



**FCC CFR47 PART 22 SUBPART H
AND PART 24 SUBPART E
CERTIFICATION**

**TEST REPORT
FOR**

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

MODEL NUMBER: AirCard 850

FCC ID: N7NAC850

REPORT NUMBER: 05U3649-1

ISSUE DATE: SEPTEMBER 22, 2005

Prepared for
**SIERRA WIRELESS INC.
13811 WIRELESS WAY
RICHMOND, BC V6V 3A4, CANADA**

Prepared by
**COMPLIANCE ENGINEERING SERVICES, INC.
d.b.a.
COMPLIANCE CERTIFICATION SERVICES
561F MONTEREY ROAD,
MORGAN HILL, CA 95037, USA
TEL: (408) 463-0885
FAX: (408) 463-0888**

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Revision History

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1. ATTESTATION OF TEST RESULTS

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

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

MODEL: AirCard 850

SERIAL NUMBER: FSNX1620350049E2

DATE TESTED: SEPTEMBER 09, 2005

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22 SUBPART H	NO NON-COMPLIANCE NOTED
FCC PART 24 SUBPART E	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

VIEN TRAN
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA/EIA 603A (2001), ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and FCC CFR 47 Part 22H and 24E.

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.

5.2. MAXIMUM OUTPUT POWER

The transmitter has maximum ERP and EIRP output powers as follows:

PART 22 824 to 849 MHz Authorized Band

Frequency Range (MHz)	Modulation	ERP Peak Power (dBm)	ERP Peak Power (mW)
824.2 - 848.8	GSM	34.20	2630.27
824.2 - 848.8	EDGE	30.80	1202.26

PART 24 1850 to 1910 MHz Authorized Band

Frequency Range (MHz)	Modulation	EIRP Peak Power (dBm)	EIRP Peak Power (mW)
1850.2 - 1909.8	GSM	30.90	1230.27
1850.2 - 1909.8	EDGE	30.00	1000.00

NOTE: RBW=VBW=8MHz.

5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was Hyperterminal / ProcommPlus .

5.4. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	COMPAG	PP2060	N/A	DoC
Laptop	COMPAG	PPP005L	N/A	DoC

