



CERTIFICATE #2316.01

Test Report #: 2204-1

Date: Sept. 28, 2005

Issued To:

Luka Petrovic
American Power Conversion
85 Rangeway Road
North Billerica, MA 01862 USA
978-670-2440

Product Name/Description	Uninterruptable Power Supply
Model Number	SUA3000RML3U / SUA2200RML3U
Serial Number(s)	None
Test Description	Radiated & Conducted Emissions
Test Standard	FCC Part 15 & ICES-003, Class A
Test Dates	August 22, 2005
Test Engineer(s)	Adam Chubka
Test Results	Pass

Prepared By: Adam P Chubka
Adam Chubka
EMC Test Technician

Reviewed By: Ron Leczynski
Ron Leczynski
Senior EMC Engineer

This test report shall not be reproduced, except in full, without the written approval of The Compliance Management Group.

TABLE OF CONTENTS

SECTION 1 OVERVIEW..... 3

 1.1 *Purpose of Test*..... 3

 1.2 *Date of Test* 3

 1.3 *Statement of Compliance* 3

SECTION 2 REFERENCES..... 3

 2.1 *Procedures/Standards* 3

 2.2 *Deviations from Standards* 3

 2.3 *Product Labeling*..... 3

 Figure 2.3.1: *FCC Label for Class A Products* 3

 Figure 2.3.2: *ICES-003 Label for Class A Products* 3

SECTION 3 DETAILS 4

 3.1 *Description of Product*..... 4

 3.2 *Test Software/Operating Mode*..... 4

 3.3 *Laboratory Test Configuration*..... 4

 3.4 *Pictures*..... 6

SECTION 4 CONCLUSIONS 9

 4.1 *Summary of Test Results* 9

 4.2 *Special Notes* 9

 4.3 *Required Compliance Modifications*..... 9

SECTION 5 DATA 10

 5.1 *Radiated E Field Emissions Data* 10

 5.2 *Conducted Emissions Data* 12

APPENDIX A EMI EMISSIONS AND IMMUNITY TEST FORM..... 16

APPENDIX B COMPLIANCE MANAGEMENT GROUP CREDENTIALS 20

SECTION 1 OVERVIEW

1.1 Purpose of Test

To determine if the Uninterruptable Power Supply SUA3000RMXL3U / SUA2200RMXL3U will meet the FCC Part 15 Class A and ICES-003 Class A requirements for radiated and conducted emissions.

1.2 Date of Test

August 22, 2005

1.3 Statement of Compliance

The Uninterruptable Power Supply SUA3000RMXL3U / SUA2200RMXL3U unit that was tested and referenced in this test report was found to comply with the requirements of:

FCC Part 15, Class A
ICES-003, Class A

SECTION 2 REFERENCES

2.1 Procedures/Standards

- ANSI C63.4-2003, Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz
- Federal Communications Commission Rules Part 15
- ICES-003, Industry Canada, Interference-Causing Equipment Standard, Digital Apparatus

2.2 Deviations from Standards

None

2.3 Product Labeling

The product must display the applicable label.

Figure 2.3.1: FCC Label for Class A Products

<p>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.</p>
--

Figure 2.3.2: ICES-003 Label for Class A Products

<p>This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.</p> <p>Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.</p>
--

SECTION 3 DETAILS

3.1 Description of Product

The Equipment Under Test (EUT) consisted of the Uninterruptable Power Supply SUA3000RMXL3U and external battery pack. This report covers a second model the SUA2200XL3U. Per Luka Petrovic of APC the SUA2200XL3U is the same unit but lower current rating. The SUA3000RMXL3U is the worse case emissions EUT.

The EUT was configured as given in Appendix A.

3.2 Test Software/Operating Mode

The EUT was tested charging fully discharged batteries and discharging charged batteries at a 91% load for Radiated Emissions. Conducted emissions were tested charging with a 91% load and no load.

3.3 Laboratory Test Configuration

The test setup was per the procedures and standards referenced in section 2.1. The voltage supplied to the EUT was 120 VAC, 60 Hz. All support equipment was powered by 120VAC, 60Hz.

Radiated Test

The EUT was installed on the 80 cm high wooden table on the three-meter diameter turntable, which is located in the upper level of the Free Field Site (FFS). A 10-meter distance was used for EUT to antenna separation. The free field ground plane consists of a continuous ground plane 10.5 meters wide and 13.9 meters long. The product was scanned from 1-4 meters in height and 360 degrees around it. The frequency range scanned was from 30 to 1000 MHz for all configurations. All test equipment was kept below the ground plane with the exception of the antenna and associated cables required for measurements. The cable positioning, antenna height/polarization, and turntable orientation were all chosen to maximize the emissions in order to represent a worst-case condition.

