



**FCC CFR47 PART 15 SUBPART B
ICES-003 ISSUE 4, 2004-02**

DECLARATION OF CONFORMITY TEST REPORT

FOR

WIRELESS USB CDMA MODEM MODULE

MODEL NUMBER: AC595U

REPORT NUMBER: 06U10743-3

ISSUE DATE: FEBRUARY 03, 2007

Prepared for
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NVLAP[®]

NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	02/03/07	Initial Issue	T.C.

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS.....	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY.....	5
4.1. <i>MEASURING INSTRUMENT CALIBRATION.....</i>	<i>5</i>
4.2. <i>MEASUREMENT UNCERTAINTY.....</i>	<i>5</i>
5. EQUIPMENT UNDER TEST.....	6
5.1. <i>DESCRIPTION OF EUT</i>	<i>6</i>
5.2. <i>TEST CONFIGURATION.....</i>	<i>6</i>
5.3. <i>PRELIMINARY TEST CONFIGURATIONS.....</i>	<i>6</i>
5.4. <i>MODE(s) OF OPERATION.....</i>	<i>7</i>
5.5. <i>SOFTWARE AND FIRMWARE</i>	<i>7</i>
5.6. <i>MODIFICATIONS.....</i>	<i>7</i>
5.7. <i>DETAILS OF TESTED SYSTEM</i>	<i>7</i>
6. TEST AND MEASUREMENT EQUIPMENT	9
APPLICABLE LIMITS AND TEST RESULTS	10
6.1. <i>RADIATED EMISSIONS.....</i>	<i>10</i>
6.2. <i>AC MAINS LINE CONDUCTED EMISSIONS.....</i>	<i>14</i>
7. SETUP PHOTOS	18

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SIERRA WIRELESS
2290 COSMOS CT.
CARLSBAD, CA 92011, USA

EUT DESCRIPTION: WIRELESS USB CDMA MODEM MODULE

MODEL: AC595U

SERIAL NUMBER: 108

DATE TESTED: JANUARY 22-26, 2007

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART B	NO NON-COMPLIANCE NOTED
ICES-003 ISSUE 4, 2004-02	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:



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EMC SUPERVISOR
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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003 and ICES-003 ISSUE 4, 2004-02.

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
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 dual band 800 / 1900MHz USB CDMA modem module and the module is manufactured by Sierra Wireless, Inc.

The module AC595U supports CDMA 1xRTT, and 1xEV-DO. REV A. Device capabilities are documented in the theory of operation.

LAPTOP GENERAL INFORMATION

CHASSIS MATERIAL	PLASTIC
ENCLOSURE MATERIAL	PLASTIC
POWER REQUIREMENTS	100-240 VAC / 50-60 Hz
POWERLINE FILTER MANUFACTURER AND MODEL	BUILT-IN
LIST OF ALL OSCILLATOR FREQUENCIES GREATER THAN OR EQUAL TO 9 kHz	CPU: 1.70GHz, 980MHz

5.2. TEST CONFIGURATION

The following configuration was investigated during testing:

EUT Configuration	Description
Typical Configuration	EUT plugged into the laptop USB port, laptop connected to printer, modem, USB Mouse

5.3. PRELIMINARY TEST CONFIGURATIONS

The following configurations were investigated during preliminary testing:

EUT Configuration	Description
Normal	EUT with and without cradle and basic peripheral support equipment

The worst-case configuration was determined to be EUT with cradle connected to Laptop

5.4. MODE(s) OF OPERATION

Mode	Description
EMCTest & Receiving	Receiving & I/O ports activated with H' patterns scrolling on the screen display.

5.5. SOFTWARE AND FIRMWARE

The test software used during the test was EMCTest software.

5.6. MODIFICATIONS

No modifications were made during testing.