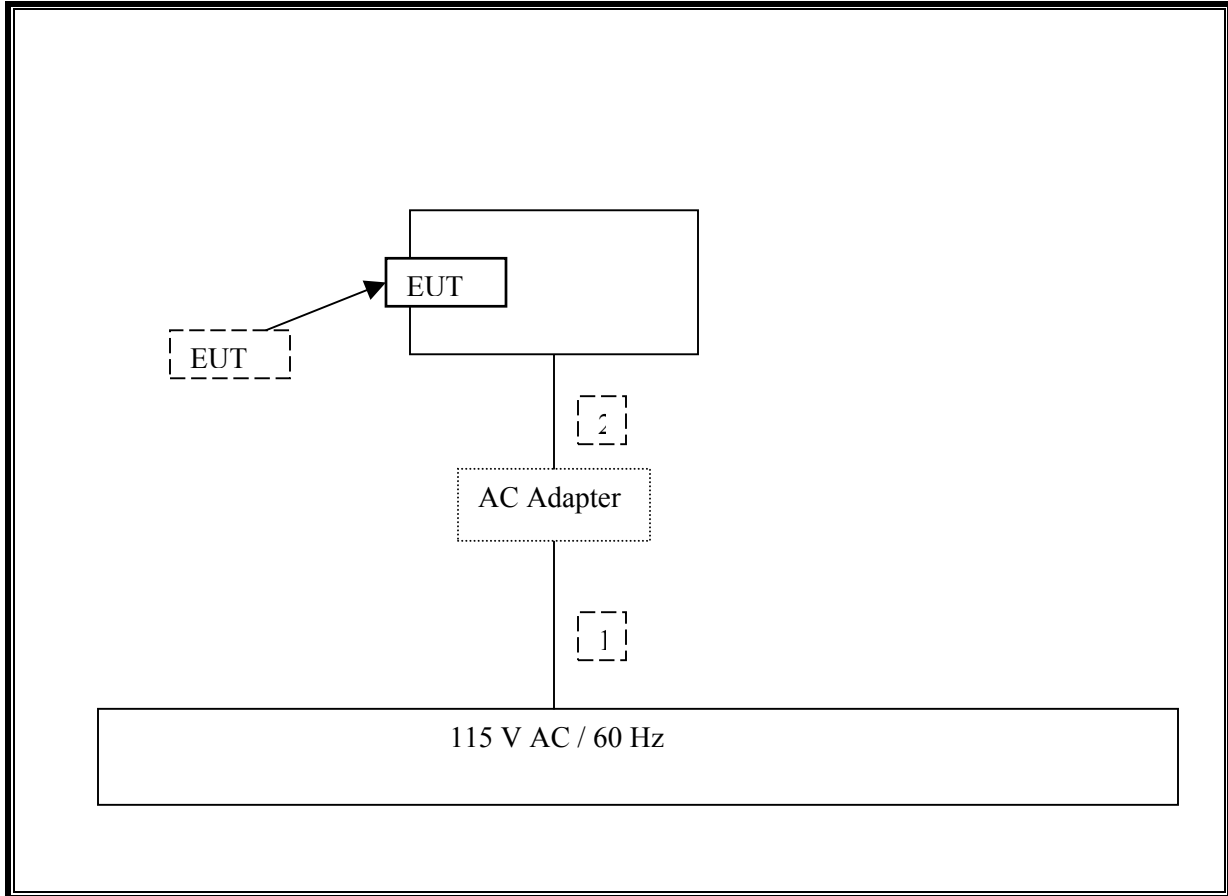
I/O CABLES

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 to a laptop during the tests. The test software exercised the EUT.

SETUP DIAGRAM FOR TESTS



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
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	11/21/2005
RF Filter Section	HP	85420E	3705A00256	11/21/05
30MHz--- 2Ghz	Sunol Sciences	JB1 Antenna	A121003	12/22/05
Preamplifier, 1300MHz	HP	8447D	2944A06833	8/17/06
30MHz--- 2Ghz	Sunol Sciences	JB1 Antenna	A121003	9/22/05
Antenna, Horn 1 ~ 18 GHz	EMCO	3117	29301	9/12/05
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	9/12/05
Amplifier 1-26GHz	MITEQ	NSP2600-SP	924341	8/17/06
Spectrum Analyzer, 26.5 GHz	HP	8593EM	3710A00205	1/6/06
Dipole	EMCO	3121C-DB2	22435	3/25/06
Signal Generator 2 -40 GHz	R & S	SMP04	DE 34210	5/2/06
Peak Power Meter	Agilent	E4416A	GB41291160	2/9/06
Peak / Average Power Sensor	Agilent	E9327A	US40440755	2/10/06

7. LIMITS AND RESULTS

7.1. RF POWER OUTPUT

LIMIT

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
24.232(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

TEST PROCEDURE

ANSI / TIA / EIA 603 Clause 2.2.17

RESULTS

No non-compliance noted.

PART 22 - 850 MHz Cellular Band Output Power (ERP)
GSM (GPRS)