Conducted Test

The EUT was installed on the 80 cm high wooden table in the FFS conducted emissions test area. A 40 cm distance between the vertical plane and the EUT was maintained. The EUT's power cord was bundled and kept at a distance of 80 cm from the Line Impedance Stabilization Network (LISN). Measurements were made to determine the levels of RF noise induced into the AC power line. Power for the EUT was supplied via the LISN, which was electrically bonded to the ground plane. The frequency range scanned was from 150 kHz to 30 MHz. All support equipment was powered via separate LISNs.

Test Equipment List

Test Equipment	Serial #	Calibration Due
Chase model CBL6111 Biconilog Antenna 30-1000 MHz	1052	4/15/2006
HP model 8566B Spectrum Analyzer (SA)	2928A06006	3/02/2006
HP model 85662A Spectrum Analyzer Display	2848A18006	3/02/2006
HP model 85685A RF Preselector (RFP)	3010A01074	3/02/2006
HP model 85650A Quasi-Peak Adapter (QPA)	2043A00171	3/02/2006
Andrew LDF2-50 radiated emissions cable	RR-RE10M-02	1/22/2006
Belden 9913 conducted emissions cable	RR-CE01	12/20/2005
Rohde & Schwarz 50 Ohm Line Impedance Stabilization Network (LISN), 1-Phase, 16 Amp, 50/60 Hz, model ESH3-Z5	862789/013	12/14/2005
Fluke model 111 Digital Multimeter	82700731	3/28/2006
Extech Temp & Humid Meter, Model TH437	EXT006	1/25/06
Fisher Scientific Barometer, Model 14-648-51	41363306	10/11/05

All test equipment used is calibrated and traceable to NIST requirements.

Test Environment: Temp.= 21.0°C, Relative Humidity = 46%
Barometric Pressure = 101kPa

3.4 Pictures



Configuration for Radiated Emissions (Front Close-up)



Configuration for Radiated Emissions (Front)

3.4 Pictures



Configuration for Radiated Emissions (Rear Close-up)



Configuration for Radiated Emissions (Rear)

3.4 Pictures (continued)



Configuration for Conducted Emissions



Configuration for Conducted Emissions

SECTION 4 CONCLUSIONS

4.1 Summary of Test Results

FCC, Class A: **Passed**

ICES-003, Class A: **Passed**
(Refer to FCC Radiated and Conducted Tables)

4.2 Special Notes

The test results set forth in this report are expressly limited to the configuration and tests herein. Any changes in configuration may void test results. *The Compliance Management Group* agrees to quote charges for any retesting requested by the customer.

This report must not be used by the customer to claim product endorsement by any agency of the U.S. Government.

4.3 Required Compliance Modifications

None

SECTION 5 DATA

5.1 Radiated E Field Emissions Data

Test Date : 8/22/2005
Product (EUT) : SUA3000RML3U
Client : American Power Conversion

Line Voltage : 120Vac
Line Frequency : 60Hz

Test Type : Qualification
Regulatory Limit : FCC, Class A, 10 Meters

Temperature : 21.0 °C
Relative Humidity : 46 % RH
Barometric Pressure: 101KPa

Test Technician : Adam Chubka

Note: The EUT is charging fully discharged batteries with a 91% load.

Equipment Used to Perform Test:

Device	Serial Number	Calibration Due
Radiated Emissions Test	Version 1.0.0	N/A - Software
Hewlett Packard 8566B	2928A06006	03/02/2006
Hewlett Packard 85650A	2043A00171	03/02/2006
Hewlett Packard 85685A	3010A01074	03/02/2006
Chase CBL6111	1052	04/15/2006
Andrew LDF2-50	RR-RE10M 02	01/22/2006

Test Data:

Frequency MHz	Amplitude dB μ V	Corr Fact dB	Amplitude dB μ V/m	Limit dB μ V/m	Margin dB	Ant Pol H/V	Ant Ht cm	Azimuth Deg	Comment
44.10	6.1	12.23	18.3	39.10	-20.80	V	100	0	Peak
200.00	13.0	11.55	24.6	43.50	-18.90	V	100	0	Peak
250.00	16.8	13.93	30.7	46.50	-15.80	V	100	180	Peak
400.00	7.0	18.75	25.8	46.50	-20.70	V	100	90	Peak
450.00	3.8	19.65	23.5	46.50	-23.00	V	100	0	Peak
500.00	5.7	20.70	26.4	46.50	-20.10	H	400	0	Peak
									Scanned to 1000MHz