5.7. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

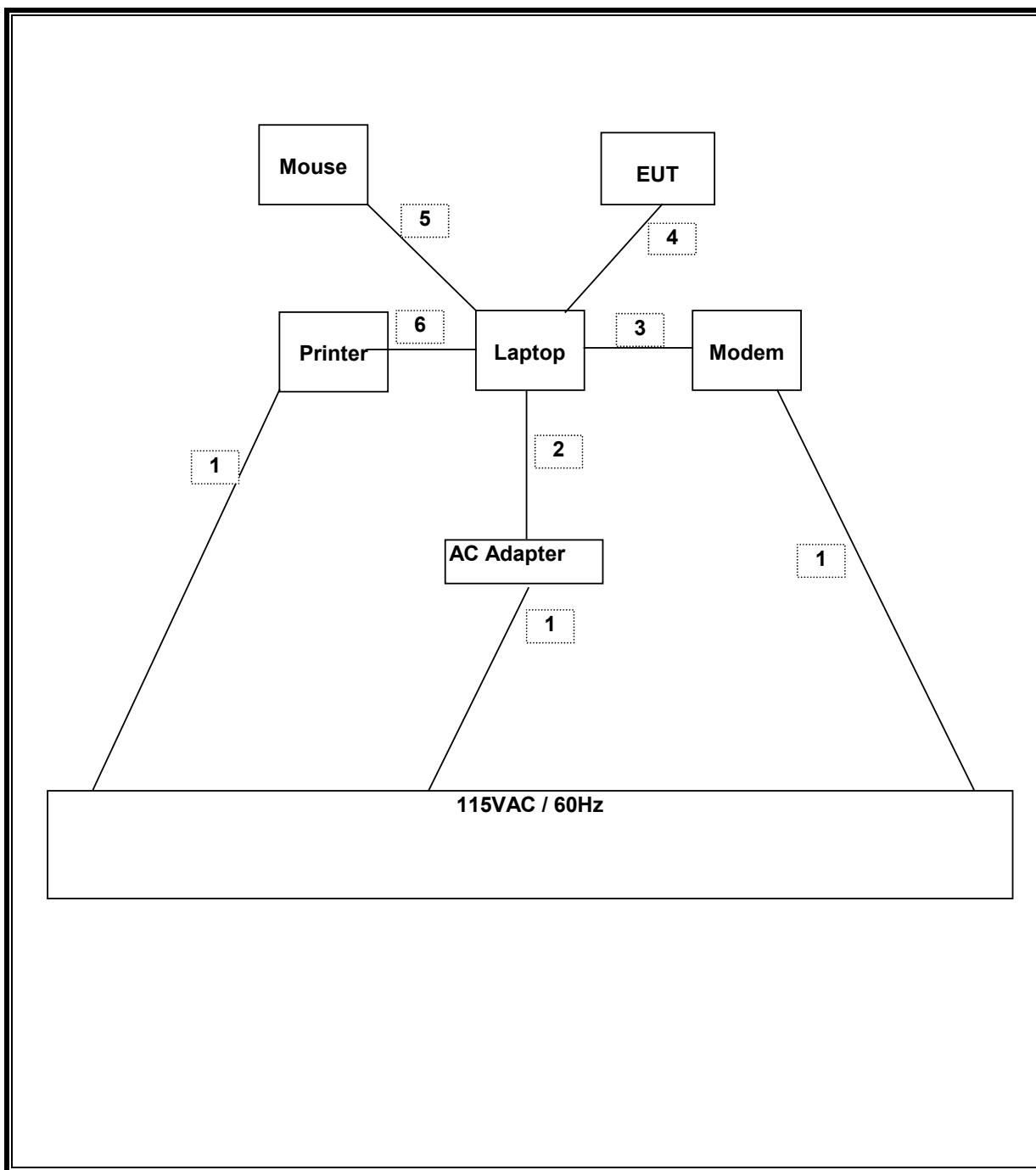
PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Sony	PCG-6P2L	C3LMW276	DoC
AC Adapter	Sony	VGP-AC19V13	1.47968E+15	DoC
Printer	OKI DATA	Microline 186	NA	DoC
Modem	U.S. Robotics	5686	2ABLYCKF2684	CJEMUL-35730-M5-E
USB Mouse	Microsoft	Microsoft	083416-1	DoC

I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	3	US 115V	Un-shielded	2m	N/A
2	DC	1	DC	Un-shielded	2m	N/A
3	RJ11	1	Modem	Un-shielded	1m	N/A
4	USB	1	USB Modem	Shielded	2m	With ferrite at both end
5	USB	1	Mouse	Shielded	2m	N/A
6	Parallel	1	DB25	Shielded	2m	N/A

TEST SETUP

The EUT is installed in a typical configuration. Test software exercised the EUT.

