



**FCC CFR47 PART 22 SUBPART H
AND PART 24 SUBPART E
&
INDUSTRY CANADA RSS-132 AND RSS-133
CERTIFICATION TEST REPORT
FOR**

850/900/1800/1900/2100 MHZ 5-BAND PC CARD

MODEL NUMBER: AirCard 875

FCC ID: N7NAC875

IC: 2417C-AC875

REPORT NUMBER: 06U10399-1B

ISSUE DATE: JULY 28, 2006

Prepared for
**SIERRA WIRELESS INC.
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Prepared by
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LAB CODE:200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
---	07/27/06	Initial Issue	Thu
B	07/28/06	Revised Section 5.3 for more detail on software & firmware. Revised Section 5.4 for worst configuration & mode	Thu

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SIERRA WIRELESS
3811 WIRELESS WAY
RICHMOND, BC V6V 3A4, CANADA

EUT DESCRIPTION: 850/900/1800/1900/2100 MHZ 5-BAND PC CARD

MODEL: AC875

SERIAL NUMBER: S291460014E2

DATE TESTED: JULY 05 -06, 2006

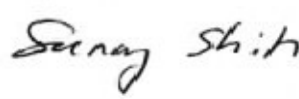
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22 SUBPART H	NO NON-COMPLIANCE NOTED
FCC PART 24 SUBPART E	NO NON-COMPLIANCE NOTED
IC RSS-132 ISSUE 2	NO NON-COMPLIANCE NOTED
IC RSS-133 ISSUE 3	NO NON-COMPLIANCE NOTED

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:



THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

SUNNY SHIH
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603C (2004), ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and FCC CFR 47 Part 22H, 24E, RSS-GEN, RSS132, & RSS133.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, 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
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 an 850/900/1800/1900/2100 MHz 5-Band PC Card and manufactured by Sierra Wireless, Inc.

Only the 850/1900 MHz frequency bands were investigated under this project, and the test result documented in this report only applies to EUT operating in the 850/1900 MHz frequency bands. This device contains 900 MHz / 1800 MHz / 2100 MHz functions but these frequency bands are not operational in the U.S. territories.

5.2. MAXIMUM OUTPUT POWER

Please refer to other RF conducted report attached.

5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was ProcommPlus 4.8, Built 71 by Symantec Corporation for GSM, GPRS and EDGE modulations, and the communication test set is used for WCDMA modulation to configure as below:

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: CCITT PRBS15
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 Ctrl Params: 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

5.4. WORST-CASE CONFIGURATION AND MODE

Based on previous experiment, GPRS 1 slot has the worst case between GSM & GPRS modulations, and the worst case on HSPDA mode for WCDMA modulation.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