5.1 Radiated E Field Emissions Data (continued)

Test Date : 8/23/2005
Product (EUT) : SUA3000RML3U
Client : American Power Conversion

Line Voltage : 120
Line Frequency : 60Hz

Test Type : Qualification
Regulatory Limit : FCC, Class A, 10 Meters

Temperature : 21.0 °C
Relative Humidity : 46 % RH
Barometric Pressure: 101 kPa

Test Technician : Adam Chubka

Note: The EUT is discharging fully charged batteries with a 91% load.

Equipment Used to Perform Test:

Device	Serial Number	Calibration Due
Radiated Emissions Test	Version 1.0.0	N/A - Software
Hewlett Packard 8566B	2928A06006	03/02/2006
Hewlett Packard 85650A	2043A00171	03/02/2006
Hewlett Packard 85685A	3010A01074	03/02/2006
Chase CBL6111	1052	04/15/2006
Andrew LDF2-50	RR-RE10M 02	01/22/2006

Test Data:

Frequency MHz	Amplitude dBµV	Corr Fact dB	Amplitude dBµV/m	Limit dBµV/m	Margin dB	Ant Pol H/V	Ant Ht cm	Azimuth Deg	Comment
52.60	5.1	8.20	13.3	39.10	-25.80	V	100	0	Peak
200.01	11.7	11.6	23.3	43.50	-20.20	V	100	45	Peak
249.99	15.4	13.92	29.3	46.50	-17.20	V	100	90	Peak
400.00	9.3	18.75	28.1	46.50	-18.40	V	100	45	Peak
450.00	8.7	19.65	28.4	46.50	-18.10	V	100	45	Peak
500.00	6.2	20.70	26.9	46.50	-19.60	V	100	180	Peak
									Scanned to 1000MHz

5.2 Conducted Emissions Data

PHASE LINE (FCC Class A)

Test Date : 8/22/05
Client : American Power Conversion
Product (EUT) : SUA3000RMXL3U
Test Technician : Adam Chubka
Test Type : Qualification
Regulatory Limit : FCC, Class A

Scan Number : CE001
Line Voltage : 120Vac
Line Frequency : 60Hz
Temperature : 22.1 °C
Relative Humidity : 54 % RH
Barometric Pressure: 99.9 kPa

Device Under Test : SUA3000RMXL3U

LISN Phase : L1

Note: The EUT is charging fully discharged batteries at 91% load.

Equipment Used to Perform Test:

Device	Serial Number	Calibration Due
Conducted Emissions Test	Version 1.0.0	N/A - Test Software
Hewlett Packard 8566B	2928A06006	03/02/2006
Hewlett Packard 85650A	2043A00171	03/02/2006
Hewlett Packard 85685A	3010A01074	03/02/2006
Rohde & Schwarz ESH2-Z5	843285/002	12/15/2005
Belden 9913	RR-CE01	12/20/2005

Test Data:

Frequency MHz	Corr Fact dB	Pk Ampl dBµV	QP Ampl dBµV	QP Limit dBµV	QP Margin dB	Av Ampl dBµV	Av Limit dBµV	Av Margin dB	Comment
.1800	.15	51.50	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -14.5 dB < Av lim
.3900	.20	40.90	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -25.1 dB < Av lim
1.1900	.22	38.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -21.6 dB < Av lim
1.3100	.22	38.70	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -21.3 dB < Av lim
4.3300	.45	34.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -25.8 dB < Av lim
5.4600	.55	39.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -20.8 dB < Av lim
6.1500	.60	39.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -20.6 dB < Av lim
9.7600	.91	35.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -24.6 dB < Av lim
10.7000	.96	38.00	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -22.0 dB < Av lim
17.5200	1.57	32.00	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -28.0 dB < Av lim
18.7200	1.76	32.30	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -27.7 dB < Av lim
19.7300	1.92	34.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -25.8 dB < Av lim
20.1800	2.01	32.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -27.6 dB < Av lim

NEUTRAL LINE (FCC Class A)

Test Date : 8/22/05
Client : American Power Conversion
Product (EUT) : SUA3000RMXL3U
Test Technician : Adam Chubka
Test Type : Qualification
Regulatory Limit : FCC, Class A

Scan Number : CE002
Line Voltage : 120Vac
Line Frequency : 60Hz
Temperature : 22.1 °C
Relative Humidity : 54 % RH
Barometric Pressure: 99.9 kPa

Device Under Test : SUA3000RMXL3U

LISN Phase : N

Note: The EUT is charging fully discharged batteries at 91% load.

