

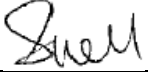

FCC PART 22, 24 TYPE APPROVAL EMI MEASUREMENT AND TEST REPORT

For

AnyDATA Corporation

18902 Bardeen Ave.
Irvine, CA 92612

FCC ID: P4M-DTG2000

This Report Concerns: <input checked="" type="checkbox"/> Class II Permissive Change	Equipment Type: CDMA 2000 Wireless Modem with Dual Band Capability
Test Engineer: Snell Leong / 	
Report No.: R0506011	
Report Date: 2005-06-24	
Reviewed By: Richard Lee / 	
Prepared By: Bay Area Compliance Laboratory Corporation (BACL) 230 Commercial Street Sunnyvale, CA 94085 Tel: (408) 732-9162 Fax: (408) 732 9164	

Note: The test report is specially limited to the above company and this particular sample only. It may not be duplicated without prior written consent of Bay Area Compliance Laboratory Corporation. This report **must not** be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the US Government.

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
TEST FACILITY	4
SYSTEM TEST CONFIGURATION.....	5
JUSTIFICATION	5
BLOCK DIAGRAM.....	5
EQUIPMENT MODIFICATIONS	5
SUPPORT EQUIPMENT LIST AND DETAILS	5
POWER SUPPLY INFORMATION.....	5
CONFIGURATION OF TEST SYSTEM	6
TEST SETUP BLOCK DIAGRAM.....	6
SUMMARY OF TEST RESULTS.....	7
§2.1053 - SPURIOUS RADIATED EMISSIONS.....	8
APPLICABLE STANDARD	8
TEST PROCEDURE	8
TEST EQUIPMENT LIST AND DETAILS.....	8
ENVIRONMENTAL CONDITIONS	8
TEST RESULT	9
§2.1046, §22.913(A)(2), & §24.232 - RF POWER OUTPUT.....	11
APPLICABLE STANDARD	11
TEST PROCEDURE	11
TEST EQUIPMENT LIST AND DETAILS.....	12
ENVIRONMENTAL CONDITIONS	12
TEST RESULTS	12

GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *AnyDATA Corporation*'s product, FCC ID: P4M-DTG2000 or the "EUT" as referred to in this report is a CDMA 2000 Wireless Modem with Dual Band Capability, which measures approximately 38mm x 38mm x 5.8mm.

The EUT operates at the frequency of 824.73 – 848.19 MHz & 1851.25 – 1908.75 MHz, output power 25.22dBm (0.333W) for 837MHz and 25.49dBm (0.354W) for 1880MHz, frequency tolerance 2.5ppm, emission designator 1M29F9W.

** The test data gathered are from typical production sample, serial number: 0405K1691171 provided by the manufacturer.*

Objective

This type approval report is prepared on behalf of *AnyDATA Corporation* in accordance with Part 2, Subpart J, Part 15, Subparts A and B, Part 22 Subpart H, and Part 24 Subpart E of the Federal Communication Commissions rules.

It is also prepared in accordance with Part 2, Subpart J, Part 15, Subparts A and B, Part 22 Subpart H and Part 24 Subpart E of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules for output power, modulation characteristic, occupied bandwidth, spurious emission at antenna terminal, field strength of spurious radiation, frequency stability, and conducted and radiated margin.

This is a C2PC application. The differences between the current device and original device are as follows:

1. Change in PCB:
 - a. Changed 1900MHz CDMA Rx and Tx SAR Filter from Fujitsu to Sawteck
 - b. Changed 800MHz CDMA Rx and Tx SAR Filter from Fujitsu to Sawteck
 - c. Changed 1500MHz gpsOne Rx SAW Filter from Fujitsu to Sawteck
 - d. Removed unused RF connector PAD
2. Change in Metal Case
 - a. Add Solder Leads

Due to the changes mentioned above, spurious emission and ERP testing is required to prove that current device still meets the FCC part 22/24 standards.

Related Submittal(s)/Grant(s)

The original application was granted on 2004-07-14. Please refer to BA CL's test report R0405243 for details.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

Part 15 Subpart B – Unintentional Radiators

Part 22 Subpart H – Cellular Radio Telephone Service

Part 24 Subpart E - PCS

Applicable Standards: TIA EIA 137-A, TIA EIA 98-C, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Open Area Test site used by BACL Corp. to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Sunnyvale, California, USA.

