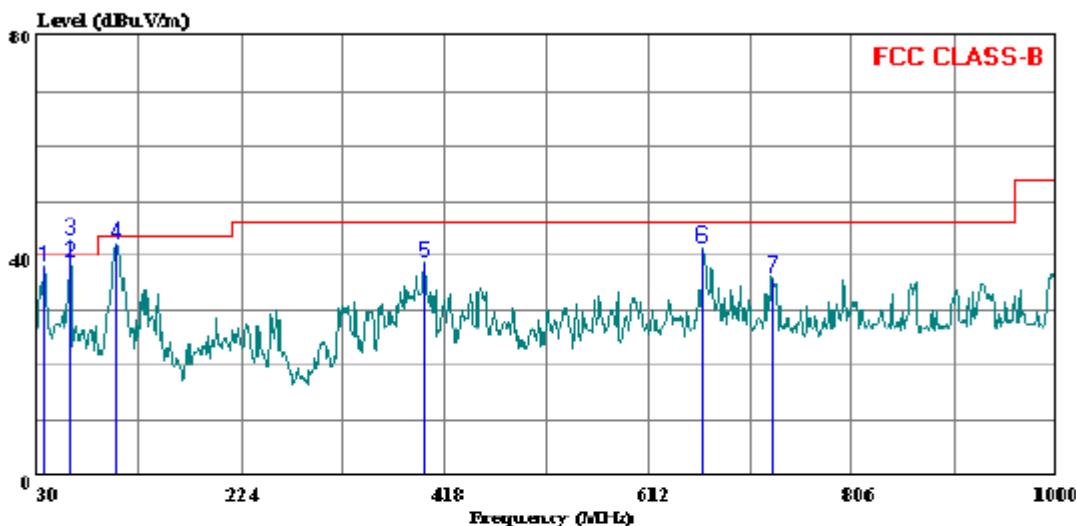
**VERTICAL PLOT AND DATA**



Compliance Certification Services  
47173 Benicia Street  
Fremont, CA 94538  
Tel: (510) 771-1000  
Fax: (510) 661-0888

Data#: 25 File#: 08U11646.EMI

Date: 04-04-2008 Time: 15:02:01



Trace: 22

Ref Trace:

Condition: FCC CLASS-B VERTICAL  
Test Operator:: Tom Chen  
Project #: : 08U11646  
Company: : Sierra Wireless Inc.,  
Configuration:: EUT With Peripheral without USB cable  
Mode : : Normal  
Target: : FCC Class B

Page: 1

Freq	Read		Limit	Over	Limit	Remark
	Level	Factor				
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	35.820	50.35	-12.14	38.21	40.00	-1.79 Peak
2	62.010	61.80	-23.14	38.66	40.00	-1.34 QP
3 *	62.010	66.00	-23.05	42.95	40.00	2.95 Peak
4	105.660	61.83	-19.47	42.37	43.50	-1.13 Peak
5	398.600	52.33	-13.49	38.85	46.00	-7.15 Peak
6	663.410	50.67	-9.01	41.66	46.00	-4.34 Peak
7	729.370	44.00	-7.81	36.19	46.00	-9.81 Peak

**RECEIVER SPURIOUS EMISSIONS FOR ABOVE 1GHz**

**Note:** No emissions were found above 1GHz within 20dB of the limit.

## 7.4. POWER LINE CONDUCTED EMISSION

### LIMIT

RSS-Gen 7.2.2

Except when the requirements applicable to a given device state otherwise, for any licence-exempt radio communication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.

Table 2 – AC Power Lines Conducted Emission Limits

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 <sup>*</sup>	56 to 46 <sup>*</sup>
0.5-5	56	46
5-30	60	50

<sup>\*</sup> Decreases with the logarithm of the frequency.