Equipment Used to Perform Test:

Device	Serial Number	Calibration Due
Conducted Emissions Test	Version 1.0.0	N/A - Test Software
Hewlett Packard 8566B	2928A06006	03/02/2006
Hewlett Packard 85650A	2043A00171	03/02/2006
Hewlett Packard 85685A	3010A01074	03/02/2006
Rohde & Schwarz ESH2-Z5	843285/002	12/15/2005
Belden 9913	RR-CE01	12/20/2005

Test Data:

Frequency MHz	Corr Fact dB	Pk Ampl dBµV	QP Ampl dBµV	QP Limit dBµV	QP Margin dB	Av Ampl dBµV	Av Limit dBµV	Av Margin dB	Comment
.1550	.15	62.60	49.20	79.00	-29.80	N/A	66.00	N/A	QP = -16.8 dB < Av lim
.2100	.16	53.00	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -13.0 dB < Av lim
.2400	.16	49.90	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -16.1 dB < Av lim
.4500	.19	40.00	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -26.0 dB < Av lim
1.1900	.23	40.30	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -19.7 dB < Av lim
4.4500	.46	37.10	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -22.9 dB < Av lim
5.7000	.56	42.00	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -18.0 dB < Av lim
9.8800	.84	36.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -23.8 dB < Av lim
10.4200	.88	37.80	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -22.2 dB < Av lim
13.0500	1.12	27.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -32.6 dB < Av lim
17.5500	1.50	37.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -22.6 dB < Av lim
19.3700	1.70	37.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -22.8 dB < Av lim
20.1200	1.76	37.70	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -22.3 dB < Av lim

PHASE LINE (FCC Class A, No Load)

Test Date : 8/22/05
Client : American Power Conversion
Product (EUT) : SUA3000RMXL3U
Test Technician : Adam Chubka
Test Type : Qualification
Regulatory Limit : FCC, Class A

Scan Number : CE004
Line Voltage : 120Vac
Line Frequency : 60Hz
Temperature : 22.1 °C
Relative Humidity : 54 % RH
Barometric Pressure: 99.9 kPa

Device Under Test : SUA3000RMXL3U

LISN Phase : L1

Note: The EUT is charging fully discharged batteries with no load.

Equipment Used to Perform Test:

Device	Serial Number	Calibration Due
Conducted Emissions Test	Version 1.0.0	N/A - Test Software
Hewlett Packard 8566B	2928A06006	03/02/2006
Hewlett Packard 85650A	2043A00171	03/02/2006
Hewlett Packard 85685A	3010A01074	03/02/2006
Rohde & Schwarz ESH2-Z5	843285/002	12/15/2005
Belden 9913	RR-CE01	12/20/2005

Test Data:

Frequency MHz	Corr Fact dB	Pk Ampl dBµV	QP Ampl dBµV	QP Limit dBµV	QP Margin dB	Av Ampl dBµV	Av Limit dBµV	Av Margin dB	Comment
.1500	.14	64.60	51.50	79.00	-27.50	N/A	66.00	N/A	QP = -14.5 dB < Av lim
.2100	.15	54.40	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -11.6 dB < Av lim
.3300	.17	45.10	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -20.9 dB < Av lim
1.1600	.21	43.00	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -17.0 dB < Av lim
4.5700	.47	35.60	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -24.4 dB < Av lim
5.7900	.57	42.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -17.6 dB < Av lim
6.7200	.65	39.00	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -21.0 dB < Av lim
9.4000	.87	30.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -29.8 dB < Av lim
11.1900	.99	35.90	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -24.1 dB < Av lim
19.2500	1.84	37.30	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -22.7 dB < Av lim
20.2700	2.03	35.70	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -24.3 dB < Av lim
27.8200	2.59	14.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -45.6 dB < Av lim

NEUTRAL LINE (FCC Class A, No load)

Test Date : 8/22/05
Client : American Power Conversion
Product (EUT) : SUA3000RMXL3U
Test Technician : Adam Chubka
Test Type : Qualification
Regulatory Limit : FCC, Class A

Scan Number : CE003
Line Voltage : 120Vac
Line Frequency : 60Hz
Temperature : 22.1 °C
Relative Humidity : 54 % RH
Barometric Pressure: 99.9 kPa

Device Under Test : SUA3000RMXL3U

LISN Phase : N

Note: The EUT is charging fully discharged batteries with no load.