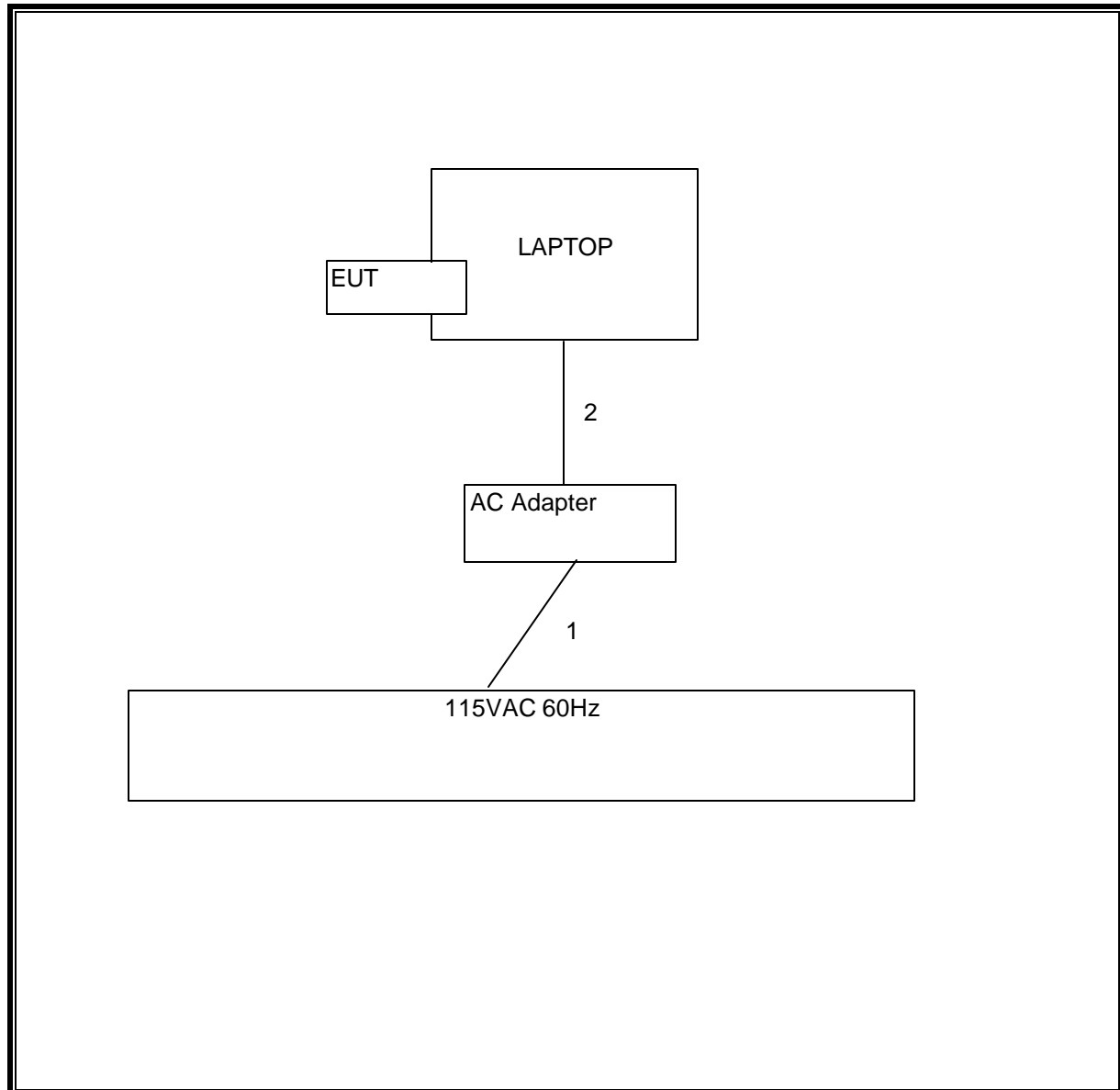
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Lenovo	92P1158	5Y0003830D	DoC
Laptop	IBM	X60S	AA-GH2ZB	DoC

I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US 115V	Un-shielded	2m	NA
2	DC	1	DC	Un-shielded	0.5m	NA

TEST SETUP

The EUT is installed in the PCMCIA slot of laptop during the tests. The ProcommPlus or 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
Spectrum Analyzer 3 Hz ~ 44 GHz	Agilent / HP	E4446A	US42070220	07/29/06
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	2238	04/22/07
Preamplifier, 1 ~ 26 GHz	Miteq	NSP2600-SP	924342	09/02/06
Antenna, Horn 1 ~ 18 GHz	ETS	3117	29301	04/22/07
Preamplifier, 1 ~ 26 GHz	Agilent / HP	8449B	3008A00931	06/24/07
EMI Receiver, 9 kHz ~ 2.9 GHz	Agilent / HP	8542E	3942A00286	02/04/07
RF Filter Section	Agilent / HP	85420E	3705A00256	02/04/07
Antenna, Bilog 30 MHz ~ 2 Ghz	Sunol Sciences	JB1	A121003	09/03/06
Wireless Communication Test Set	Agilent	E5515C	N101149	08/31/06

7. LIMITS AND RESULTS

RESULTS

7.1. RADIATED RF POWER OUTPUT

LIMIT

22.913(a): The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
24.232(b) & RSS-133: 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: 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
The transmitter output is connected to the spectrum analyzer.

RESULTS

No non-compliance noted.

850 MHz GSM Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	29.00	794.33
Middle	836.5	28.70	741.31
High	848.8	29.00	794.33

1900 MHz GSM Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	29.10	812.83
Middle	1880.00	30.10	1023.29
High	1909.8	28.30	676.08

NOTE: RBW=VBW=1MHz.

