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Job Number:	712047
File Number:	MC15667
Date:	28 June 2007
Model:	AC-1200
FCC ID:	VFACS1260

Electromagnetic Compatibility Test Report

For

KEYMATRIX

Test Report Details

Tests Performed By:	**Underwriters Laboratories Inc. 1285 Walt Whitman Rd. Melville, NY 11747**
Tests Performed For:	**KEYMATRIX 1 TECHNOLOGY LANE EXPORT, PA 15632**
Applicant Contact: Phone: E-mail:	**PAUL ROMANKO (724) 733-2000 promanko@aamatrix.com**
Test Report Date:	**28 June 2007**
Product Type:	**Low Power Transmitter – 125kHz RFID Reader**
Product standards	**FCC Part 15, Subpart C, 15.207, 15.209**
Model Number:	**AC-1200**
Sample Serial Number:	**Not provided**
EUT Category:	**Low Power Transmitter**
Testing Start Date:	**22 June 2007**
Date Testing Complete:	**22 June 2007**
Overall Results:	**Compliant**

Underwriters Laboratories Inc. reports apply only to the specific samples tested under stated test conditions. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. Underwriters Laboratories Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from Underwriters Laboratories Inc. issued reports. This report shall not be used to claim, constitute or imply product certification, approval, or endorsement by NVLAP, A2LA, or any agency of the US government.

This report may contain test results that are not covered by the NVLAP or A2LA accreditation. The scope of accreditation is limited to the specific tests that are listed on the NVLAP and/or A2LA websites referenced at the end of this report.

Report Directory

Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
28 June 2007	Original	--	--
02 July 2007	Removed test setups for confidentially request.	B. DeLisi	--

1.0 G E N E R A L - Product Description

1.1 Equipment Description

The KeyMaster AC-1200 is proximity reader with a standard Wiegand interface The AC-1200 employs very large scale integration (VLSI) surface-mount components, and utilizes the I/O capability of the Wiegand host device to deliver a compact, flexible proximity solution. A single tri-color LED and an internal piezo buzzer indicate status and error information.

The antenna for the AC-1200 is integral to the device an cannot be detached.

1.2 Equipment Marking Plate

1.3 Device Configuration During Test

1.3.1 Equipment Used During Test:

Use	Product Type	Manufacturer	Model	Comments
EUT	RFID Reader	KEYMATRIX	AC-1200	None
AE	Control Panel	KEYMATRIX	AC-3151	None
SIM	Power Supply	Universal Power Source	6050A	Linear Power Supply to convert 120Vac to 12Vdc

Note: **EUT** - Equipment Under Test, **AE** - Auxiliary/Associated Equipment, or **SIM** - Simulator (Not Subjected to Test)

1.3.2 Input/Output Ports:

Port #	Name	Type*	Cable Max. >3m (Y/N)	Cable Shielded (Y/N)	Comments
0	Enclosure	N/E	—	—	None
1	Mains	DC	Y	N	None
1	RS-485	I/O	Y	Y	None

Note:
AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
I/O = Signal Input or Output Port (Not Involved in Process Control)
TP = Telecommunication Ports

1.3.3 EUT Internal Operating Frequencies:

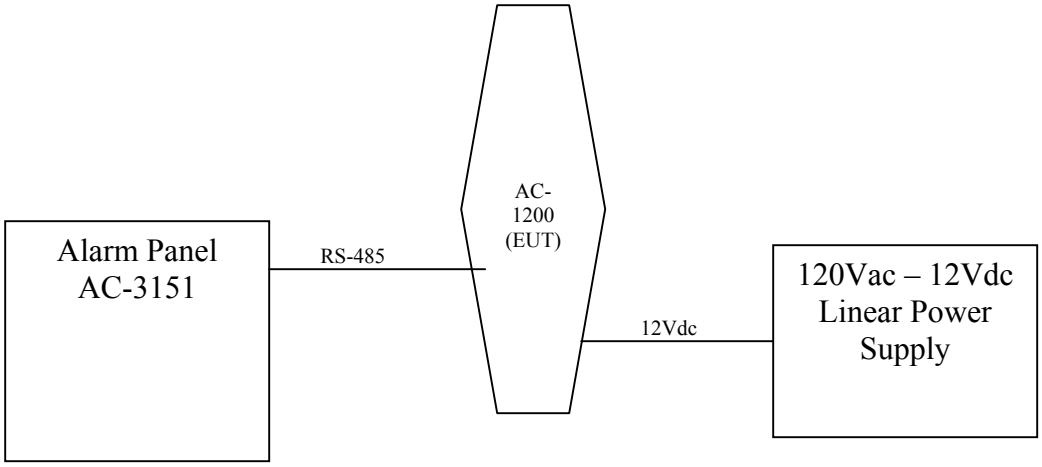
Frequency (MHz)	Description	Frequency (MHz)	Description
0.125	Fundamental	16	Oscillator