Equipment Used to Perform Test:

Device	Serial Number	Calibration Due
Conducted Emissions Test	Version 1.0.0	N/A - Test Software
Hewlett Packard 8566B	2928A06006	03/02/2006
Hewlett Packard 85650A	2043A00171	03/02/2006
Hewlett Packard 85685A	3010A01074	03/02/2006
Rohde & Schwarz ESH2-Z5	843285/002	12/15/2005
Belden 9913	RR-CE01	12/20/2005

Test Data:

Frequency MHz	Corr Fact dB	Pk Ampl dBµV	QP Ampl dBµV	QP Limit dBµV	QP Margin dB	Av Ampl dBµV	Av Limit dBµV	Av Margin dB	Comment
.1500	.15	64.70	53.00	79.00	-26.00	N/A	66.00	N/A	QP = -13.0 dB < Av lim
.2100	.16	55.60	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -10.4 dB < Av lim
.3300	.17	45.30	N/A	79.00	N/A	N/A	66.00	N/A	Pk = -20.7 dB < Av lim
1.1500	.23	39.70	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -20.3 dB < Av lim
4.2100	.43	35.30	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -24.7 dB < Av lim
5.8000	.56	42.80	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -17.2 dB < Av lim
6.8100	.63	38.10	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -21.9 dB < Av lim
11.2200	.95	39.30	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -20.7 dB < Av lim
12.9900	1.11	32.40	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -27.6 dB < Av lim
17.2800	1.48	36.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -23.8 dB < Av lim
18.9000	1.65	38.20	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -21.8 dB < Av lim
25.1000	1.72	20.60	N/A	73.00	N/A	N/A	60.00	N/A	Pk = -39.4 dB < Av lim

APPENDIX A

EMI Emissions and Immunity Test Form

CLIENT INFORMATION			
Customer	APC	Contact Person	Luka Petrovic
Telephone #	978-670-2440 ext 17242	Fax # 978-670-2380	
Email address	<Luka.Petrovic@apcc.com>		

PRODUCT INFORMATION	
Product Name	
Model Number	SUA3000RMXL3U, SUA2200XL3U
Serial Number	
Dimensions	25 1/4" X 17" X 5 1/4"
Weight	135 lbs
Test Purpose (such as qualify new or modified product)	Qualify new product

TEST SERVICES REQUESTED		
Top Level Standard	Description	Check (if yes)
<u>Emissions</u>		
Radiated Pre-Scan	Engineering evaluation.	
FCC Part 15	Radio Frequency Devices	YES
FCC Part 18	Industrial, Scientific & Medical Equipment	
ICES-001	Industrial, Scientific & Medical Equipment	
ICES-003	Digital Apparatus	YES
EN55011	Industrial, Scientific & Medical Equipment	
EN55014	Household Appliances	
EN55022	Information Technology Equipment	
EN61000-3-2	Harmonics	
EN61000-3-3	Flicker	
Other	BSMI	
<u>Immunity</u>		
EN55014	Household Appliances	
EN55024	Information Technology Equipment	
EN60601-1-2	Medical Equipment	
EN61000-6-1	Residential, Commercial & Light Industrial Environment	
EN61000-6-2	Industrial Environment	
EN61326-1	Laboratory/Measurement Equipment	
Other		

TEST SETUP INFORMATION

Voltage: 120V **Current:** 25A **Frequency:** 60Hz Single-Phase 3-Phase

Please note any special conditions that would affect product configuration and testing.

The product should be tested in all modes of operation: on-line and on-battery (inverter).

MAGNETIC DEVICES

Are there any magnetic devices in the EUT that may be susceptible to magnetic fields (i.e., magnetic switches or Hall effect sensors)?

NO

PRODUCT DESCRIPTION

(Provide a detailed description of the product under test. What is its function? Describe in adequate detail that an administrator at a government agency can understand)

The product is UPS (Uninterruptible power supply). The main function is to maintain power to the load during power outages and disturbances in the line voltage.