09/08/05 30-1000 MHz_Fundamental Substitution Measurement											
Compliance Certification Services, Morgan Hill 5m Chamber Site											
Test Engr: Vien Tran											
Project #: 05U3649											
Company: Sierra Wireless											
EUT Descrip.: 850/900/1800/1900/2100 MHz 5 band PC CARD											
EUT M/N: AIRCARD 850											
Test Target: FCC 22 & RSS-132											
Mode Oper: Tx, GSM 850MHz Band_Low, Mid & Hi Channels Fundamental Substitution											
Test Equipment:											
Bilog Antenna			Cable			Pre-amplifer 8447D			Limit		
5m Chamber Sunol Bilog			5m Chamber Cable						ERP		
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes	
LOW CH											
824.20	108.6	V	32.1	0.5	2.2	0.0	31.6	38.5	-6.9		
824.20	100.7	H	25.5	0.5	2.2	0.0	25.0	38.5	-13.5		
MID CH											
837.00	110.4	V	33.3	0.5	2.2	0.0	32.8	38.5	-5.7		
837.00	108.1	H	32.3	0.5	2.2	0.0	31.8	38.5	-6.7		
HI CH											
848.80	111.6	V	34.7	0.5	2.2	0.0	34.2	38.5	-4.3		
848.80	108.0	H	31.1	0.5	2.2	0.0	30.6	38.5	-7.9		

EDGE

09/08/05 30-1000 MHz Substitution Measurement Compliance Certification Services, Morgan Hill 5m Chamber Site Test Engr: Vien Tran Project #:05U3649 Company:Sierra Wireless EUT Descrip.: 850/900/1800/1900/2100 MHz 5 band PC CARD EUT M/N: AIRCARD 850 Test Target:FCC 22 & RSS-132 Mode Oper: Tx, EDGE 850MHz Band_Low, Mid & Hi Channels Fundamental Substitution <u>Test Equipment:</u>										
Bilog Antenna		Cable		Pre-amplifier 8447D		Limit				
5m Chamber Sunol Bilog		5m Chamber Cable				ERP				
f MHz	SA reading (dBuV/m)	Ant. Pol. (H/V)	SG reading (dBm)	CL (dB)	Gain (dBi)	Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
LOW CH										
824.20	106.8	V	30.3	0.5	2.2	0.0	29.8	38.5	-8.7	
824.20	101.0	H	25.8	0.5	2.2	0.0	25.3	38.5	-13.2	
MID CH										
837.00	107.3	V	30.2	0.5	2.2	0.0	29.7	38.5	-8.8	
837.00	104.3	H	28.5	0.5	2.2	0.0	28.0	38.5	-10.5	
HI CH										
848.80	108.2	V	31.3	0.5	2.2	0.0	30.8	38.5	-7.7	
848.80	106.6	H	29.7	0.5	2.2	0.0	29.2	38.5	-9.3	

PART 24 - 1900 MHz PCS Band Output Power (EIRP)

GSM (GPRS)

09/09/05 High Frequency Fundamental Measurement
 Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Vien Tran
 Project #:05U3649
 Company:Sierra Wireless
 EUT Descrip.: 850/900/1800/1900/2100 MHz 5 band PC CARD
 EUT M/N: AIRCARD 850
 Test Target:FCC 24 & rss-133
 Mode Oper:Tx, GSM 1900MHz Band _ Low, Mid & Hi Channels Fundamental Substitution

Test Equipment:

EMCO Horn 1-18GHz Horn > 18GHz Limit High Pass Filter

T60; S/N: 2238 @3m EIRP

Hi Frequency Cables

(2 ft) (2~3 ft) (4~6 ft) (12 ft)

Pre-amplifier 1-26GHz 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
LOW CH										
1850	96.6	V	23.5	0.9	8.3	6.1	30.9	33.0	-2.1	V
1850	89.7	H	14.1	0.9	8.3	6.1	21.5	33.0	-11.5	H
MID CH										
1880	96.3	V	22.3	0.9	8.3	6.2	29.8	33.0	-3.2	V
1880	93.7	H	16.6	0.9	8.3	6.2	24.1	33.0	-8.9	H
HI CH										
1910	96.4	V	20.8	0.9	8.4	6.2	28.3	33.0	-4.7	V
1910	94.7	H	18.1	0.9	8.4	6.2	25.7	33.0	-7.3	H

