



**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 888**

**FCC ID: N7NC888**

**IC: 2417C-C888**

**REPORT NUMBER: 08U11897-1C**

**ISSUE DATE: AUGUST 07, 2008**

*Prepared for*  
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*Prepared by*  
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**NVLAP LAB CODE 200065-0**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
---	07/11/08	Initial Issue	T. Chan
A	07/18/08	Revised model name, FCC ID, and IC ID	A. Zaffar
B	08/07/08	Revised model name, FCC ID, and IC ID	A. Zaffar
C	09/03/08	Revised report based upon FCC comments	M.Kuo

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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 MODEM

**MODEL:** COMPASS 888

**SERIAL NUMBER:** S7411280028E1-0C

**DATE TESTED:** JUNE 20 - 23, 2008

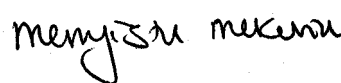
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H and 24E (Radiated Emissions)	PASS
IC RSS-132 ISSUE 2 and RSS-133 ISSUE 4 (Radiated Emissions)	PASS

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:

Tested By:



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THU CHAN  
EMC SUPERVISOR  
COMPLIANCE CERTIFICATION SERVICES

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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
Power Line Conducted Emission	+/- 2.3 dB
Radiated Emission	+/- 3.4 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.

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

<u>Application</u>	<u>Rev. License</u>
WCDMA	A.09.06
GSM/GPRS	A.06.31

#### GSM Mode

- To reset the Agilent 8960 to default all values > Shift & Preset
- To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob
  - > RF IN/OUT Amptd Offset
  - > RF IN/OUT Amptd Offset Setup
  - > Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e. -35 is greater than -30).

#### Control

- Operating Mode > Active Cell (GSM)
- Connection Type > Auto (For Voice Mode)

#### Call Parm

- BCH Parameters > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA
  - > Cell Band > PCS or GSM850 (US band)
- TCH Parameters > Timeslot > 1
  - > Traffic Channel > PCS Channel 512 / 661 / 810
  - > GSM850 Channel 128 / 190 / 251
  - > MS TX Level > 1 (for both PCS or GSM850)
  - > Timeslot > 1
  - > Speech Setup > Speech Source > Echo (Default)
- Press "Originate Call"

### GPRS Mode

- To reset the Agilent 8960 to default all values > Shift & Preset
- To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob
  - > RF IN/OUT Amptd Offset
  - > RF IN/OUT Amptd Offset Setup
  - > Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e. -35 is greater than -30).

#### Control

- Operating Mode > Active Cell (GPRS)
- Connection Type > ETSI Type A (For Data Mode)

#### Call Parm

- BCH Parameters > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA
  - > Cell Band > PCS or GSM850 (US band)
- TCH Parameters > Traffic Channel
  - > PCS Channel 512 / 661 / 810
  - > GSM850 Channel 128 / 190 / 251
  - > MS TX Level > 3 (33dBm for Cell band); 3 (30dBm for PCS band)
- PDTCH > Multislot Config > 1 Down, 2 Up
  - > MS TX Level > 5 (33dBm Cell band); 1 (30dBm PCS band)
  - > Coding Scheme > CS-4
- After the 8960 attaches to the EUT, then press "Start Data Connection"

### EGPRS Mode

- To reset the Agilent 8960 to default all values > Shift & Preset
- To adjust Input/Output offset, press SYSTEM CONFIG button above the control knob
  - > RF IN/OUT Amptd Offset
  - > RF IN/OUT Amptd Offset Setup
  - > Enter frequencies to be tested and corresponding offsets (enter negative values for offset, i.e. -35 is greater than -30).

#### Control

- Operating Mode > Active Cell (EGPRS)
- Connection Type > ETSI Type A (For Data Mode)

#### Call Parm

- BCH Parameters > Cell Power > adjust to (~ -50dBm) to maintain strong link OTA
  - > Cell Band > PCS or GSM850 (US band)
- TCH Parameters > Traffic Band
  - > PCS Channel 512 / 661 / 810
  - > GSM850 Channel 128 / 190 / 251
  - > MS TX Level > 6 (27 dBm Cell band); 5 (26 dBm PCS band)
- PDTCH > Multislot Config > 1 Down, 2 Up
  - > MS TX Level > 6 (27dBm Cell band); 5 (26dBm PCS band)
  - > Modulation Coding Scheme
    - > Uplink Modulation Coding Scheme > MCS 9
- After the 8960 attaches to the EUT, then press "Start Data Connection"

Application                      Rev. License  
WCDMA Mobile Test              A.09.06

WCDMA

- Call Setup > Shift & Preset
- Cell Parameters: PS Domain Information > Present
  - ATT (IMSI Attach) Flag State > Set
- Security Parameter - System Operations > None
- Channel Type:
  - RMC: 12.2k, 64k, 144k, or 384k
  - AMC: 12.2 UL / 64/ DL AM RMC, 12.2 UL / 144/ DL AM RMC, or 12.2 UL / 384/ DL AM RMC,
  
- Paging Service: RB Test Mode
- Channel (UARFCN) Params:

	<u>PCS band</u>	<u>Cell band</u>
▪ DL Channel:	9662 / 9800 / 9938	4357 / 4407 / 4458
▪ UL Channel:	9262 / 9400 / 9538	4132 / 4182 / 4233
  
- DL DTCH Data: All Ones
- RLC Reestablish: Off
- Call Limit State: Off
- Call Drop Timer: Off
- SRB Config.: 13.6k DCCH
- UE Target Power: 25 dBm
- UL CL Power Ctrl Parameters
  - UL CL Power Ctrl Mode: All Up Bits



### 5.3. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power.

### 5.4. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Dell	LATITUDE D620	(01)07898349890528	DoC
Laptop AC Adapter	Dell	LA65NS0-00	CN-0DF263-71615-66C-2E23	DoC
Communications Test Set	Agilent	E5515C	GB46160222	DoC