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	2944A06589	9/1/2007
Quasi-Peak Adaptor	Agilent / HP	85650A	2521A01038	1/11/2008
SA Display Section 3	Agilent / HP	85662A	2314A04793	12/17/07
SA RF Section, 1.5 GHz	Agilent / HP	85680A	2314A02604	3/17/2007
Antenna, Log Periodic 200 ~ 1000	EMCO	3146	2120	3/1/2007
Antenna, Biconical	Eaton	94455-1	1197	3/1/2007
Spectrum Analyzer 3 Hz ~ 44	Agilent / HP	E4446A	MY43360112	5/3/2007
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	2238	4/22/2007
Preamplifier, 1 ~ 26.5 GHz	Agilent / HP	8449B	3008A00561	10/3/2007
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	8/30/2007
EMI Test Receiver	R & S	ESHS 20	827129/006	6/3/2007

APPLICABLE LIMITS AND TEST RESULTS

6.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4

The highest clock frequency generated or used in the EUT is 1.70 GHz, therefore the frequency range was investigated from 30 MHz to 10 GHz.

LIMIT

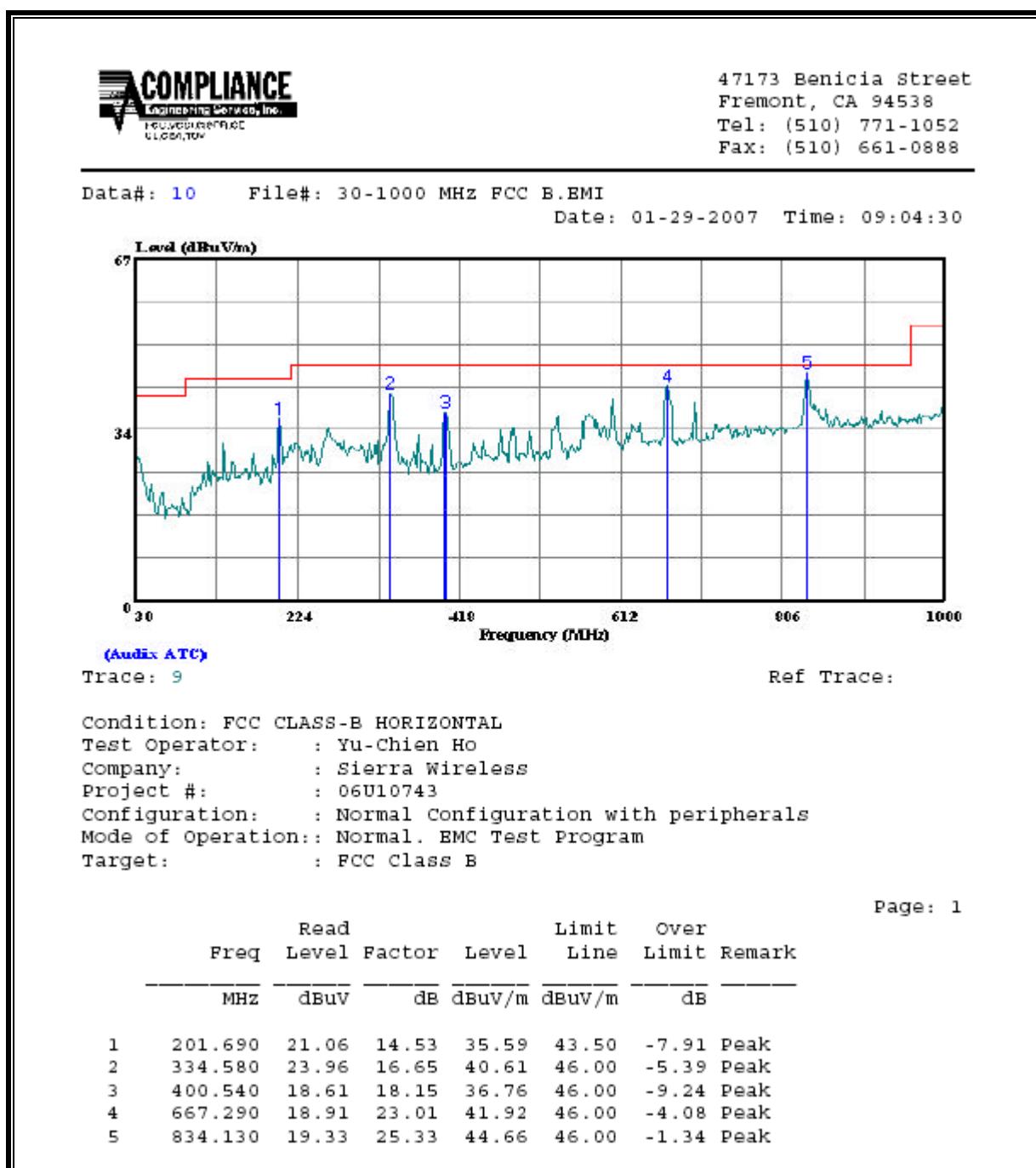
§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