EDGE

09/09/05 High Frequency Fundamental Measurement
 Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Vien Tran
 Project #:05U3649
 Company:Sierra Wireless
 EUT Descr.: 850/900/1800/1900/2100 MHz 5 band PC CARD
 EUT M/N: AIRCARD 850
 Test Target:FCC 24 & RSS-133
 Mode Oper:Tx, EDGE 1900MHz Band _ Low, Mid & Hi Channels Fundamental Substitution

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-amplifer 1-26GHz

Pre-amplifer 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
LOW CH										
1.850	95.1	V	21.8	0.9	8.3	6.1	29.2	33.0	-3.8	V
1.850	88.9	H	13.1	0.9	8.3	6.1	20.5	33.0	-12.5	H
MID CH										
1.880	96.7	V	22.6	0.9	8.3	6.2	30.0	33.0	-3.0	V
1.880	89.9	H	12.6	0.9	8.3	6.2	20.0	33.0	-13.0	H
HI CH										
1.910	96.7	V	20.9	0.9	8.4	6.2	28.4	33.0	-4.6	V
1.910	92.6	H	15.8	0.9	8.4	6.2	23.3	33.0	-9.7	H

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

ANSI / TIA / EIA 603 Clause 3.2.12, FCC 22.917 (h), & FCC 24.238 (b)

RESULTS

No non-compliance noted.

PART 22 - 850 MHz Cellular Band Spurious & Harmonic (ERP), 30-1000MHz

NO EMISSIONS WERE DETECTED ABOVE NOISE FOR GSM & EDGE MODULATIONS

PART 22 - 850MHz Cellular Band Spurious & Harmonic (ERP) – Above 1 GHz

GSM (GPRS)

09/09/05 High Frequency Fundamental Measurement
 Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Vien Tran
 Project #:05U3649
 Company:Sierra Wireless
 EUT Descrip.: 850/900/1800/1900/2100 MHz 5 band PC CARD
 EUT M/N: AIRCARD 850
 Test Target:FCC 22 & RSS-132
 Mode Oper:Tx, GSM (GPRS) 850MHz Band_ Low, Mid, & Hi channels Harmonic Spur_Substitution_ERP

Test Equipment:

EMCO Horn 1-18GHz
T73; S/N: 6717 @3m

Horn > 18GHz

Limit
FCC 22

High Pass Filter

Hi Frequency Cables
 (2 ft) (2~3 ft) (4~6 ft) (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
LOW CH 824.2 MHz										
1.648	65.0	V	-40.6	1.6	8.3	6.2	-36.0	-13.0	-23.0	
2.473	55.9	V	-45.3	1.9	9.7	7.6	-39.6	-13.0	-26.6	
1.648	59.4	H	-45.5	1.6	8.3	6.2	-40.9	-13.0	-27.9	
2.473	54.6	H	-46.4	1.9	9.7	7.6	-40.7	-13.0	-27.7	
MID CH 837 MHz										
1.674	61.5	V	-44.0	1.6	8.4	6.2	-39.3	-13.0	-26.3	
2.511	55.6	V	-45.4	1.9	9.7	7.5	-39.7	-13.0	-26.7	
1.674	55.6	H	-49.1	1.6	8.4	6.2	-44.5	-13.0	-31.5	
2.511	54.0	H	-46.8	1.9	9.7	7.5	-41.1	-13.0	-28.1	
HI CH 848.8 MHz										
1.698	62.3	V	-43.0	1.6	8.4	6.3	-38.3	-13.0	-25.3	
2.546	56.0	V	-44.8	2.0	9.7	7.5	-39.2	-13.0	-26.2	
1.698	55.0	H	-49.6	1.6	8.4	6.3	-44.9	-13.0	-31.9	
2.546	53.6	H	-47.0	2.0	9.7	7.5	-41.4	-13.0	-28.4	
NO OTHER EMISSIONS WERE DETECTED AFTER 3RD HARMONIC										