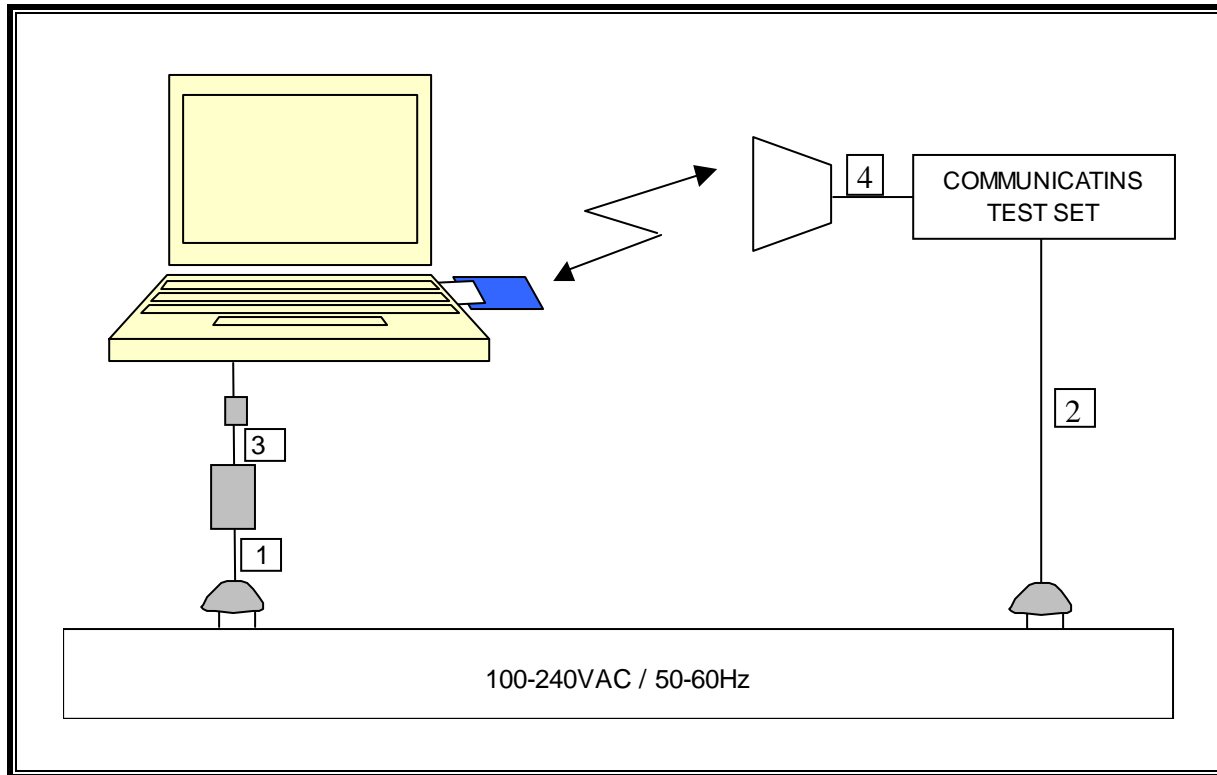
#### I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC Input	1	2-Prong	Un-Shielded	2.0 m	N/A
2	AC Input	1	3-Prong	Un-Shielded	2.0 m	N/A
3	DC Input	1	Mini-Jack	Un-Shielded	2.0 m	Ferrites on Cradle and PC Ends
4	RF In/Out	1	SMA	Un-shielded	1.5 m	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, 1300 MHz	Agilent / HP	8447D	C00885	3/31/2009
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	8/3/2008
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	8/3/2008
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	9/28/2008
Antenna, Horn, 18 GHz	EMCO	3115	C00872	4/22/2009
Antenna, Horn, 18 GHz	EMCO	3115	C00945	4/22/2009
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	6/28/2009
2.7GHz HPF	MicroTronic	HPM13194	2	CNR
1.5GHz HPF	MicroTronic	HPM13195	1	CNR
Communication Test Set	R & S	CMU 200	C01131	5/16/2009
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

850 MHz GPRS Mode

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	32.90	1949.84
Middle	837.0	32.10	1621.81
High	848.8	30.20	1047.13

850 MHz EGPRS Mode

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	30.50	1122.02
Middle	837.0	29.60	912.01
High	848.8	27.60	575.44

850 MHz WCDMA Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.2	23.30	213.80
Middle	836.4	26.20	416.87
High	846.6	24.50	281.84

1900 MHz GPRS Mode

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	31.70	1479.11
Middle	1880.0	31.60	1445.44
High	1909.8	31.90	1548.82

1900 MHz EGPRS Mode

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	27.80	602.56
Middle	1880.0	27.20	524.81
High	1909.8	26.90	489.78

1900 MHz WCDMA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.4	28.70	741.31
Middle	1880.0	28.70	741.31
High	1907.6	28.80	758.58

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

High Frequency Substitution Measurement									
Compliance Certification Services, Fremont 5m Chamber									
Company:		SIERRA WIRELESS							
Project #:		08U11897							
Date:		6/21/2008							
Test Engineer:		MENGISTU MEKURIA							
Configuration:		EUT WITH SUPORT LAPTOP							
Mode:		TX, CELL GPRS 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, Thanh cable									
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	105.3	V	29.7	0.5	0.0	29.2	38.5	-9.3	
824.20	107.9	H	33.4	0.5	0.0	32.9	38.5	-5.5	
836.60	103.6	V	28.0	0.6	0.0	27.4	38.5	-11.0	
836.60	107.8	H	32.7	0.6	0.0	32.1	38.5	-6.4	
848.80	102.3	V	27.1	0.7	0.0	26.4	38.5	-12.0	
848.80	106.9	H	30.9	0.7	0.0	30.2	38.5	-8.3	
Rev. 1.24.7									

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

High Frequency Substitution Measurement Compliance Certification Services, Fremont 5m Chamber									
Company:		SIERRA WIRELESS							
Project #:		08U11897							
Date:		6/21/2008							
Test Engineer:		MENGISTU MEKURIA							
Configuration:		EUT WITH SUPORT LAPTOP							
Mode:		TX, CELL EGPRS 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, Thanh cable									
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	102.9	V	27.3	0.5	0.0	26.8	38.5	-11.7	
824.20	105.5	H	31.0	0.5	0.0	30.5	38.5	-7.9	
836.60	101.2	V	25.6	0.6	0.0	25.0	38.5	-13.5	
836.60	105.3	H	30.2	0.6	0.0	29.6	38.5	-8.8	
848.80	99.9	V	24.7	0.7	0.0	24.0	38.5	-14.4	
848.80	104.3	H	28.3	0.7	0.0	27.6	38.5	-10.9	
Rev. 1.24.7									



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

High Frequency Substitution Measurement									
Compliance Certification Services, Fremont 5m Chamber A									
Company:		SIERRA WIRELESS							
Project #:		08U11897							
Date:		6/22/2008							
Test Engineer:		MENGISTU MEKURIA							
Configuration:		EUT WITH SUPORT LAPTOP							
Mode:		TX, CELL WCDMA MODE							
<b>Test Equipment:</b>									
Receiving: Sunol T130, and 5m Chamber N-type Cable (Setup this one for testing EUT)									
Substitution: Dipole S/N: 00022117, and 4ft SMA Cable Warehouse S/N: 187208002.									
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
826.20	94.9	V	20.4	0.5	0.0	19.9	38.5	-18.5	
826.20	100.0	H	23.8	0.5	0.0	23.3	38.5	-15.2	
836.40	97.0	V	22.2	0.6	0.0	21.6	38.5	-16.9	
836.40	102.4	H	26.8	0.6	0.0	26.2	38.5	-12.3	
846.60	95.9	V	21.8	0.7	0.0	21.1	38.5	-17.3	
846.60	100.9	H	25.2	0.7	0.0	24.5	38.5	-14.0	
Rev. 1.24.7									