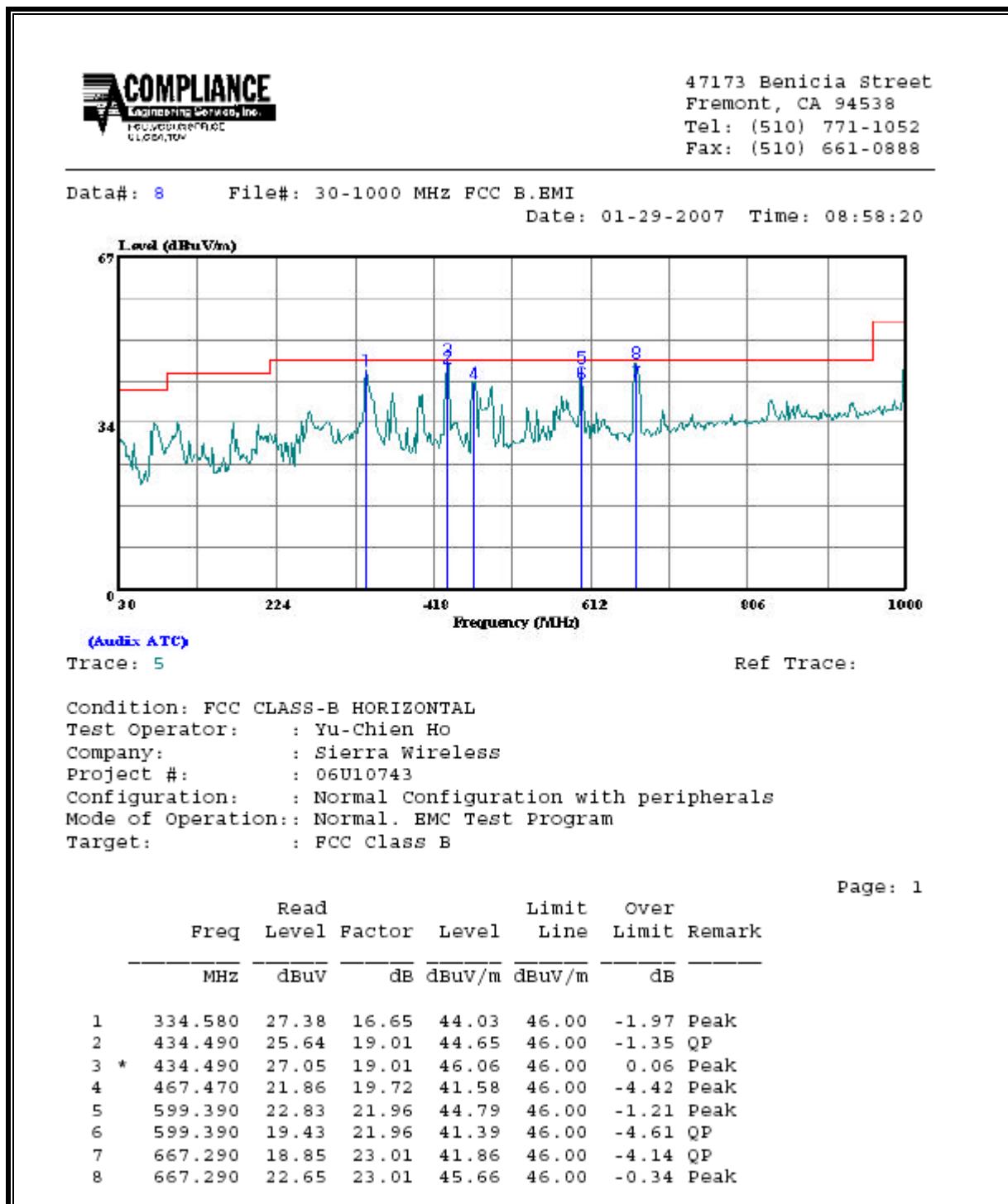
Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54