EDGE

09/08/05 **High Frequency Fundamental Measurement**
 Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Vien Tran
 Project #:05U3649
 Company:Sierra Wireless
 EUT Descr.: 850/900/1800/1900/2100 MHz 5 band PC CARD
 EUT M/N: AIRCARD 850
 Test Target:FCC 22 & RSS-132
 Mode Oper:Tx, EDGE 850MHz Band _ Low, Mid, & Hi channels Harmonic Spur_Substitution_ERP

Test Equipment:

EMCO Horn 1-18GHz
 T73; S/N: 6717 @3m

Horn > 18GHz

Limit
 FCC 22

High Pass Filter

Hi Frequency Cables
 (2 ft) (2~3 ft) (4~6 ft) (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
LOW CH 824.2 MHz										
1.648	63.2	V	-42.4	1.6	8.3	6.2	-37.8	-13.0	-24.8	
2.473	55.7	V	-45.5	1.9	9.7	7.6	-39.8	-13.0	-26.8	
1.648	57.8	H	-47.1	1.6	8.3	6.2	-42.5	-13.0	-29.5	
2.473	53.2	H	-47.8	1.9	9.7	7.6	-42.1	-13.0	-29.1	
MID CH 837 MHz										
1.674	57.7	V	-47.8	1.6	8.4	6.2	-43.1	-13.0	-30.1	
2.511	49.0	V	-52.0	1.9	9.7	7.5	-46.3	-13.0	-33.3	
1.674	49.5	H	-55.2	1.6	8.4	6.2	-50.6	-13.0	-37.6	
2.511	52.0	H	-48.8	1.9	9.7	7.5	-43.1	-13.0	-30.1	
HI CH 848.8 MHz										
1.698	58.9	V	-46.4	1.6	8.4	6.3	-41.7	-13.0	-28.7	
2.546	53.8	V	-47.0	2.0	9.7	7.5	-41.4	-13.0	-28.4	
1.698	51.8	H	-52.8	1.6	8.4	6.3	-48.1	-13.0	-35.1	
2.546	54.0	H	-46.6	2.0	9.7	7.5	-41.0	-13.0	-28.0	
NO OTHER EMISSIONS WERE DETECTED AFTER 3RD HARMONIC										

PART 24 - 1900 MHz PCS Band Spurious & Harmonic (ERP), 30-1000MHz

NO EMISSIONS WERE DETECTED ABOVE NOISE FOR GSM & EDGE MODULATIONS

PART 24 - 1900 MHz PCS Band Spurious & Harmonic (EIRP):- Above 1 GHz

GSM (GPRS)

09/06/05 High Frequency Measurement
 Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Vien Tran
 Project #: 05U3649
 Company: Sierra Wireless
 EUT Descrip.: 850/900/1800/1900/2100 MHz 5 band PC CARD
 EUT M/N: AIRCARD 850
 Test Target: FCC 24 & RSS-133
 Mode Oper: Tx, GSM (GPRS) 1900MHz Band _ Low, Mid, & Hi channels_Harmonic Spur Substitution EIRP

Test Equipment:

EMCO Horn 1-18GHz
 T73; S/N: 6717 @3m

Horn > 18GHz

Limit
 FCC 24

High Pass Filter

Hi Frequency Cables
 (2 ft) (2~3 ft) (4~6 ft) (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
LOW CH 1850.2 MHz										
3.700	58.8	V	-37.5	2.5	10.1	8.0	-29.8	-13.0	-16.8	
5.557	48.3	V	-42.5	3.3	11.0	8.8	-34.8	-13.0	-21.8	
7.400	43.3	V	-45.0	3.7	11.7	9.5	-37.0	-13.0	-24.0	
9.251	58.6	V	-29.4	4.0	12.2	10.0	-21.3	-13.0	-8.3	
11.101	44.3	V	-42.0	4.5	13.3	11.2	-33.2	-13.0	-20.2	
3.700	54.6	H	-41.6	2.5	10.1	8.0	-33.9	-13.0	-20.9	
5.557	45.0	H	-44.8	3.3	11.0	8.8	-37.1	-13.0	-24.1	
7.400	44.0	H	-43.5	3.7	11.7	9.5	-35.5	-13.0	-22.5	
9.251	57.6	H	-30.4	4.0	12.2	10.0	-22.3	-13.0	-9.3	
11.101	43.0	H	-42.7	4.5	13.3	11.2	-33.9	-13.0	-20.9	
MID CH 1880 MHz										
3.760	56.6	V	-39.5	2.5	10.2	8.0	-31.8	-13.0	-18.8	
5.640	45.0	V	-45.7	3.3	11.1	8.9	-38.0	-13.0	-25.0	
7.520	46.7	V	-41.3	3.7	11.6	9.5	-33.4	-13.0	-20.4	
9.400	64.8	V	-23.2	4.1	12.3	10.1	-15.0	-13.0	-2.0	
11.280	45.0	V	-41.1	4.6	13.3	11.1	-32.4	-13.0	-19.4	
3.760	53.6	H	-42.4	2.5	10.2	8.0	-34.7	-13.0	-21.7	
5.640	43.5	H	-46.2	3.3	11.1	8.9	-38.5	-13.0	-25.5	
7.520	42.0	H	-45.2	3.7	11.6	9.5	-37.3	-13.0	-24.3	
9.400	64.8	H	-23.2	4.1	12.3	10.1	-15.0	-13.0	-2.0	
11.280	43.0	H	-42.5	4.6	13.3	11.1	-33.8	-13.0	-20.8	
HI CH 1909.8 MHz										
3.820	62.5	V	-33.4	2.5	10.2	8.0	-25.7	-13.0	-12.7	
5.729	51.0	V	-39.7	3.4	11.2	9.0	-31.9	-13.0	-18.9	
7.639	53.4	V	-34.4	3.7	11.5	9.4	-26.5	-13.0	-13.5	
9.549	65.0	V	-22.9	4.1	12.4	10.2	-14.7	-13.0	-1.7	
11.459	44.0	V	-41.8	4.6	13.2	11.1	-33.2	-13.0	-20.2	
3.820	57.5	H	-38.3	2.5	10.2	8.0	-30.6	-13.0	-17.6	
5.729	46.5	H	-43.2	3.4	11.2	9.0	-35.4	-13.0	-22.4	
7.639	44.0	H	-43.0	3.7	11.5	9.4	-35.1	-13.0	-22.1	
9.549	65.0	H	-22.9	4.1	12.4	10.2	-14.7	-13.0	-1.7	
11.459	43.0	H	-42.2	4.6	13.2	11.1	-33.6	-13.0	-20.6	
NO OTHER EMISSIONS WERE DETECTED AFTER 5TH HARMONIC										

EDGE

09/06/05 High Frequency Measurement
 Compliance Certification Services, Morgan Hill 5m Chamber Site

Test Engr: Vien Tran
 Project #: 05U3649
 Company: Sierra Wireless
 EUT Descr.: 850/900/1800/1900/2100 MHz 5 band PC CARD
 EUT M/N: AIRCARD 850
 Test Target: FCC 24 & RSS-133
 Mode Oper: Tx, EDGE 1900MHz Band _ Low, Mid, & Hi channels_Harmonic Spur Substitution EIRP

Test Equipment:

EMCO Horn 1-18GHz: T73; S/N: 6717 @3m

Horn > 18GHz: [Empty]