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

High Frequency Fundamental Measurement									
Compliance Certification Services, Fremont 5m Chamber A									
Company:		SIERRA WIRELESS							
Project #:		08U11897							
Date:		6/20/2008							
Test Engineer:		MENGISTU MEKURIA							
Configuration:		EUT WITH SUPORT LAPTOP							
Mode:		TX, PCS GPRS MODE							
<u>Test Equipment:</u>									
Receiving: Horn T60, and 12ft S/N: 197209005 (Setup this one for testing EUT)									
Substitution: Horn T73 Substitution, 4ft SMA Cable Warehouse S/N: 177081003									
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
1.850	96.8	V	24.2	0.7	8.3	31.7	33.0	-1.3	
1.850	88.9	H	15.7	0.7	8.3	23.3	33.0	-9.7	
1.880	96.4	V	24.0	0.7	8.3	31.6	33.0	-1.4	
1.880	87.7	H	14.7	0.7	8.3	22.3	33.0	-10.7	
1.910	96.6	V	24.2	0.7	8.4	31.9	33.0	-1.1	
1.910	88.6	H	15.7	0.7	8.4	23.4	33.0	-9.7	
Rev. 1.24.7									

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

High Frequency Fundamental Measurement									
Compliance Certification Services, Fremont 5m Chamber A									
Company:		SIERRA WIRELESS							
Project #:		08U11897							
Date:		6/20/2008							
Test Engineer:		MENGISTU MEKURIA							
Configuration:		EUT WITH SUPORT LAPTOP							
Mode:		TX, PCS EGPRS MODE							
<u>Test Equipment:</u>									
Receiving: Horn T60, and 12ft S/N: 197209005 (Setup this one for testing EUT)									
Substitution: Horn T73 Substitution, 4ft SMA Cable Warehouse S/N: 177081003									
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
1.850	92.8	V	20.2	0.7	8.3	27.8	33.0	-5.2	
1.850	87.6	H	14.4	0.7	8.3	21.9	33.0	-11.1	
1.880	92.0	V	19.6	0.7	8.3	27.2	33.0	-5.8	
1.880	86.7	H	13.8	0.7	8.3	21.4	33.0	-11.7	
1.910	91.6	V	19.2	0.7	8.4	26.9	33.0	-6.1	
1.910	86.4	H	13.5	0.7	8.4	21.2	33.0	-11.8	
Rev. 1.24.7									

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

High Frequency Fundamental Measurement									
Compliance Certification Services, Fremont 5m Chamber A									
Company:		SIERRA WIRELESS							
Project #:		08U11897							
Date:		6/22/2008							
Test Engineer:		MENGI STU MEKURIA							
Configuration:		EUT WITH SUPORT LAPTOP							
Mode:		TX, PCS WCDMA MODE							
<b>Test Equipment:</b>									
Receiving: Horn T60, and 12ft S/N: 197209005 (Setup this one for testing EUT) Thanh Cable									
Substitution: Horn T73 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
<b>Low Ch</b>									
1.852	90.0	V	21.3	0.9	8.3	28.7	33.0	-4.3	
1.852	86.4	H	16.9	0.9	8.3	24.3	33.0	-8.7	
<b>Mid Ch</b>									
1.880	89.6	V	21.3	0.9	8.3	28.7	33.0	-4.3	
1.880	84.5	H	15.2	0.9	8.3	22.6	33.0	-10.4	
<b>High Ch</b>									
1.908	89.5	V	21.3	0.9	8.4	28.8	33.0	-4.2	
1.908	85.4	H	16.2	0.9	8.4	23.7	33.0	-9.4	
Rev. 1.24.7									

## **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**

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 A-Chamber

Company: SIERRA WIRELESS  
 Project #: 08U11897  
 Date: 6/22/2008  
 Test Engineer: MENGISTU MEKURIA  
 Configuration: EUT WITH SUPORT LAPTOP  
 Mode: TX, CELL GPRS MODE

**Test Equipment:**

EMCO Horn 1-18GHz

Horn > 18GHz

Limit

High Pass Filter

T60; S/N: 2238 @3m

ERP

Hi Frequency Cables

(2 ft)

(2~3 ft)

(4~6 ft)

(12 ft)

Pre-amplifier 1-26GHz

Pre-amplifier 26-40GHz

T144 Miteq 3008A0t

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. (824.2 MHz)</b>										
1.648	68.6	V	-38.5	3.8	7.1	4.9	-37.4	-13.0	-24.4	
2.473	71.0	V	-33.3	4.9	9.3	7.1	-31.1	-13.0	-18.1	
3.297	49.0	V	-51.5	5.6	9.4	7.3	-49.8	-13.0	-36.8	
1.648	62.4	H	-43.9	3.8	7.1	4.9	-42.9	-13.0	-29.9	
2.473	69.9	H	-34.1	4.9	9.3	7.1	-31.9	-13.0	-18.9	
3.297	45.7	H	-54.6	5.6	9.4	7.3	-52.9	-13.0	-39.9	
<b>Mid Ch. (836.6 MHz)</b>										
1.673	66.0	V	-41.0	3.9	7.2	5.0	-39.9	-13.0	-26.9	
2.510	67.0	V	-37.1	4.9	9.3	7.1	-34.9	-13.0	-21.9	
3.346	47.9	V	-52.4	5.6	9.5	7.3	-50.7	-13.0	-37.7	
1.673	62.8	H	-43.5	3.9	7.2	5.0	-42.4	-13.0	-29.4	
2.510	64.8	H	-39.1	4.9	9.3	7.1	-36.9	-13.0	-23.9	
3.346	45.4	H	-54.7	5.6	9.5	7.3	-53.0	-13.0	-40.0	
<b>Hi Ch. (848.8 MHz)</b>										
1.698	62.8	V	-44.2	3.9	7.2	5.1	-43.0	-13.0	-30.0	
2.546	63.1	V	-40.7	4.9	9.3	7.1	-38.6	-13.0	-25.6	
3.395	48.2	V	-51.8	5.7	9.5	7.3	-50.1	-13.0	-37.1	
1.698	60.6	H	-45.6	3.9	7.2	5.1	-44.4	-13.0	-31.4	
2.546	61.8	H	-41.9	4.9	9.3	7.1	-39.7	-13.0	-26.7	
3.395	45.5	H	-54.4	5.7	9.5	7.3	-52.8	-13.0	-39.8	