TEST JUSTIFICATION

(If the EUT represents a product family, please explain why this configuration represents the operating mode that should produce the highest emissions while remaining consistent with normal operating conditions.)

This is the product that has the highest output power rating and highest emissions.
The product should be tested in all modes of operation: on-line and on-battery (inverter).

PRODUCT [internal] CONFIGURATION INFORMATION				
Type of Device (such as disk drive, I/O, etc.)	Rev	Part Number	Serial Number	Manufacturer & Capacity of Device
WEB Card		AP9617		APC

OSCILLATORS & Other Internally Generated Frequencies (such as CPUs, etc.)	
Frequency	Description
16MHz	Microprocessor
24MHz	USB microprocessor
25MHz	WEB card microprocessor

NOTE: The highest frequency generated determines the test level.

EXTERNAL CABLING INFORMATION					
Cable From	Cable To	Cable Length	Part Number	# of cable if multiples	Description
NEMA 5-15	IEC 320-C13	4-6ft		7	Load cables
NEMA 5-15	L6-30	4-6ft		4	Load cables
DB9	DB9	6ft	940-0024C	1	Serial cable
10P10C RJ	USB series plug	6ft	940-0127D	1	USB cable
RJ45	RJ45	6ft	940-0229	1	CAT 5 network cable

UNPOPULATED PORTS	
Port/Device	Description/Reason

SUPPORT EQUIPMENT LIST			
Type of Device (workstation, keyboard, etc)	Part Number	Serial Number	Manufacturer
Display module	AP9125RM		APC
Resistive load	K490		AVTRON

EMISSIONS EXERCISE SOFTWARE DESCRIPTION

(Describe what software is running on the product under test and how it will exercise the system during emissions testing. Include the program cycle time once, in seconds, for all devices to be exercised.)

N/A

IMMUNITY EXERCISE SOFTWARE DESCRIPTION

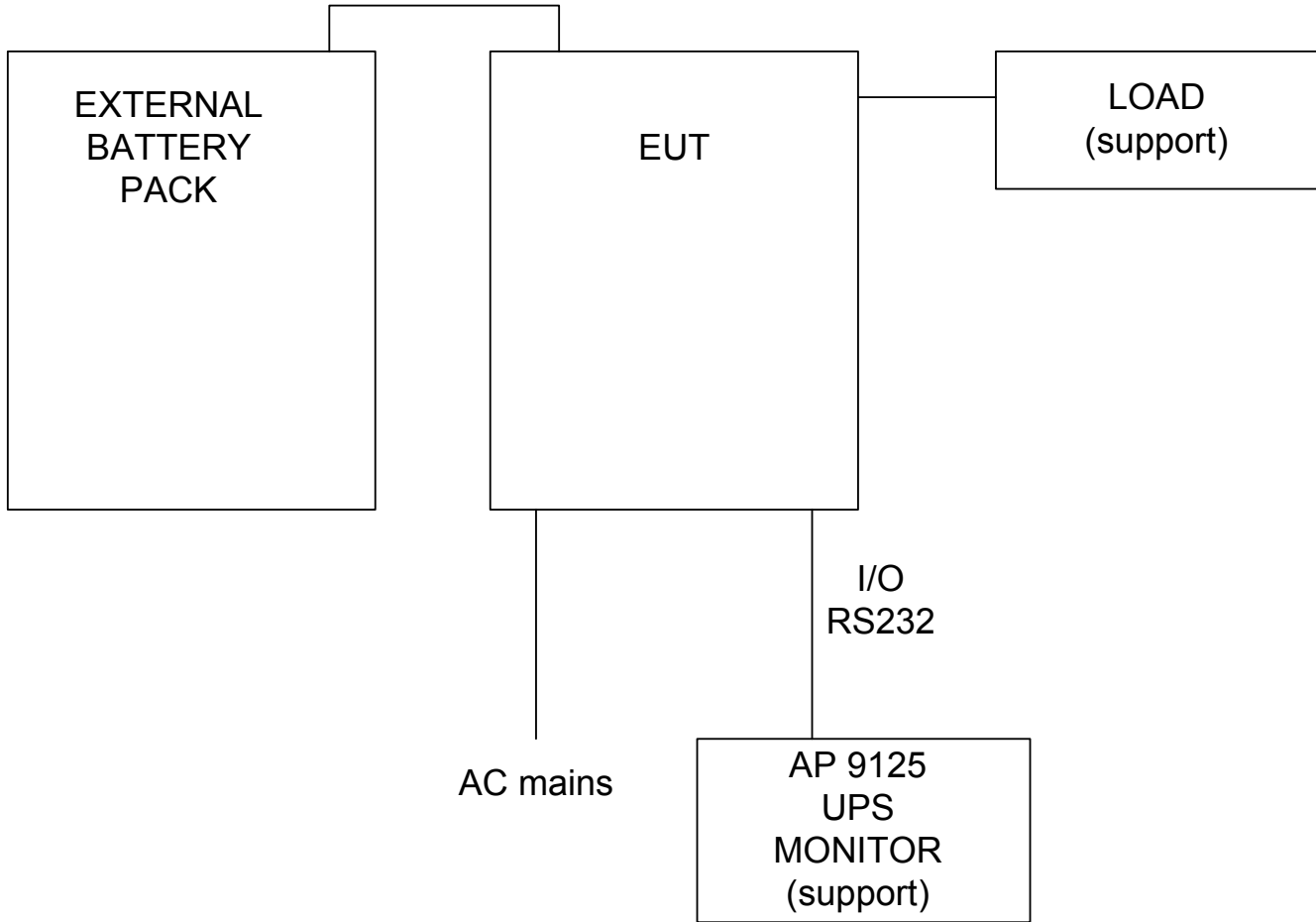
(If different from emissions exercise software. Include the program cycle time once, in seconds, for all devices to be exercised.)