Limit: FCC 24

High Pass Filter

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

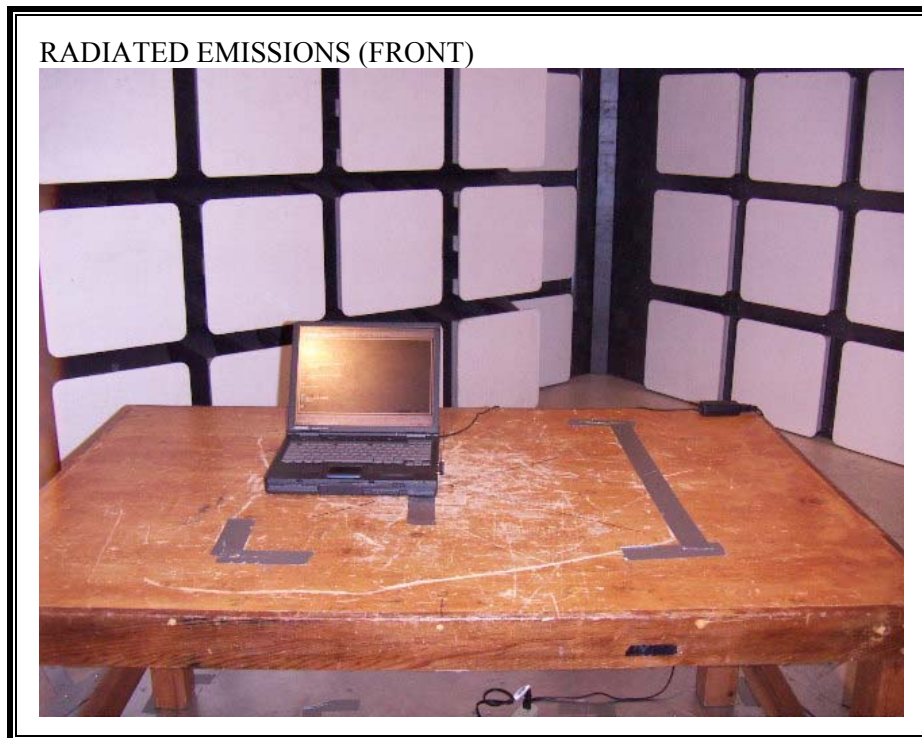
Pre-amplifier 1-26GHz: T34 HP 8449B

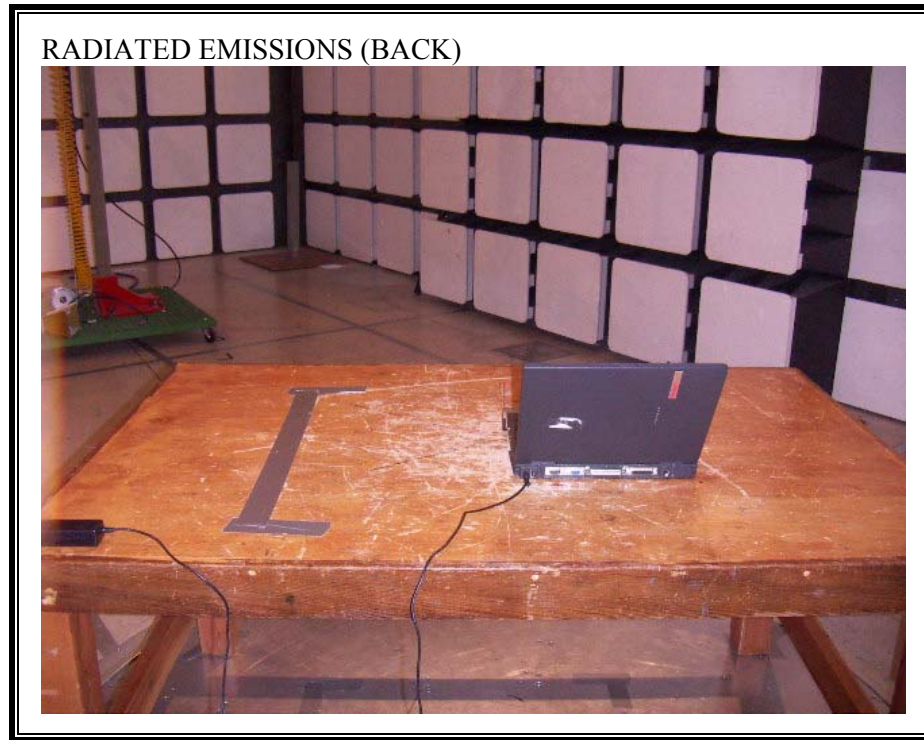
Pre-amplifier 26-40GHz: [Empty]