Rev. 4.12.7

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

**High Frequency Substitution Measurement**  
 Compliance Certification Services, Fremont 5m A-Chamber

Company: SIERRA WIRELESS  
 Project #: 08U11897  
 Date: 6/22/2008  
 Test Engineer: MENGISTU MEKURIA  
 Configuration: EUT WITH SUPORT LAPTOP  
 Mode: TX, CELL EGPRS MODE

**Test Equipment:**

EMCO Horn 1-18GHz  
T60; S/N: 2238 @3m

Horn > 18GHz

Limit  
ERP

High Pass Filter

HI Frequency Cables  
 (2 ft)    (2~3 ft)    (4~6 ft)    (12 ft)

Pre-amplifier 1-26GHz  
T144 Miteq 3008A01

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
<b>Low Ch. (824.2 MHz)</b>										
1.648	63.5	V	-43.6	3.8	7.1	4.9	-42.6	-13.0	-29.6	
2.473	59.5	V	-44.8	4.9	9.3	7.1	-42.5	-13.0	-29.5	
3.297	46.5	V	-54.0	5.6	9.4	7.3	-52.3	-13.0	-39.3	
1.648	58.3	H	-48.0	3.8	7.1	4.9	-47.0	-13.0	-34.0	
2.473	58.9	H	-45.1	4.9	9.3	7.1	-42.9	-13.0	-29.9	
3.297	46.1	H	-54.2	5.6	9.4	7.3	-52.5	-13.0	-39.5	
<b>Mid Ch. (836.6 MHz)</b>										
1.673	60.4	V	-46.6	3.9	7.2	5.0	-45.5	-13.0	-32.5	
2.510	54.6	V	-49.5	4.9	9.3	7.1	-47.3	-13.0	-34.3	
3.346	46.4	V	-53.9	5.6	9.5	7.3	-52.2	-13.0	-39.2	
1.673	58.4	H	-47.9	3.9	7.2	5.0	-46.8	-13.0	-33.8	
2.510	51.2	H	-52.6	4.9	9.3	7.1	-50.4	-13.0	-37.4	
3.346	46.0	H	-54.1	5.6	9.5	7.3	-52.4	-13.0	-39.4	
<b>Hi Ch. (848.8 MHz)</b>										
1.698	60.2	V	-46.7	3.9	7.2	5.1	-45.5	-13.0	-32.5	
2.546	52.7	V	-51.1	4.9	9.3	7.1	-49.0	-13.0	-36.0	
3.395	46.3	V	-53.7	5.7	9.5	7.3	-52.1	-13.0	-39.1	
1.698	57.1	H	-49.1	3.9	7.2	5.1	-47.9	-13.0	-34.9	
2.546	51.9	H	-51.8	4.9	9.3	7.1	-49.6	-13.0	-36.6	
3.395	46.5	H	-53.5	5.7	9.5	7.3	-51.8	-13.0	-38.8	

Rev. 4.12.7

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

**High Frequency Substitution Measurement**  
 Compliance Certification Services, Fremont 5m A-Chamber

Company: SIERRA WIRELESS  
 Project #: 08U11897  
 Date: 6/22/2008  
 Test Engineer: MENGISTU MEKURIA  
 Configuration: EUT WITH SUPORT LAPTOP  
 Mode: TX, PCS WCDMA MODE

**Test Equipment:**

EMC O Horn 1-18GHz  
 T60; S/N: 2238 @3m

Horn > 18GHz

Limit  
 ERP

High Pass Filter

Hi Frequency Cables  
 (2 ft)    (2~3 ft)    (4~6 ft)    (12 ft)

Pre-amplifier 1-26GHz  
 T144 Miteq 3008A0

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
<b>Low Ch. (826.2 MHz)</b>										
1.652	53.4	V	-53.7	3.8	7.1	4.9	-52.6	-13.0	-39.6	
2.479	49.2	V	-55.0	4.9	9.3	7.1	-52.8	-13.0	-39.8	
3.305	46.9	V	-53.5	5.6	9.4	7.3	-51.8	-13.0	-38.8	
1.652	55.3	H	-51.1	3.8	7.1	4.9	-50.0	-13.0	-37.0	
2.479	47.3	H	-56.8	4.9	9.3	7.1	-54.5	-13.0	-41.5	
3.305	45.9	H	-54.4	5.6	9.4	7.3	-52.7	-13.0	-39.7	
<b>Mid Ch. (836.4 MHz)</b>										
1.673	52.8	V	-54.2	3.9	7.2	5.0	-53.0	-13.0	-40.0	
2.509	48.6	V	-55.5	4.9	9.3	7.1	-53.3	-13.0	-40.3	
3.346	46.2	V	-54.0	5.6	9.5	7.3	-52.3	-13.0	-39.3	
1.673	54.0	H	-52.3	3.9	7.2	5.0	-51.2	-13.0	-38.2	
2.509	46.1	H	-57.8	4.9	9.3	7.1	-55.6	-13.0	-42.6	
3.346	44.3	H	-55.8	5.6	9.5	7.3	-54.1	-13.0	-41.1	
<b>Hi Ch. (846.6 MHz)</b>										
1.693	54.4	V	-52.6	3.9	7.2	5.1	-51.4	-13.0	-38.4	
2.540	49.7	V	-54.2	4.9	9.3	7.1	-52.0	-13.0	-39.0	
3.386	47.3	V	-52.8	5.7	9.5	7.3	-51.1	-13.0	-38.1	
1.693	55.6	H	-50.6	3.9	7.2	5.1	-49.4	-13.0	-36.4	
2.540	47.3	H	-56.4	4.9	9.3	7.1	-54.2	-13.0	-41.2	
3.386	45.3	H	-54.7	5.7	9.5	7.3	-53.0	-13.0	-40.0	

Rev. 4.12.7



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

**High Frequency Substitution Measurement**  
 Compliance Certification Services, Fremont 5m A-Chamber

Company: SIERRA WIRELESS  
 Project #: 08U11897  
 Date: 6/22/2008  
 Test Engineer: MENGISTU MEKURIA  
 Configuration: EUT WITH SUPORT LAPTOP  
 Mode: TX , PCS GPRS MODE

**Test Equipment:**

EMCO Horn 1-18GHz  
T60; S/N: 2238 @3m

Horn > 18GHz

Limit  
EIRP

High Pass Filter

Hi Frequency Cables  
 (2 ft)    (2 ~ 3 ft)    (4 ~ 6 ft)    (12 ft)