850 MHz EDGE Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	824.2	27.50	562.34
Middle	836.5	27.30	537.03
High	848.8	28.20	660.69

1900 MHz EDGE Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1850.2	27.20	524.81
Middle	1880.00	28.40	691.83
High	1909.8	26.60	457.09

NOTE: RBW=VBW=1MHz

850 MHz WCDMA Modulation

Channel	Frequency (MHz)	ERP Peak Power (dBm)	ERP Peak Power (mW)
Low	826.5	22.60	181.97
Middle	836.5	23.20	208.93
High	846.6	23.20	208.93

1900 MHz WCDMA Modulation

Channel	Frequency (MHz)	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
Low	1852.4	26.40	436.52
Middle	1880.00	25.40	346.74
High	1907.6	22.70	186.21

NOTE: RBW=VBW=8MHz

GSM Output Power (ERP)

Cellular Fundamental Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Air Card Project #: 06U10399 Date: June 29, 2006 Test Engineer: Gordon Andrews EUT in IBM Thinkpad KS-1 w/AC pwr adapter Mode: GSM850 GPRS mode RBW=VBW=1MHz, Peak Detection <u>Test Equipment:</u> Receiving: EMCO LP T17, and 12 ft Gordon SMA Cable (Setup this one for testing EUT) Substitution: Dipole ETS S/N: 1629, and 6ft SMA Cable Warehouse S/N: 208947 002									
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel									
824.20	102.5	V	28.1	0.5	0.0	27.6	38.5	-10.9	
824.20	103.8	H	29.5	0.5	0.0	29.0	38.5	-9.4	
Mid Channel									
837.00	102.7	V	28.1	0.6	0.0	27.5	38.5	-10.9	
837.00	103.8	H	29.3	0.6	0.0	28.7	38.5	-9.7	
High Channel									
848.80	104.3	V	29.7	0.7	0.0	29.0	38.5	-9.4	
848.80	104.0	H	29.4	0.7	0.0	28.7	38.5	-9.7	

EDGE Output Power (ERP)

Cellular Fundamental Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Air Card Project #: 06U10399 Date: June 29, 2006 Test Engineer: Gordon Andrews EUT in IBM Thinkpad KS-1 w/AC pwr adapter Mode: GSM850 Edge GPRS mode RBW=VBW=1MHz, Peak Detection <u>Test Equipment:</u> Receiving: EMCO LP T17, and 12 ft Gordon SMA Cable (Setup this one for testing EUT) Substitution: Dipole ETS S/N: 1629, and 6ft SMA Cable Warehouse S/N: 208947 002									
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel									
824.20	102.4	V	28.0	0.5	0.0	27.5	38.5	-11.0	
824.20	101.0	H	26.7	0.5	0.0	26.2	38.5	-12.2	
Mid Channel									
837.00	101.4	V	26.8	0.6	0.0	26.2	38.5	-12.2	
837.00	102.4	H	27.9	0.6	0.0	27.3	38.5	-11.1	
High Channel									
848.80	102.5	V	27.9	0.7	0.0	27.2	38.5	-11.2	
848.80	103.5	H	28.9	0.7	0.0	28.2	38.5	-10.2	

WCDMA Output Power (ERP)

Cellular Fundamental Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber Company: Sierra Wireless, Inc. Project #: 06U10399 Date: June 30, 2006 Test Engineer: Sunny Shih Configuration: Laptop with EUT Mode: WCDMA850 RBW=VBW=8MHz, Peak Detection <u>Test Equipment:</u> Receiving: EMCO LP T17, and 12 ft Chin SMA Cable (Setup this one for testing EUT) Substitution: Dipole ETS S/N: 1629, and 6ft SMA Cable Warehouse S/N: 208947 002									
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel									
826.40	95.5	V	21.1	0.5	0.0	20.6	38.5	-17.9	
826.40	97.4	H	23.1	0.5	0.0	22.6	38.5	-15.9	
Mid Channel									
836.40	95.4	V	20.8	0.6	0.0	20.2	38.5	-18.2	
836.40	98.3	H	23.8	0.6	0.0	23.2	38.5	-15.3	
High Channel									
846.60	96.4	V	21.8	0.7	0.0	21.1	38.5	-17.4	
846.60	98.5	H	23.9	0.7	0.0	23.2	38.5	-15.2	

GSM Output Power (EIRP)