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 1850.2 MHz										
3.700	54.2	V	-42.1	2.5	10.1	8.0	-34.4	-13.0	-21.4	
5.557	43.4	V	-47.4	3.3	11.0	8.8	-39.7	-13.0	-26.7	
7.400	42.0	V	-46.3	3.7	11.7	9.5	-38.3	-13.0	-25.3	
9.251	63.2	V	-24.8	4.0	12.2	10.0	-16.7	-13.0	-3.7	
11.101	43.3	V	-43.0	4.5	13.3	11.2	-34.2	-13.0	-21.2	
3.700	52.6	H	-43.6	2.5	10.1	8.0	-35.9	-13.0	-22.9	
5.557	42.7	H	-47.1	3.3	11.0	8.8	-39.4	-13.0	-26.4	
7.400	43.0	H	-44.5	3.7	11.7	9.5	-36.5	-13.0	-23.5	
9.251	60.0	H	-28.0	4.0	12.2	10.0	-19.9	-13.0	-6.9	
11.101	43.0	H	-42.7	4.5	13.3	11.2	-33.9	-13.0	-20.9	
MID CH 1880 MHz										
3.760	56.6	V	-39.5	2.5	10.2	8.0	-31.8	-13.0	-18.8	
5.640	45.0	V	-45.7	3.3	11.1	8.9	-38.0	-13.0	-25.0	
7.520	46.7	V	-41.3	3.7	11.6	9.5	-33.4	-13.0	-20.4	
9.400	64.8	V	-23.2	4.1	12.3	10.1	-15.0	-13.0	-2.0	
11.280	45.0	V	-41.1	4.6	13.3	11.1	-32.4	-13.0	-19.4	
3.760	55.3	H	-40.7	2.5	10.2	8.0	-33.0	-13.0	-20.0	
5.640	47.0	H	-42.7	3.3	11.1	8.9	-35.0	-13.0	-22.0	
7.520	43.0	H	-44.2	3.7	11.6	9.5	-36.3	-13.0	-23.3	
9.400	65.7	H	-22.3	4.1	12.3	10.1	-14.1	-13.0	-1.1	
11.280	43.0	H	-42.5	4.6	13.3	11.1	-33.8	-13.0	-20.8	
HI CH 1909.8 MHz										
3.820	62.5	V	-33.4	2.5	10.2	8.0	-25.7	-13.0	-12.7	
5.729	51.0	V	-39.7	3.4	11.2	9.0	-31.9	-13.0	-18.9	
7.639	53.4	V	-34.4	3.7	11.5	9.4	-26.5	-13.0	-13.5	
9.549	65.0	V	-22.9	4.1	12.4	10.2	-14.7	-13.0	-1.7	
11.459	44.0	V	-41.8	4.6	13.2	11.1	-33.2	-13.0	-20.2	
3.820	57.5	H	-38.3	2.5	10.2	8.0	-30.6	-13.0	-17.6	
5.729	46.5	H	-43.2	3.4	11.2	9.0	-35.4	-13.0	-22.4	
7.639	44.0	H	-43.0	3.7	11.5	9.4	-35.1	-13.0	-22.1	
9.549	65.0	H	-22.9	4.1	12.4	10.2	-14.7	-13.0	-1.7	
11.459	43.0	H	-42.2	4.6	13.2	11.1	-33.6	-13.0	-20.6	

8. SETUP PHOTOS

RADIATED EMISSION





END OF REPORT