Pre-amplifier 1-26GHz  
 T144 Miteq 3008A00

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. (1850.2 MHz)</b>										
3.700	60.7	V	-38.2	5.9	9.7	7.5	-34.5	-13.0	-21.5	
5.551	53.1	V	-40.3	7.4	11.0	8.9	-36.6	-13.0	-23.6	
7.401	54.9	V	-35.8	8.3	12.0	9.8	-32.1	-13.0	-19.1	
9.251	46.8	V	-43.0	9.3	12.7	10.5	-39.6	-13.0	-26.6	
11.101	47.6	H	-37.1	11.2	13.8	11.6	-34.5	-13.0	-21.5	
3.700	58.8	H	-40.0	5.9	9.7	7.5	-36.3	-13.0	-23.3	
5.551	52.7	H	-39.6	7.4	11.0	8.9	-36.0	-13.0	-23.0	
7.401	49.9	H	-40.0	8.3	12.0	9.8	-36.3	-13.0	-23.3	
9.251	46.6	H	-43.2	9.3	12.7	10.5	-39.8	-13.0	-26.8	
11.101	47.0	H	-37.7	11.2	13.8	11.6	-35.1	-13.0	-22.1	
<b>Mid Ch. (1880 MHz)</b>										
3.760	56.5	V	-42.1	6.0	9.7	7.5	-38.4	-13.0	-25.4	
5.640	53.6	V	-39.9	7.4	11.2	9.0	-36.2	-13.0	-23.2	
7.520	55.9	V	-34.6	8.3	12.0	9.8	-31.0	-13.0	-18.0	
9.400	45.8	V	-43.6	9.4	12.7	10.6	-40.3	-13.0	-27.3	
11.280	47.1	V	-37.7	11.4	13.9	11.8	-35.2	-13.0	-22.2	
3.760	59.7	H	-38.9	6.0	9.7	7.5	-35.2	-13.0	-22.2	
5.640	50.0	H	-42.5	7.4	11.2	9.0	-38.8	-13.0	-25.8	
7.520	52.4	H	-37.3	8.3	12.0	9.8	-33.6	-13.0	-20.6	
9.400	45.8	H	-43.6	9.4	12.7	10.6	-40.3	-13.0	-27.3	
11.280	47.0	H	-37.2	11.4	13.9	11.8	-34.7	-13.0	-21.7	
<b>Hi Ch. (1909.8 MHz)</b>										
3.820	58.5	V	-40.0	6.0	9.7	7.6	-36.3	-13.0	-23.3	
5.730	55.3	V	-38.3	7.5	11.3	9.2	-34.5	-13.0	-21.5	
7.639	52.7	V	-37.5	8.4	12.0	9.8	-33.9	-13.0	-20.9	
9.549	46.4	V	-42.7	9.6	12.7	10.6	-39.5	-13.0	-26.5	
11.459	47.3	V	-37.1	11.6	14.0	11.9	-34.7	-13.0	-21.7	
3.820	58.9	H	-39.5	6.0	9.7	7.6	-35.8	-13.0	-22.8	
5.730	55.3	H	-37.3	7.5	11.3	9.2	-33.5	-13.0	-20.5	
7.639	52.0	H	-37.4	8.4	12.0	9.8	-33.8	-13.0	-20.8	
9.549	46.4	H	-42.7	9.6	12.7	10.6	-39.5	-13.0	-26.5	
11.459	46.4	H	-37.4	11.6	14.0	11.9	-35.0	-13.0	-22.0	

Rev. 4.12.7

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

**High Frequency Substitution Measurement**  
 Compliance Certification Services, Fremont 5m A-Chamber

Company: SIERRA WIRELESS  
 Project #: 08U11897  
 Date: 6/22/2008  
 Test Engineer: MENGISTU MEKURIA  
 Configuration: EUT WITH SUPORT LAPTOP  
 Mode: TX, PCS EGPRS MODE

**Test Equipment:**

EMCO Horn 1-18GHz  
T60; S/N: 2238 @3m

Horn > 18GHz

Limit  
EIRP

High Pass Filter

Hi Frequency Cables  
 (2 ft)  (2~3 ft)  (4~6 ft)  (12 ft)

Pre-amplifier 1-26GHz  
T144 Miteq 3008A0f

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. (1850.2 MHz)</b>										
3.700	58.9	V	-40.0	5.9	9.7	7.5	-36.3	-13.0	-23.3	
5.551	55.5	V	-37.9	7.4	11.0	8.9	-34.2	-13.0	-21.2	
7.401	54.1	V	-36.6	8.3	12.0	9.8	-32.9	-13.0	-19.9	
9.251	46.4	V	-43.3	9.3	12.7	10.5	-39.9	-13.0	-26.9	
11.101	47.9	V	-37.4	11.2	13.8	11.6	-34.8	-13.0	-21.8	
3.700	58.2	H	-40.6	5.9	9.7	7.5	-36.9	-13.0	-23.9	
5.551	57.0	H	-35.4	7.4	11.0	8.9	-31.7	-13.0	-18.7	
7.401	50.2	H	-39.8	8.3	12.0	9.8	-36.0	-13.0	-23.0	
9.251	46.4	H	-43.3	9.3	12.7	10.5	-39.9	-13.0	-26.9	
11.101	47.5	H	-37.1	11.2	13.8	11.6	-34.5	-13.0	-21.5	
<b>Mid Ch. (1880 MHz)</b>										
3.760	57.8	V	-40.9	6.0	9.7	7.5	-37.2	-13.0	-24.2	
5.640	52.9	V	-40.5	7.4	11.2	9.0	-36.8	-13.0	-23.8	
7.520	55.8	V	-34.7	8.3	12.0	9.8	-31.1	-13.0	-18.1	
9.400	46.6	V	-42.8	9.4	12.7	10.6	-39.5	-13.0	-26.5	
11.280	46.3	V	-38.5	11.4	13.9	11.8	-36.0	-13.0	-23.0	
3.760	57.5	H	-41.1	6.0	9.7	7.5	-37.4	-13.0	-24.4	
5.640	58.8	H	-33.7	7.4	11.2	9.0	-30.0	-13.0	-17.0	
7.520	51.4	H	-38.3	8.3	12.0	9.8	-34.6	-13.0	-21.6	
9.400	46.5	H	-42.9	9.4	12.7	10.6	-39.6	-13.0	-26.6	
11.280	48.0	H	-36.2	11.4	13.9	11.8	-33.7	-13.0	-20.7	
<b>Hi Ch. (1909.8 MHz)</b>										
3.820	58.4	V	-40.0	6.0	9.7	7.6	-36.3	-13.0	-23.3	
5.730	55.0	V	-38.5	7.5	11.3	9.2	-34.7	-13.0	-21.7	
7.639	53.7	V	-36.6	8.4	12.0	9.8	-33.0	-13.0	-20.0	
9.549	46.6	V	-42.5	9.6	12.7	10.6	-39.3	-13.0	-26.3	
11.459	47.8	V	-36.5	11.6	14.0	11.9	-34.1	-13.0	-21.1	
3.820	56.7	H	-41.6	6.0	9.7	7.6	-38.0	-13.0	-25.0	
5.730	58.3	H	-34.3	7.5	11.3	9.2	-30.5	-13.0	-17.5	
7.639	52.2	H	-37.2	8.4	12.0	9.8	-33.6	-13.0	-20.6	
9.549	46.8	H	-42.3	9.6	12.7	10.6	-39.1	-13.0	-26.1	
11.459	47.1	H	-36.7	11.6	14.0	11.9	-34.2	-13.0	-21.2	