PCS Fundamental Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Sierra Wireless Project #: 06U10399 Date: June 29, 2006 Test Engineer: Gordon Andrews Configuration: EUT in IBM Thinkpad KS-1 Mode: GSM1900 GPRS RBW=VBW=1MHz, Peak Detection									
<u>Test Equipment:</u> Receiving: Horn T59, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT) Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002									
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 Channel									
1850	95.7	V	21.7	0.9	8.3	29.1	33.0	-3.9	
1850	91.9	H	15.9	0.9	8.3	23.3	33.0	-9.7	
Mid Channel									
1880	95.8	V	22.7	0.9	8.3	30.1	33.0	-2.9	
1880	93.0	H	18.2	0.9	8.3	25.6	33.0	-7.4	
High Channel									
1910	94.1	V	20.8	0.9	8.4	28.3	33.0	-4.7	
1910	93.2	H	18.1	0.9	8.4	25.6	33.0	-7.4	

EDGE Output Power (EIRP)

PCS Fundamental Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Sierra Wireless, Inc. Project #: 06U10399 Date: June 29, 2006 Test Engineer: Gordon Andrews Configuration: EUT in IBM Thinkpad KS-1 w/AC pwr adapter Mode: GSM1900 Edge GPRS mode RBW=VBW=1MHz, Peak Detection									
<u>Test Equipment:</u> Receiving: Horn T59, and Gordon SMA Cables 2 & 12 ft (Setup this one for testing EUT) Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002									
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 Channel									
1850	93.8	V	19.8	0.9	8.3	27.2	33.0	-5.8	
1850	94.0	H	18.0	0.9	8.3	25.4	33.0	-7.6	
Mid Channel									
1880	94.1	V	21.0	0.9	8.3	28.4	33.0	-4.6	
1880	93.8	H	19.0	0.9	8.3	26.4	33.0	-6.6	
High Channel									
1910	90.7	V	17.4	0.9	8.4	24.9	33.0	-8.1	
1910	94.2	H	19.1	0.9	8.4	26.6	33.0	-6.4	

WCDMA Output Power (EIRP)

PCS Fundamental Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber Company: Sierra Wireless, Inc. Project #: 06U10399 Date: June 30, 2006 Test Engineer: Sunny Shih Configuration: Laptop with EUT Mode: WCDMA1900 RBW=VBW=8MHz, Peak Detection Test Equipment: Receiving: Horn T59, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT) Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002									
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 Channel									
1852	93.0	V	19.0	0.9	8.3	26.4	33.0	-6.6	
1852	91.3	H	15.3	0.9	8.3	22.7	33.0	-10.3	
Mid Channel									
1880	91.1	V	18.0	0.9	8.3	25.4	33.0	-7.6	
1880	91.3	H	16.5	0.9	8.3	24.0	33.0	-9.0	
High Channel									
1908	88.5	V	15.2	0.9	8.4	22.7	33.0	-10.3	
1908	89.0	H	13.9	0.9	8.4	21.4	33.0	-11.6	

7.2. FIELD STRENGTH OF SPURIOUS EMISSION

LIMIT

§22.917 (e), §24.238 (a), RSS-132 § 4.5.1, & RSS-133 § 6.5.1 (a) (i) & (b): 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, FCC 22.917 (h), & FCC 24.238 (b)

RESULTS

No non-compliance noted.

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

850MHz Band GSM Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement									
Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Sierra Wireless, Inc.									
Project #: 06U10342									
Date: June 20, 2006									
Test Engineer: Sunny Shih									
Configuration: EUT only									
Mode: GSM850 GPRS mode									
RBW=VBW=1MHz, Peak Detection									
Test Equipment:									
Receiving: Horn T59, Pre-amp T34, Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)									
Substitution: Horn T60, 6ft SMA Cable Warehouse S/N: 208947 002									
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (824.2MHz)									
1.648	65.1	V	-48.2	0.8	4.9	-44.1	-13.0	-31.1	
2.472	68.2	V	-42.2	1.0	7.1	-36.0	-13.0	-23.0	
1.648	62.1	H	-43.4	1.3	7.8	-36.9	-13.0	-23.9	
2.472	59.1	H	-44.9	1.5	8.8	-37.5	-13.0	-24.5	
Mid Channel (837.0MHz)									
1.674	63.8	V	-49.3	0.8	5.0	-45.1	-13.0	-32.1	
2.511	61.5	V	-47.9	1.0	7.1	-41.8	-13.0	-28.8	
1.674	62.5	H	-43.0	1.4	7.9	-36.5	-13.0	-23.5	
2.511	55.6	H	-47.9	1.5	8.9	-40.5	-13.0	-27.5	
High Channel (848.8MHz)									
1.697	63.2	V	-49.7	0.8	5.1	-45.4	-13.0	-32.4	
2.546	60.1	V	-48.7	1.0	7.1	-42.5	-13.0	-29.5	
1.697	61.5	H	-44.4	1.4	8.0	-37.8	-13.0	-24.8	
2.546	54.0	H	-48.9	1.5	8.9	-41.6	-13.0	-28.6	