IMMUNITY TESTING PERFORMANCE CRITERIA

(Describe the proper mode of operation of the equipment under test. Explain what the test operator should monitor during the testing to determine if the product is operating within specified parameters)

Unit should maintain output voltage and power. Operator can observe output voltage and power on the display AP9125RM. Slight changes (couple percent are acceptable). Besides, log of events can be obtained. Failure logs are not acceptable.

FUNCTIONAL WIRING DIAGRAM OF DEVICE UNDER TEST
(to be provided prior to the day of test.)



**The information contained in this Appendix was provided by Luka Petrovic of American Power Conversion
It contains specific configuration details of the system as tested.**

The Compliance Management Group Credentials

SCOPE OF ACCREDITATION TO ISO/IEC 17025-1999

THE COMPLIANCE MANAGEMENT GROUP
202 Forest Street
Marlboro MA 01752
Mr. Mike Morrow Phone: 508 281 5985
mmorrow@cmgcorp.net

ELECTRICAL

Valid to: May 31, 2007

Certificate Number: 2316.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following automotive electromagnetic compatibility and other electrical and environmental simulation tests:

Test Technology <i>Non-AEMCLAP tests</i>	Test Method(s)
Electrostatic Discharge (ESD)	ISO 10605, SAE J1113-13 GMW 3097 Section 3.6 (February 2004) Ford ES-XW7T-1A278-AB/AC CI-280C DC-10614, LP388C-42
Absorption Chamber (Up to 1 GHz)	ISO 11452-2 SAE J1113-21 ES-XW7T-1A278-AB
Radiated & Conducted Emissions (Automotive EMC)	CISPR 25 Section 6.2 & 6.4 SAE J1113-41 GMW 3097 Section 3.3.1 & 3.3.2 (February 2004) Ford ES-XW7T-1A278-AB/AC RE-310, CE420 DC-10614 Sections 6.3 & 6.5
Bulk Current Injection (BCI), Close Loop & Substitution Method	ISO 11452-4 SAE J1113-4 GM3097 Section 3.4.1 Substitution Method (February 2004) DC-10614 Section 6.5 Ford ES-XW7T-1A278-AB/AC RI 112



THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

COMPLIANCE MANAGEMENT GROUP
Marlboro, MA

for technical competence in the field of

Electrical Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing.

Presented this 2nd day of March 2005.



Pete Almy
President
For the Accreditation Council
Certificate Number 2316.01
Valid to: May 31, 2007