Rev. 412.7

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

**High Frequency Substitution Measurement**  
 Compliance Certification Services, Fremont 5m A-Chamber

Company: SIERRA WIRELESS  
 Project #: 08U11897  
 Date: 6/22/2008  
 Test Engineer: MENGISTU MEKURIA  
 Configuration: BUT WITH SUPORT LAPTOP  
 Mode: TX, PCS WCDMA MODE

**Test Equipment:**

EMCO Horn 1-18GHz  
T60; S/N: 2238 @3m

Horn > 18GHz

Limit  
EIRP

High Pass Filter

Hi Frequency Cables  
 (2 ft)    (2~3 ft)    (4~6 ft)    (12 ft)

Pre-amplifier 1-26GHz  
T144 Miteq 3008A01

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. (1852.4 MHz)</b>										
3.705	53.8	V	-45.0	5.9	9.7	7.5	-41.3	-13.0	-28.3	
5.557	44.1	V	-49.3	7.4	11.0	8.9	-45.6	-13.0	-32.6	
3.705	55.7	H	-43.0	5.9	9.7	7.5	-39.3	-13.0	-26.3	
5.557	43.9	H	-48.5	7.4	11.0	8.9	-44.9	-13.0	-31.9	
<b>Mid Ch. (1880 MHz)</b>										
3.760	46.0	V	-52.7	6.0	9.7	7.5	-49.0	-13.0	-36.0	
5.640	43.7	V	-49.8	7.4	11.2	9.0	-46.1	-13.0	-33.1	
3.760	47.6	H	-50.9	6.0	9.7	7.5	-47.2	-13.0	-34.2	
5.640	43.4	H	-49.0	7.4	11.2	9.0	-45.3	-13.0	-32.3	
<b>Hi Ch. (1907.6 MHz)</b>										
3.815	52.7	V	-45.8	6.0	9.7	7.6	-42.1	-13.0	-29.1	
5.723	44.2	V	-49.3	7.5	11.3	9.1	-45.5	-13.0	-32.5	
3.815	52.8	H	-45.6	6.0	9.7	7.6	-41.9	-13.0	-28.9	
5.723	42.8	H	-49.7	7.5	11.3	9.1	-45.9	-13.0	-32.9	

Rev. 4.12.7

**RECEIVER SPURIOUS EMISSIONS**

**LIMIT**

Spurious Emission Limits for Receivers:

<b>Spurious Frequency (MHz)</b>	<b>Field Strength (microvolts/m at 3 metres)</b>
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**

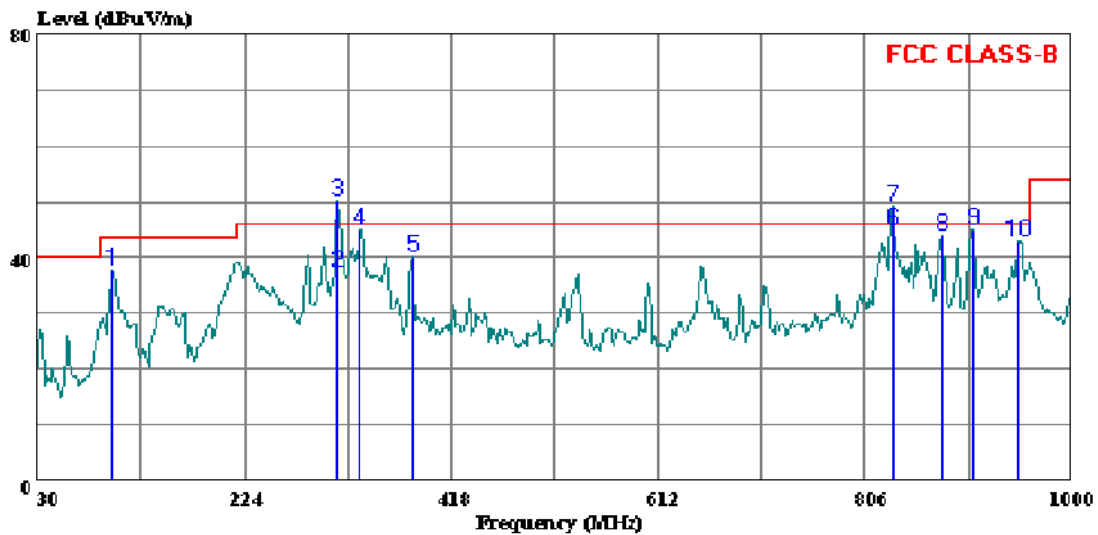
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)**