800MHz Band EDGE Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement									
Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Sierra Wireless, Inc.									
Project #: 06U10399									
Date: June 29, 2006									
Test Engineer: Gordon Andrews									
Configuration: EUT in IBM Thinkpad KS-1 w/AC pwr adapter									
Mode: GSM850 (Edge) EGPRS mode									
RBW=VBW=1MHz, Peak Detection									
<u>Test Equipment:</u>									
Receiving: Horn T59, Pre-amp T34, T154 1.5G High Pass Filter, Gordon SMA Cables 2 & 12 ft (Setup this one for testing EUT)									
Substitution: Horn T60, 6ft SMA Cable Warehouse S/N: 208947 002									
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (824.2MHz)									
1.648	62.0	V	-51.3	0.8	4.9	-47.2	-13.0	-34.2	
2.472	59.5	V	-50.9	1.0	7.1	-44.7	-13.0	-31.7	
3.299	53.0	V	-52.5	1.2	7.3	-46.4	-13.0	-33.4	
1.648	60.4	H	-45.1	1.3	7.8	-38.6	-13.0	-25.6	
2.472	54.0	H	-50.0	1.5	8.8	-42.7	-13.0	-29.7	
3.395	47.8	H	-59.0	1.2	7.3	-52.8	-13.0	-39.8	Noise Floor
Mid Channel (837.0MHz)									
1.674	58.4	V	-54.7	0.8	5.0	-50.5	-13.0	-37.5	
2.511	61.4	V	-48.0	1.0	7.1	-41.9	-13.0	-28.9	
3.346	60.0	V	-46.8	1.2	7.3	-40.6	-13.0	-27.6	
1.674	60.7	H	-44.8	1.4	7.9	-38.3	-13.0	-25.3	
2.511	58.0	H	-45.5	1.5	8.9	-38.1	-13.0	-25.1	
3.346	47.8	H	-59.0	1.2	7.3	-52.8	-13.0	-39.8	Noise Floor
High Channel (848.8MHz)									
1.697	56.4	V	-56.5	0.8	5.1	-52.2	-13.0	-39.2	
2.546	61.7	V	-47.1	1.0	7.1	-40.9	-13.0	-27.9	
3.393	50.5	V	-56.0	1.2	7.4	-49.8	-13.0	-36.8	
1.697	55.1	H	-50.8	1.4	8.0	-44.2	-13.0	-31.2	
2.546	57.7	H	-45.2	1.5	8.9	-37.9	-13.0	-24.9	
3.393	54.7	H	-51.8	1.2	7.4	-45.6	-13.0	-32.6	

800MHz Band WCDMA Spurious & Harmonic (ERP)

Cellular Harmonic Substitution Measurement									
Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Sierra Wireless, Inc.									
Project #: 06U10399									
Date: July 5, 2006									
Test Engineer: Sunny Shih									
Configuration: Laptop with EUT									
Mode: WCDMA850									
RBW=VBW=1MHz, Peak Detection									
<u>Test Equipment:</u>									
Receiving: Horn T59, Pre-amp T34, Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)									
Substitution: Horn T60, 6ft SMA Cable Warehouse S/N: 208947 002									
f GHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Channel (826.4MHz)									
1.652	59.0	V	-54.3	0.8	4.9	-50.2	-13.0	-37.2	
2.479	52.5	V	-57.9	1.0	7.1	-51.7	-13.0	-38.7	
1.652	57.1	H	-48.4	1.3	7.8	-41.9	-13.0	-28.9	
2.479	51.0	H	-53.0	1.5	8.8	-45.7	-13.0	-32.7	
Mid Channel (836.4MHz)									
1.672	57.4	V	-55.7	0.8	5.0	-51.5	-13.0	-38.5	
2.509	53.5	V	-55.9	1.0	7.1	-49.8	-13.0	-36.8	
1.672	47.6	H	-57.9	1.4	7.9	-51.4	-13.0	-38.4	
2.509	52.2	H	-51.3	1.5	8.9	-43.9	-13.0	-30.9	
High Channel (846.6MHz)									
1.693	59.1	V	-53.8	0.8	5.1	-49.5	-13.0	-36.5	
2.539	52.7	V	-56.1	1.0	7.1	-49.9	-13.0	-36.9	
1.693	58.0	H	-47.9	1.4	8.0	-41.3	-13.0	-28.3	
2.539	52.0	H	-50.9	1.5	8.9	-43.6	-13.0	-30.6	