Test site at BACL Corp. has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the test methods and procedures set forth in ANSI C63.4-2003& TIA/EIA-603.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-1298 and R-1234. The test site has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200167-0). The current scope of accreditations is attached hereinafter and can also be found at <http://ts.nist.gov/ts/htdocs/210/214/scopes/2001670.htm>

SYSTEM TEST CONFIGURATION

Justification

The EUT was configured for testing according to TIA/EIA 603A.

The final qualification test was performed with the EUT operating at normal mode.

Block Diagram

Please refer to Exhibit D.

Equipment Modifications

No modifications were made to the EUT.

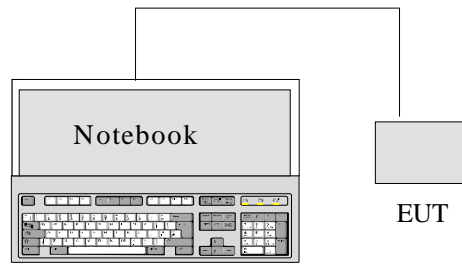
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number	FCC ID
Compaq	Notebook PC	Presario 2100	CNF43403FB	DOC

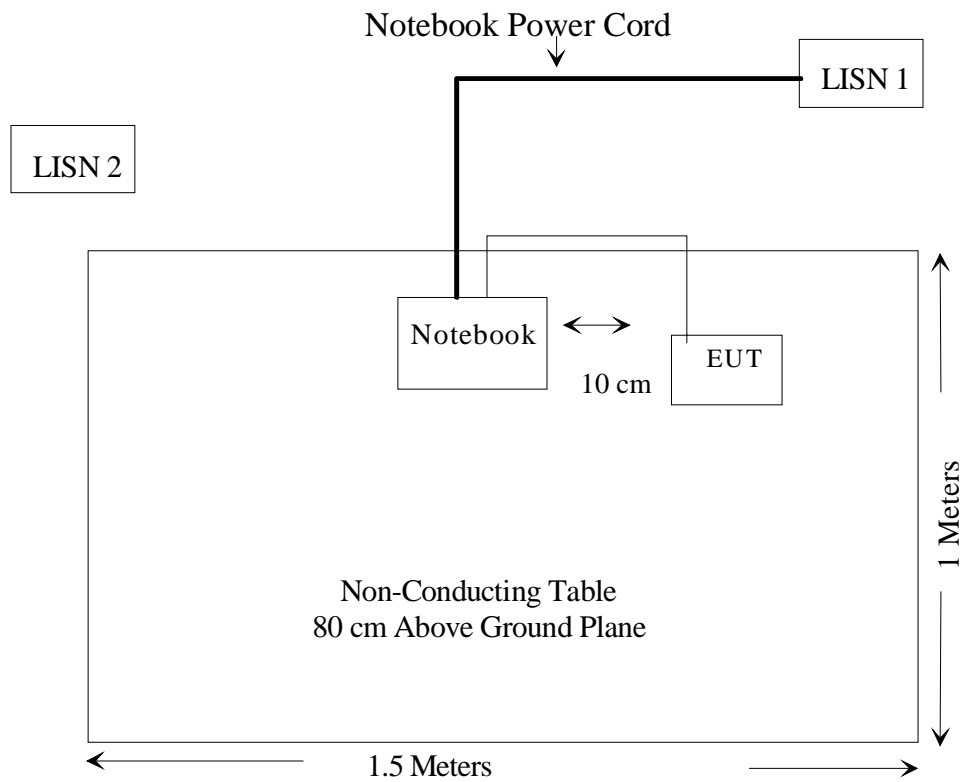
Power Supply Information

Manufacturer	Description	Model	Serial Number	FCC ID
HP	Triple Output Power Supply	6236B	2212-19	DOC

Configuration of Test System



Test Setup Block Diagram



SUMMARY OF TEST RESULTS

Results reported relate only to the product tested, serial number: *0405K1691171*.