HORIZONTAL PLOT



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

Data#: 7 File#: 08U11897\_EMI.EMI Date: 06-23-2008 Time: 21:30:37



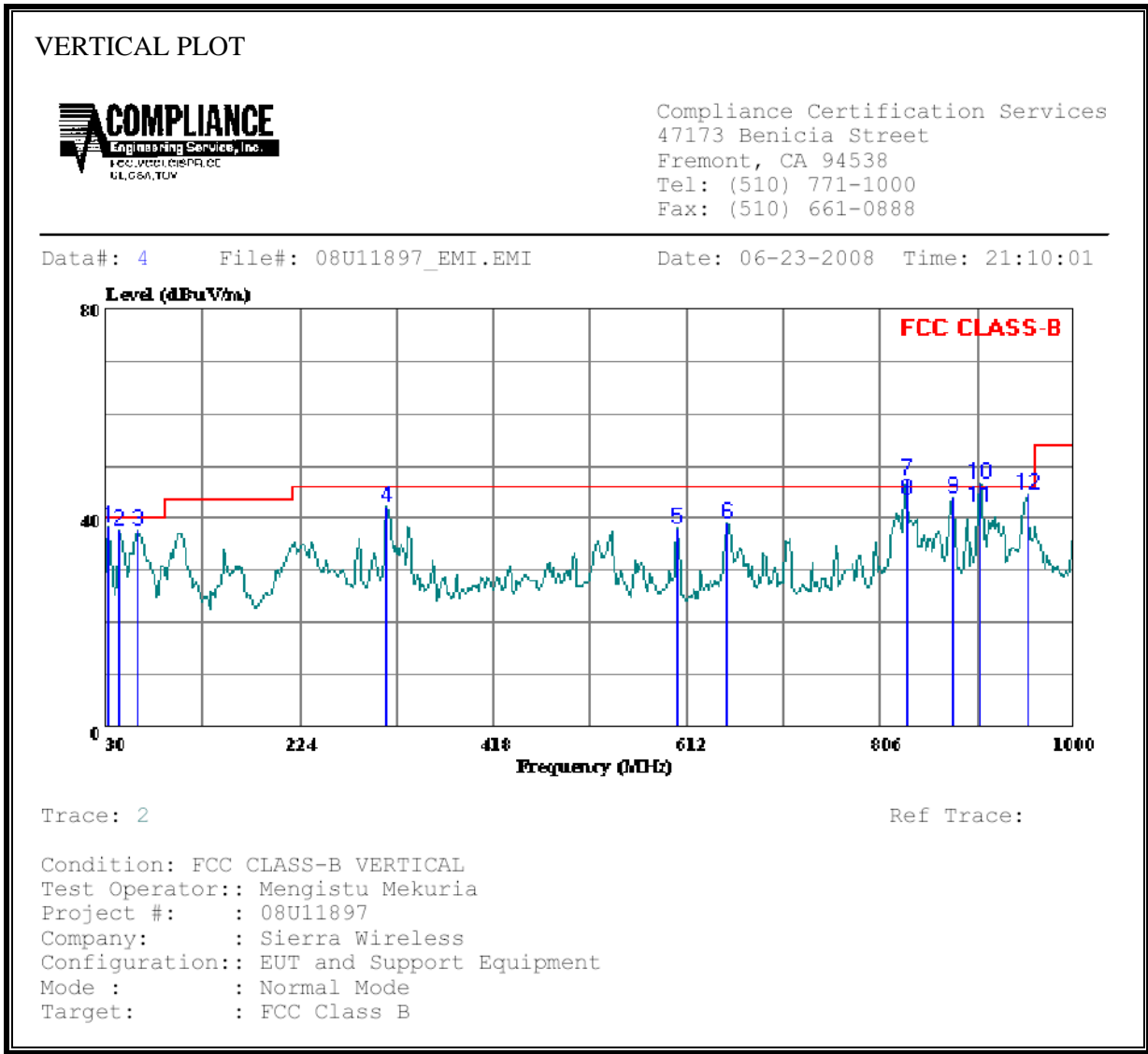
Trace: 5

Ref Trace:

Condition: FCC CLASS-B HORIZONTAL  
Test Operator:: Mengistu Mekuria  
Project #: : 08U11897  
Company: : Sierra Wireless  
Configuration:: EUT and Support Equipment  
Mode : : Normal Mode  
Target: : FCC Class B

HORIZONTAL DATA							
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	99.840	58.53	-20.75	37.78	43.50	-5.72	Peak
2	310.330	53.15	-15.60	37.55	46.00	-8.45	QP
3 *	310.330	65.82	-15.60	50.22	46.00	4.22	Peak
4	332.640	60.14	-14.99	45.15	46.00	-0.85	Peak
5	381.140	54.07	-13.74	40.33	46.00	-5.67	Peak
6	832.190	51.30	-6.21	45.09	46.00	-0.91	QP
7 *	832.190	55.33	-6.21	49.12	46.00	3.12	Peak
8	877.780	49.47	-5.43	44.04	46.00	-1.96	Peak
9	906.880	49.87	-4.88	44.99	46.00	-1.01	Peak
10	950.530	46.90	-3.98	42.92	46.00	-3.08	Peak

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



VERTICAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	31.940	48.30	-10.01	38.29	40.00	-1.71	Peak
2	43.580	55.75	-18.14	37.61	40.00	-2.39	Peak
3	61.040	60.84	-23.14	37.70	40.00	-2.30	Peak
4	310.330	57.80	-15.60	42.20	46.00	-3.80	Peak
5	601.330	47.92	-9.76	38.16	46.00	-7.84	Peak
6	652.740	48.38	-9.21	39.17	46.00	-6.83	Peak
7 *	832.190	53.51	-6.21	47.30	46.00	1.30	Peak
8	832.190	49.80	-6.21	43.59	46.00	-2.41	QP
9	877.780	49.33	-5.43	43.90	46.00	-2.10	Peak
10 *	904.940	51.72	-5.01	46.71	46.00	0.71	Peak
11	904.940	47.40	-5.01	42.39	46.00	-3.61	QP
12	953.440	48.37	-3.85	44.52	46.00	-1.48	Peak



**SPURIOUS EMISSIONS ABOVE 1000 MHz**

**High Frequency Measurement**  
 Compliance Certification Services, Fremont 5m Chamber

Company: SIERRA WIRELESS  
 Project #: 08U11897  
 Date: 6/23/2008  
 Test Engineer: MENGSIU MEKURIA  
 Configuration: EUT AND SUPPORT EQUIPMENT  
 Mode: NORMAL

**Test Equipment:**

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T73; S/N: 6717 @3m	T144 Miteq 3008A00931			FCC 15.209

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
		A-5m Chamber		

**Peak Measurements**  
 RBW=VBW=1MHz  
**Average Measurements**  
 RBW=1MHz, VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filt dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
1.187	3.0	51.4	43.4	26.2	3.2	-39.2	0.0	0.0	41.7	33.6	74	54	-32.3	-20.4	H
1.307	3.0	53.8	33.7	26.5	3.4	-39.1	0.0	0.0	44.7	24.6	74	54	-29.3	-29.4	H
1.470	3.0	62.5	40.1	27.0	3.6	-38.8	0.0	0.0	54.3	31.9	74	54	-19.7	-22.1	H
1.500	3.0	64.1	42.0	27.1	3.7	-38.8	0.0	0.0	56.0	33.9	74	54	-18.0	-20.1	H
1.543	3.0	62.5	37.2	27.2	3.7	-38.7	0.0	0.0	54.7	29.3	74	54	-19.3	-24.7	H
1.833	3.0	55.4	34.8	27.9	4.1	-38.3	0.0	0.0	49.2	28.6	74	54	-24.8	-25.4	H
2.010	3.0	50.4	31.2	28.4	4.3	-38.0	0.0	0.0	45.0	25.9	74	54	-29.0	-28.1	H
1.187	3.0	55.1	48.2	26.2	3.2	-39.2	0.0	0.0	45.4	38.5	74	54	-28.6	-15.5	V
1.307	3.0	54.8	32.1	26.5	3.4	-39.1	0.0	0.0	45.7	23.0	74	54	-28.3	-31.0	V
1.470	3.0	68.0	45.9	27.0	3.6	-38.8	0.0	0.0	59.8	37.7	74	54	-14.2	-16.3	V
1.500	3.0	66.6	44.3	27.1	3.7	-38.8	0.0	0.0	58.5	36.2	74	54	-15.5	-17.8	V
1.543	3.0	64.3	36.9	27.2	3.7	-38.7	0.0	0.0	56.5	29.0	74	54	-17.5	-25.0	V
1.833	3.0	58.1	34.8	27.9	4.1	-38.3	0.0	0.0	51.9	28.5	74	54	-22.1	-25.5	V
2.010	3.0	52.1	32.7	28.4	4.3	-38.0	0.0	0.0	46.8	27.4	74	54	-27.2	-26.6	V
2.613	3.0	54.7	31.9	29.8	5.0	-37.4	0.0	0.0	52.0	29.2	74	54	-22.0	-24.8	V