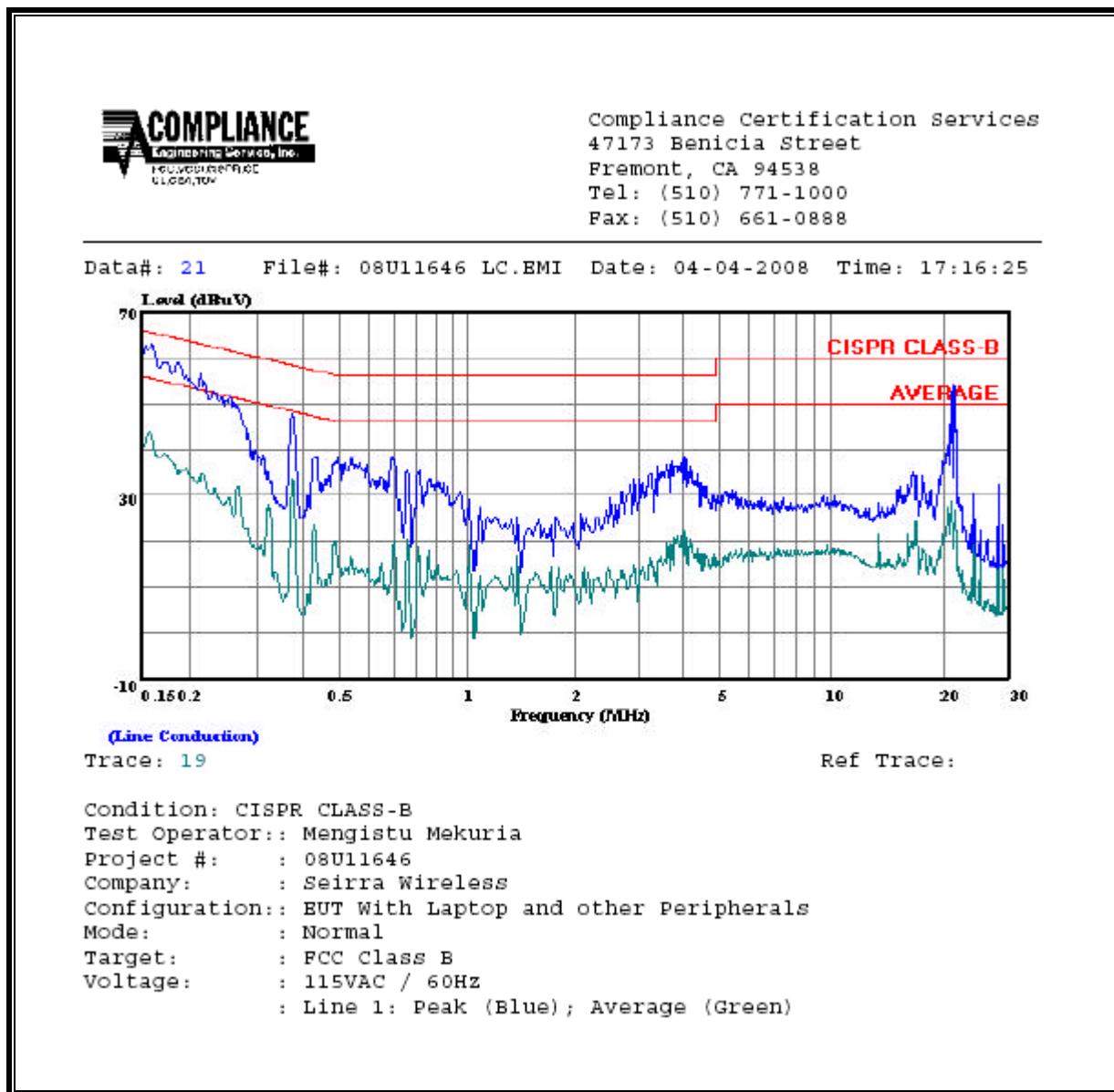
### RESULTS

No non-compliance noted:

**6 WORST EMISSIONS**

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq. (MHz)	Reading			Closs (dB)	Limit QP	EN_B AV	Margin		Remark L1 / L2
	PK (dBuV)	QP (dBuV)	AV (dBuV)				QP (dB)	AV (dB)	
0.16	63.05	--	44.06	0.00	65.52	55.52	-2.47	-11.46	L1
0.19	58.78	--	39.06	0.00	64.26	54.26	-5.48	-15.20	L1
21.49	53.72	--	26.44	0.00	60.00	50.00	-6.28	-23.56	L1
0.16	62.37	--	43.43	0.00	65.52	55.52	-3.15	-12.09	L2
0.19	57.73	--	35.96	0.00	64.26	54.26	-6.53	-18.30	L2
0.21	55.12	--	33.95	0.00	63.05	53.05	-7.93	-19.10	L2
6 Worst Data									

**LINE 1 RESULTS**



**LINE 2 RESULTS**