Note: The lower limit shall apply at the transition frequency.

RESULTS

No non-compliance noted:

SPURIOUS EMISSIONS 30 TO 1000 MHz, HORIZONTAL

SPURIOUS EMISSIONS 30 TO 1000 MHZ, VERTICAL

SPURIOUS EMISSIONS ABOVE 1 GHz

High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site																
Company: Sierra Wireless Project #: 06U10743 Date: 1/29/2007 Test Engineer: Yu-Chien Ho Configuration: EUT and Supporting Devices Mode: Normal																
Test Equipment:																
Horn 1-18GHz		Pre-amplifier 1-26GHz		Pre-amplifier 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		Peak Measurements RBW=VBW=1MHz Average Measurements RBW=1MHz ; VBW=10Hz						
<table border="1"> <tr><td>Chin 197538001</td></tr> </table>		Chin 197538001	<table border="1"> <tr><td>Gordon 203134001</td></tr> </table>		Gordon 203134001											
Chin 197538001																
Gordon 203134001																
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)	
1.330	3.0	58.9	45.7	25.0	1.6	-39.0	0.0	0.0	46.4	33.2	74	54	-27.6	-20.8	V	
1.660	3.0	57.3	43.2	26.2	1.7	-38.5	0.0	0.0	46.7	32.6	74	54	-27.3	-21.4	V	
2.490	3.0	55.6	40.5	28.6	2.1	-37.5	0.0	0.0	48.8	33.7	74	54	-25.2	-20.3	V	
1.332	3.0	57.4	43.2	25.0	1.6	-39.0	0.0	0.0	45.0	30.8	74	54	-29.0	-23.2	H	
1.662	3.0	55.8	42.6	26.2	1.7	-38.5	0.0	0.0	45.2	32.0	74	54	-28.8	-22.0	H	
2.493	3.0	53.5	40.1	28.6	2.1	-37.5	0.0	0.0	46.7	33.3	74	54	-27.3	-20.7	H	
Rev. 5.1.6																
Note: No Other Emission has been Observed Above the Noise Floor																
f Measurement Frequency Dist Distance to Antenna Read Analyzer Reading AF Antenna Factor CL Cable Loss					Amp Preamp Gain D Corr Distance Correct to 3 meters Avg Average Field Strength @ 3 m Peak Calculated Peak Field Strength HPF High Pass Filter					Avg Lim Average Field Strength Limit Pk Lim Peak Field Strength Limit Avg Mar Margin vs. Average Limit Pk Mar Margin vs. Peak Limit						

6.2. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4

LIMIT

§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Notes:

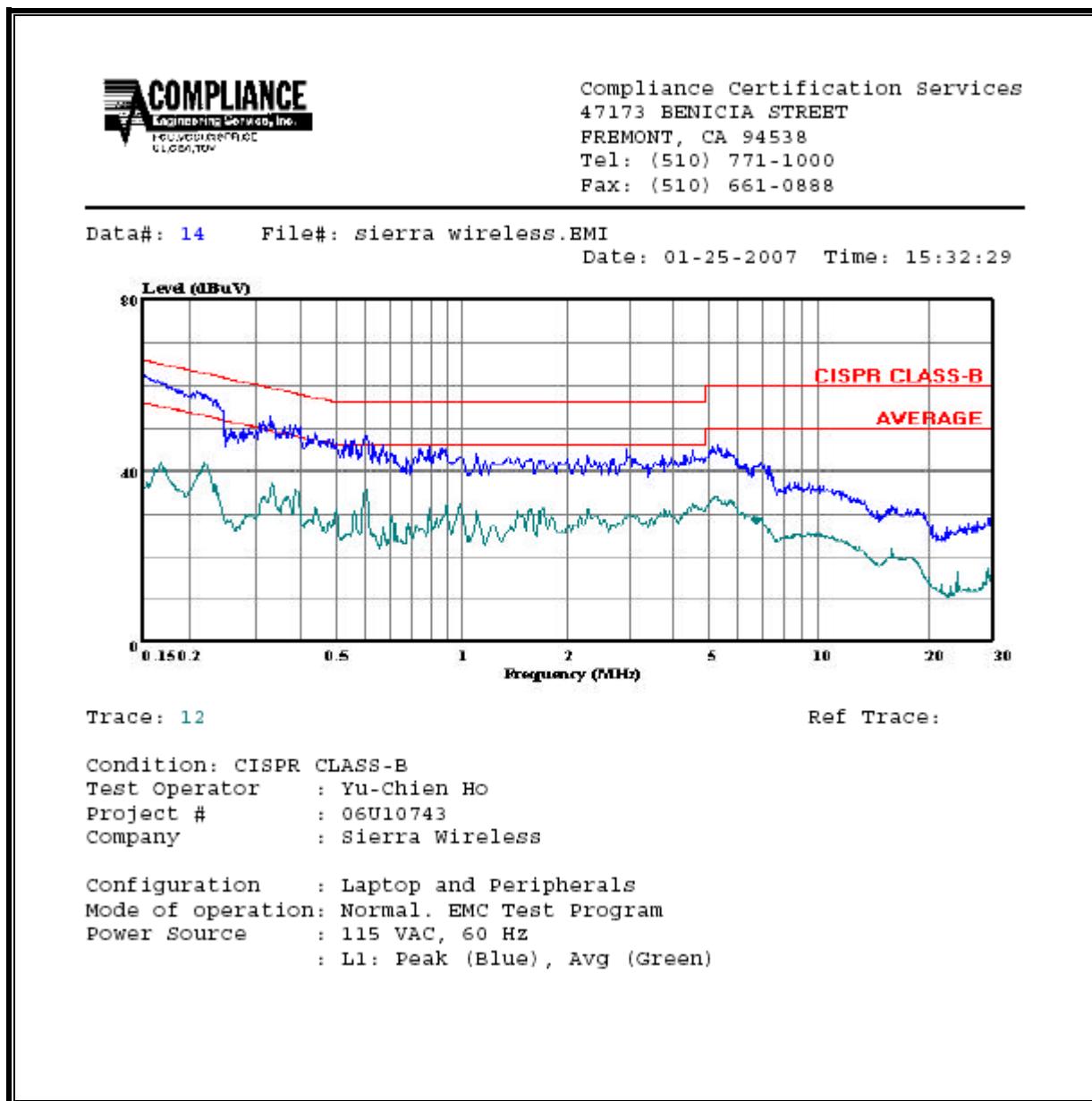
1. The lower limit shall apply at the transition frequencies
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

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	
	PK (dBuV)	QP (dBuV)	AV (dBuV)				QP (dB)	AV (dB)		
0.15	62.30	--	36.60	0.00	66.00	56.00	-3.70	-19.40	L1	
0.22	57.51	--	41.60	0.00	62.71	52.71	-5.20	-11.11	L1	
0.60	48.10	--	36.00	0.00	56.00	46.00	-7.90	-10.00	L1	
0.15	59.28	--	36.64	0.00	66.00	56.00	-6.72	-19.36	L2	
0.22	51.43	--	40.97	0.00	62.71	52.71	-11.28	-11.74	L2	
0.60	46.77	--	35.30	0.00	56.00	46.00	-9.23	-10.70	L2	
6 Worst Data										

LINE 1 RESULTS

LINE 2 RESULTS