Rev. 412.7

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

## 7.2. 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*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

### RESULTS

No non-compliance noted:

**6 WORST EMISSIONS**

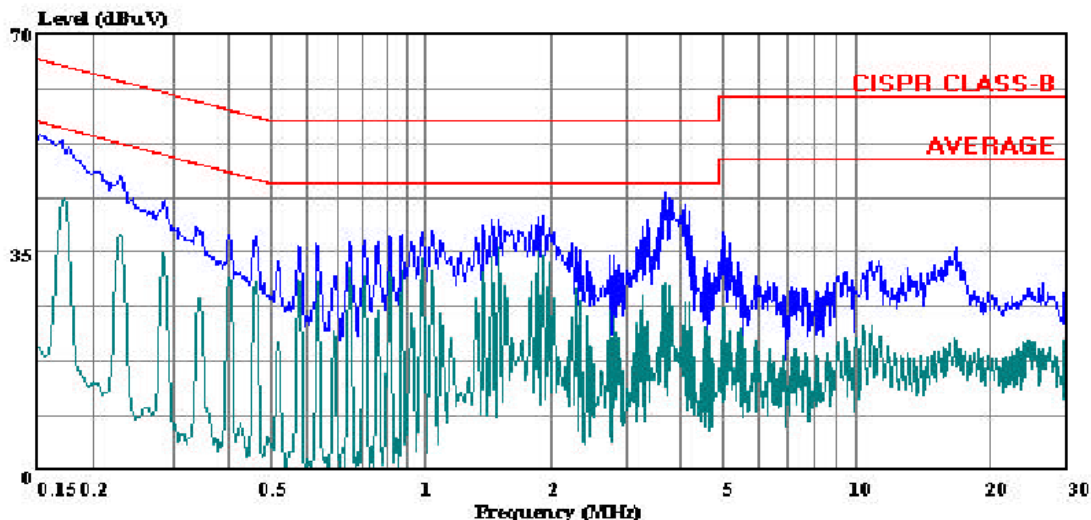
CONDUCTED EMISSIONS DATA (115VAC 60Hz)										
Freq. (MHz)	Reading			Class (dB)	Limit QP	EN B		Margin		Remark L1 / L2
	PK (dBuV)	QP (dBuV)	AV (dBuV)			AV	QP (dB)	AV (dB)		
0.17	53.06	--	43.78	0.00	65.01	55.01	-11.95	-11.23	L1	
0.23	47.38	--	37.92	0.00	62.31	52.31	-14.93	-14.39	L1	
3.80	44.56	--	30.02	0.00	56.00	46.00	-11.44	-15.98	L1	
0.17	54.46	--	43.09	0.00	65.01	55.01	-10.55	-11.92	L2	
0.23	47.94	--	37.22	0.00	62.49	52.49	-14.55	-15.27	L2	
4.09	46.09	--	30.95	0.00	56.00	46.00	-9.91	-15.05	L2	
6 Worst Data										

**LINE 1 RESULTS**



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

Data#: 14 File#: 08U11897 LC.EMI Date: 06-23-2008 Time: 19:30:27



(Line Conduction)

Trace: 12

Ref Trace:

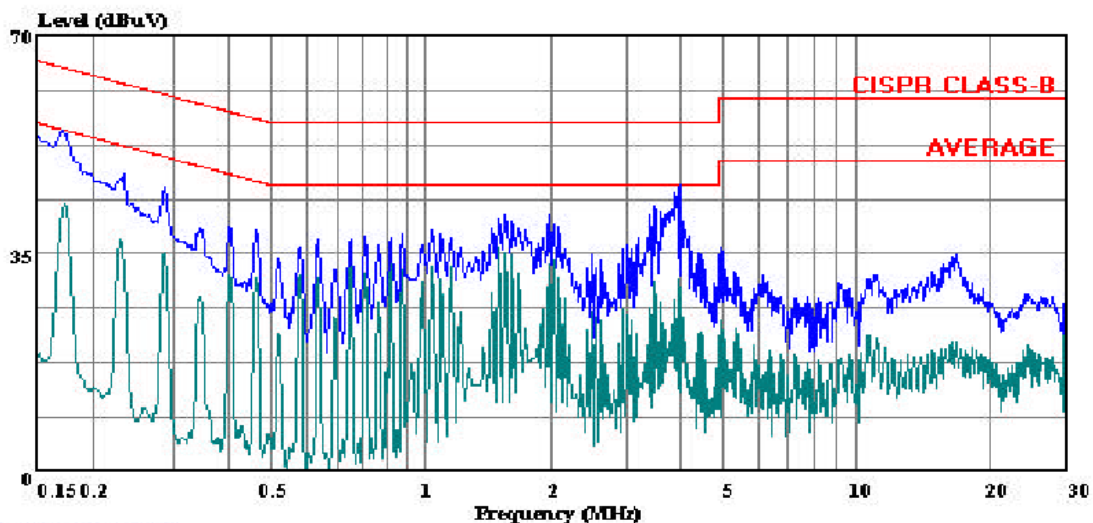
Condition: CISPR CLASS-B  
Test Operator: Mengistu Mekuria  
Project #: 08U11897  
Company: Sierra Wireless  
Configuration: EUT and Support Equipment  
Mode: Normal  
Target: FCC Class B  
Voltage: 115VAC 60Hz  
: L1: Peak (Blue); Average (Green)

**LINE 2 RESULTS**



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

Data#: 7 File#: 08U11897 LC.EMI Date: 06-23-2008 Time: 19:11:17



(Line Conduction)

Trace: 5

Ref Trace:

Condition: CISPR CLASS-B  
Test Operator:: Mengistu Mekuria  
Project #: : 08U11897  
Company: : Sierra Wireless  
Configuration:: EUT and Support Equipment  
Mode: : Normal  
Target: : FCC Class B  
Voltage: : 115VAC 60Hz  
: L2: Peak (Blue); Average (Green)