FCC RULE	DESCRIPTION OF TEST	RESULT
§ 2.1047	Modulation Characteristics	N/A
§ 2.1053	Field Strength of Spurious Radiation	Compliant
§1.1307(b)(1), §2.1093	RF Exposure	N/A
§ 15.107	Conducted Emissions	N/A
§ 2.1046, § 22.912 (d) § 24.232	RF Output Power	Compliant
§ 2.1046, § 22.913 (a) § 24.232	Conducted Output Power	N/A
§ 2.1049 § 22.917 § 22.905 § 24.238	Out of Band Emission, Occupied Bandwidth	N/A
§ 2.1051, § 22.917 § 24.238(a)	Spurious Emissions at Antenna Terminals	N/A
§ 2.1055 (a) § 2.1055 (d) § 22.355 § 24.235	Frequency stability vs. temperature Frequency stability vs. voltage	N/A
§ 22.917 §24.238	Band Edge	N/A

§2.1053 - SPURIOUS RADIATED EMISSIONS

Applicable Standard

Requirements: CFR 47, § 2.1053.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log₁₀ (power out in Watts)

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date
HP	Amplifier, Pre (.1 ~1300MHz)	8447D	2944A10198	8/20/2004
Sunol Science	30Mhz ~ 2 GHz Antenna	JB1	A03105-3	02/11/2005
HP	Generator, Signal	8648C	3426A01345	5/17/2005
Com-Power	Antenna, Dipole	AD-100	2219	9/26/2004
HP	Pre, Amplifier (1 ~ 26.5 GHz)	8449B	3147A00400	10/05/2005
R & S	Signal Generator	SMIQ03	849192/0085	05/02/2005
Wisewave	Antenna, Horn, Std	ARH-2823-02	10555-02	12/13/2004

* **Statement of Traceability:** BACL attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

Environmental Conditions

Temperature:	25° C
Relative Humidity:	37%
ATM Pressure:	1026mbar

The testing was performed by Snell Leong on 2005-06-21.

Test Result

FCC Part 22: 836.52MHz

-7.3 dB at 3346.73 MHz for Transmitter

-9.1dB at 399.1 MHz for Receiver

FCC Part 24: 1880MHz

-6.4 dB at 3760 MHz for Transmitter

-9.1dB at 399.1 MHz for Receiver

TX Spurious Emission Primary scan 30 MHz - 9GHz (TX) 836.52Mhz

Indicated		Table	Test Antenna		Substituted		Antenna	Cable	Absolute		Limit	Margin
Frequency	Ampl.	Angle	Height	Polar	Frequency	Level	Gain	Loss	Leval		dBm	dB
MHz	dBuV/m	Degree	Meter	H/V	MHz	dBm	Correction	dB	dBm	nW		
3346.73	68.55	180	1.4	v	3346.725	-21.66	9.6	8.26	-20.3	9289.664	-13	-7.3
3346.73	66.78	0	1.4	h	3346.725	-23.68	9.6	8.26	-22.3	5834.451	-13	-9.3
2511.59	70.1	90	1.2	v	2511.592	-26.6	9.9	6.26	-23.0	5058.247	-13	-10.0
2511.59	59.61	0	1.4	h	2511.592	-37.46	9.9	6.26	-33.8	414.954	-13	-20.8
1674.00	65.2	330	1.2	h	1674	-38.42	8.8	4.76	-34.4	364.754	-13	-21.4
1674.00	61.45	180	1.4	v	1674	-45.6	8.8	4.76	-41.6	69.823	-13	-28.6
1763.92	52.78	330	1.2	h	1763.92	-52.7	8.8	5.05	-49.0	12.735	-13	-36.0
1763.92	52.14	180	1.4	v	1763.92	-53.42	8.8	5.05	-49.7	10.789	-13	-36.7

Receiver Spurious Emission (800Mhz)

Frequency	Reading	Direction	Height	Polar	Antenna Loss	Cable loss	Amplifer	Correction	15B	15B
MHz	dBuV	Degree	Meter	H / V	dB	dB	dB	Factor	Limit	Margin
								dBuV		
399.1	52.95	280	2.8	H	16.4	2.5	28.25	34.4	43.5	-9.1
664.73	53.45	240	3.1	H	20.8	3.04	28.9	34.4	46	-11.6
253.25	52.65	270	2.1	H	13.3	2.17	28	27.6	40	-12.4
399.1	49.3	250	1	V	16.4	2.5	28.25	30.8	43.5	-12.7
664.73	51.56	270	1	V	20.8	3.04	28.9	32.9	46	-13.1
253.25	50.9	330	1.2	V	13.3	2.17	28	24.7	40	-15.3
195.32	62.2	270	3.2	H	14.2	2.12	28.22	20.7	40	-19.3
529.1	48.35	280	2.8	H	18.8	3	28.9	25.3	46	-20.7
195.32	57.2	75	1.8	V	14.2	2.12	28.22	18.8	40	-21.2
529.1	47.6	250	1	V	18.8	3	28.9	24.3	46	-21.7