1900MHz Band GSM Spurious & Harmonic (EIRP)

PCS Harmonic Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Sierra Wireless, Inc.									
Project #: 06U10342									
Date: June 20, 2006									
Test Engineer: Sunny Shih									
Configuration: EUT only									
Mode: GSM1900 GPRS mode									
RBW=VBW=1MHz, Peak Detection									
<u>Test Equipment:</u>									
Receiving: Horn T59, Pre-amp T34, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)									
Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002									
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 Channel (1850.2MHz)									
3.700	49.8	V	-55.2	1.2	9.7	-46.8	-13.0	-33.8	
5.550	44.9	V	-57.6	1.6	11.0	-48.2	-13.0	-35.2	
3.700	43.2	H	-54.6	2.1	12.7	-44.0	-13.0	-31.0	
5.550	44.1	H	-52.6	2.3	13.8	-41.1	-13.0	-28.1	
Mid Channel (1880MHz)									
3.760	47.5	V	-57.0	1.3	9.7	-48.5	-13.0	-35.5	
5.640	46.0	V	-56.8	1.7	11.2	-47.3	-13.0	-34.3	
3.760	46.2	H	-50.3	2.1	12.7	-39.7	-13.0	-26.7	
5.640	48.5	H	-47.3	2.3	13.9	-35.8	-13.0	-22.8	
High Channel (1909.8MHz)									
3.819	45.7	V	-58.5	1.3	9.7	-50.1	-13.0	-37.1	
5.729	48.3	V	-54.2	1.7	11.3	-44.6	-13.0	-31.6	
3.819	43.7	H	-51.9	2.1	12.7	-41.3	-13.0	-28.3	
5.729	48.7	H	-46.5	2.4	14.0	-34.9	-13.0	-21.9	

1900MHz Band WCDMA Spurious & Harmonic (EIRP)

PCS Harmonic Substitution Measurement Compliance Certification Services, Morgan Hill Immunity Chamber									
Company: Sierra Wireless, Inc.									
Project #: 06U10399									
Date: July 5, 2006									
Test Engineer: Sunny Shih									
Configuration: Laptop with EUT									
Mode: WCDMA1900									
RBW=VBW=1MHz, Peak Detection									
<u>Test Equipment:</u>									
Receiving: Horn T59, Pre-amp T34, and Chin SMA Cables 2 & 12 ft (Setup this one for testing EUT)									
Substitution: Horn T60, and 6ft SMA Cable Warehouse S/N: 208947 002									
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 Channel (1852.4MHz)									
3.704	55.7	V	-49.3	1.2	9.7	-40.9	-13.0	-27.9	
5.557	52.5	V	-50.0	1.6	11.0	-40.6	-13.0	-27.6	
3.704	54.8	H	-43.0	2.1	12.7	-32.4	-13.0	-19.4	
5.557	52.1	H	-44.6	2.3	13.8	-33.1	-13.0	-20.1	
Mid Channel (1880MHz)									
3.760	66.0	V	-38.5	1.3	9.7	-30.1	-13.0	-17.1	
5.640	53.6	V	-49.3	1.7	11.2	-39.7	-13.0	-26.7	
3.760	62.2	H	-34.3	2.1	12.7	-23.7	-13.0	-10.7	
5.640	52.4	H	-43.4	2.3	13.9	-31.9	-13.0	-18.9	
High Channel (1907.6MHz)									
3.815	68.9	V	-35.3	1.3	9.7	-26.9	-13.0	-13.9	
5.722	54.7	V	-47.8	1.7	11.3	-38.2	-13.0	-25.2	
3.815	58.7	H	-36.9	2.1	12.7	-26.3	-13.0	-13.3	
5.722	54.2	H	-41.0	2.4	14.0	-29.4	-13.0	-16.4	