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

(A2LA Cert. No. 2316.01) Revised 03/002/05

Page 1 of 3

Test Technology <i>Commercial EMC</i>	Test Method(s)
Radiated and Conducted EMI Emissions (Commercial EMC)	CFR 47, FCC Part 15 (using ANSI/IEEE C63.4-2003); CISPR 22; AS/NZS CISPR 22; EN 55022-1994 + A1-1995 + A2-1997; EN 55022-1998; ICES-003; AS/NZS 3548- 1995; CNS 13438; VCCI V-3/2004.04 FCC Part 18 (using MP5); CISPR 11; ICES-001; CNS 13803; AS/NZS 2064.1/2; AS/NZS CISPR 11; EN 55011-1998 + A1-1999 + A2-2002; CISPR 14; EN 55014-1-2000 + A1-2001 + A2- 2002; AS/NZS 1044; CNS 13783; AS/NZS CISPR 14; AS/NZS 1044.
Electrostatic Discharge (ESD)	EN 61000-4-2-1995 + A1-1998; IEC 1000-4-2-1995 + A1-1998
Radiated Immunity (Up to 1 GHz)	EN 61000-4-3-1995 + A1-1998; IEC 1000-4-3-1995 + A1-1998
Fast Transient / Burst	EN 61000-4-4-1995; IEC 1000-4-4-1995 + A1-2000
Surge	EN 61000-4-5-1995; IEC 1000-4-5-1995
Conducted Immunity	EN 61000-4-6-1996; IEC 1000-4-6-1996
Magnetic Disturbance	EN 61000-4-8-1993; IEC 1000-4-8-1993
Voltage Dips and Interruptions	EN 61000-4-11-1994; IEC 1000-4-11-1994
Current Harmonics	EN 61000-3-2-1995 + A14-2000; EN 61000-3-2-2000; IEC 1000-3-2
Flicker	EN 61000-3-3-1995 + A1-2001; IEC 1000-3-3
Conducted Transient Disturbances	ISO 7637-2
Power Lines	SAE J1113-11

(A2LA Cert. No. 2316.01) Revised 03/002/05

Page 2 of 3

Test Technology	Test Method(s)
Conducted Transient Disturbances Other Than Supply Lines	ISO 7637-3
<i>Environmental Simulation Tests</i>	
Cold	IEC68-2-01
Change of Temperature	IEC68-2-14
Mechanical Shock	IEC68-2-27
Damp Heat, Cyclic	IEC68-2-30
Vibration, Sinusoidal	IEC60068-2-06
Dry Heat	IEC68-2-02
Packaging Tests	ISTA Procedures 1A & 1C

NOTE - For standards or methods listed on the scope of accreditation without a revision date, laboratories are expected to be competent in the use of the current version within one year of the date of publication of the standard test method. When a superseded standard or method is required for an accredited test, the scope will include the superseded date/version.

(A2LA Cert. No. 2316.01) Revised 03/002/05

Page 3 of 3

BSMI Accreditation No. SL2-IN-E-1125R
VCCI Member No. 2403 and Registration No. R-2141 & C-2315

FCC Registration No. 595942



TEST REPORT POLL

Please rate the attached test report's quality by responding to the brief questions listed in this poll. Our goal is to provide you with high quality test reports in a timely manner. Therefore, your feedback is vital in order to determine how good our test reports are, and what areas could be improved.

Please indicate beside each question what you feel is the rating. Also, feel free to make comments directly on the poll, or by attaching a separate sheet. The completed form should then be returned by either email at mryan@cmgcorp.net or FAX to Michael Ryan at 508-281-5972. Your cooperation and effort are truly appreciated.

TEST REPORT NUMBER: 2204-1

		YES	NO
1.	Was the information presented clearly?		
2.	Was the report complete?		
3.	Was the report timely?		
4.	Did the report satisfy your requirements?		

YOUR NAME (optional): _____

Optional Comments:

To: Michael Ryan, Program Administrator
The Compliance Management Group
202 Forest Street
Marlboro, MA 01752
FAX: 508-281-5972



The Compliance Management Group

Issues

A CERTIFICATE OF TEST:

To

*American Power Conversion
85 Rangeway Road
North Billerica, MA 01862, USA*

For

**Product: Uninterruptable Power Supply
Model: SUA3000RMXL3U / SUA2200RMXL3U**

Date: Sept. 28, 2005

The Compliance Management Group, a U.S. and internationally approved test laboratory, attests that compliance testing was completed satisfactorily on the aforementioned equipment as specified by the manufacturer and reported in test report number: 2204-1. The Compliance Management Group acknowledges that the Equipment Under Test was found to have passed the following standards:

Federal Communications Commission (FCC) Part 15, Class A

**ICES-003, Industry Canada, Interference-Causing Equipment Standard,
Digital Apparatus, Class A**

The Compliance Management Group ♦ 202 Forest Street ♦ Marlborough, MA 01752
(P) 508-281-5985 ♦ www.cmgroup.net ♦ (F) 508-281-5972