TX Spurious Emission Primary scan 30 MHz - 20GHz (TX) 1880Mhz

Indicated		Table	Test Antenna		Substituted		Antenna	Cable	Absolute		Limit	Margin
Frequency	Ampl.	Angle	Height	Polar	Frequency	Level	Gain	Loss	Leval		dBm	dB
MHz	dBuV/m	Degree	Meter	H/V	MHz	dBm	Correction	dB	dBm	nW		
3760	64.32	0	1.4	h	3760	-21.2	10.3	8.5	-19.4	11481.536	-13	-6.4
3760	63.36	90	1.2	v	3760	-22.18	10.3	8.5	-20.4	9162.205	-13	-7.4
5640	57.38	0	1.4	v	5640	-22.77	10.6	9.3	-21.5	7128.530	-13	-8.5
5640	49.95	270	1.4	h	5640	-32.13	10.6	9.3	-30.8	826.038	-13	-17.8
7520	41.1	0	1.4	v	7520	-31.09	10.2	10.4	-31.3	743.019	-13	-18.3
7520	40.68	0	1.4	h	7520	-32.6	10.2	10.1	-32.5	562.341	-13	-19.5

Receiver Spurious Emission (1900MHz)

Frequency MHz	Reading dBuV	Direction Degree	Height Meter	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifer dB	Correction Factor dBuV	15B Limit	15B Margin
399.1	51.4	280	2.8	H	16.4	2.5	28.25	34.4	43.5	-9.1
664.73	51.8	240	3.1	H	20.8	3.04	28.9	34.4	46	-11.6
253.25	51.1	270	2.1	H	13.3	2.17	28	27.6	40	-12.4
399.1	47.8	250	1	V	16.4	2.5	28.25	30.8	43.5	-12.7
664.73	50.1	270	1	V	20.8	3.04	28.9	32.9	46	-13.1
253.25	49.4	330	1.2	V	13.3	2.17	28	24.7	40	-15.3
195.32	60.3	270	3.2	H	14.2	2.12	28.22	20.7	40	-19.3
529.1	46.9	280	2.8	H	18.8	3	28.9	25.3	46	-20.7
195.32	55.5	75	1.8	V	14.2	2.12	28.22	18.8	40	-21.2
529.1	46.1	250	1	V	18.8	3	28.9	24.3	46	-21.7

§2.1046, §22.913(a)(2), & §24.232 - RF POWER OUTPUT

Applicable Standard

According to FCC §2.1046 and §24.232 (1), mobile/portable stations are limited to 2 watts EIRP. According to FCC §22.913(a)(2), the ERP of mobile transmitters must not exceed 7 watts.

Test Procedure

1. On a test site, the EUT shall be placed at 1.5m height on a turn table, and in the position closest to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3m from EUT to correspond to the frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the quasi-peak detector is used for the measurement.
4. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.
5. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
6. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
7. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
8. The maximum signal level detected by the measuring receiver shall be noted.
9. The transmitter shall be replaced by a horn (substitution antenna).
10. The substitution antenna shall be orientated for vertical polarization and the length of the substitution antenna shall be adjusted to correspond to the frequency of the transmitter.
11. The substitution antenna shall be connected to a calibrated signal generator.
12. In necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
15. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
16. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

17. The measure of the effective radiated power is the large of the two levels recorded, at the input to the substitution antenna, corrected for gain of the substitution antenna if necessary.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date
Agilent	Spectrum Analyzer	E4446A	US44300386	2004-11-10

* **Statement of Traceability: BACL Corp.** certifies that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Environmental Conditions

Temperature:	25° C
Relative Humidity:	37%
ATM Pressure:	1026mbar

The testing was performed by Snell Leong on 2005-06-21.

Test Results

Normal condition

FCC Rules	Frequency Mhz	Measured Power dBm	Limit dBm
22	837	25.22	38.45
24	1880	25.49	33.00