1.3.4 Power Interface:

Mode # /Rated	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
Rated	12	-	-	DC	-	None
1	120	-	-	AC-60Hz	Single Phase	Linear Power Supply to convert 120Vac to 12Vdc

1.4 Block Diagram:

The diagram below illustrates the configuration of the equipment above.



1.5 EUT Operation Modes

Mode #	Description
1	Continuous transmit.

1.6 EUT Configurations

Mode #	Description
1	Stand-alone. RS-485 connected to control panel and power is connected directly to reader from a 120Vac-12Vdc linear power supply.

2.0 Summary

The tests listed in the Summary of Testing section of this report have been performed and the results recorded by Underwriters Laboratories Inc. in accordance with the procedures stated in each test requirement and specification. The applicant determined the list of tests performed were applicable to the Equipment Under Test. As a result, the subject product has been verified to comply or not comply as noted in the Summary of Testing with each test specification. The test results relate only to the items tested.

2.1 Deviations from standard test methods

None

2.2 Device Modifications Necessary for Compliance

None

2.3 Reference Standards

Standard Number	Standard Name	Standard Date
FCC Part 15, Subpart C, 15.207, 15.209	Code of Federal Regulations, Part 15, Radio Frequency Devices	2006

2.4 Results Summary

Requirement – Test	Result (Compliant / Non-Compliant)*
Conducted Emissions	Compliant
Radiated Emissions - General	Compliant

Bob DeLisi (Ext.22452)
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International EMC Services
Conformity Assessment Services-

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Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

3.0 Calibration of Equipment Used for Measurement

All test equipment and test accessories are calibrated on a regular basis. The maximum time between calibrations is one year or the manufacturers' recommendation, whichever is less.

All test equipment calibrations are traceable to the National Institute of Standards and Technology (NIST); therefore, all test data recorded in this report is traceable to NIST.

4.0 EMISSIONS TEST RESULTS

The emissions tests were performed according to following regulations:

---------- United States ----------

Code of Federal Regulations Title 47	Part 15, Subpart B, Radio Frequency Devices

Unless specified otherwise in the individual Methods, the tests shall be conducted under the following ambient conditions. Confirmation of these conditions shall be verified at the time the test is conducted.

Ambient Temperature, °C	22.5 ± 2.5	Relative Humidity, %	45 ± 15	Barometric Pressure, mBar	950 ± 150

4.1 Test Conditions and Results – MAINS TERMINAL – CONDUCTED EMISSIONS

Test Description	Measurements were made on a ground plane. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.		
Basic Standard		FCC Part 15, Subpart C, 15.207	
UL LPG		80-EM-S0026	
		Frequency range on each side of line	Measurement Point
Fully configured sample scanned over the following frequency range		150kHz to 30MHz	Mains
Limits			
Frequency (MHz)	Limit (dBµV)		
	Quasi-Peak		Average
0.15-0.5	66 to 56		56 to 46
0.5-5	56		46
5-30	60		50
Supplementary information: None			

Table 1 Conducted Emissions EUT Configuration Settings

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1
Supplementary information: None		

Table 2 Conducted Emissions Test Equipment

Test Equipment Used			
Description	Manufacturer	Model	Identifier
Conducted Emissions – Shield Room			
Spectrum Analyzer	Agilent	E7405A	19695
LISN	Solar	9252-50-R-24-BN	ME5A-636
LISN	EMCO	3825/2R	ME5-629
Switch Driver	HP	11713A	44403
RF Switch Box	UL	2	44400
Measurement Software	UL	Version 9.3	44743
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	43736

Figure 1 Test Setup for Conducted Emissions – See Test Setup Exhibit.

Figure 2 Conducted Emissions Graph

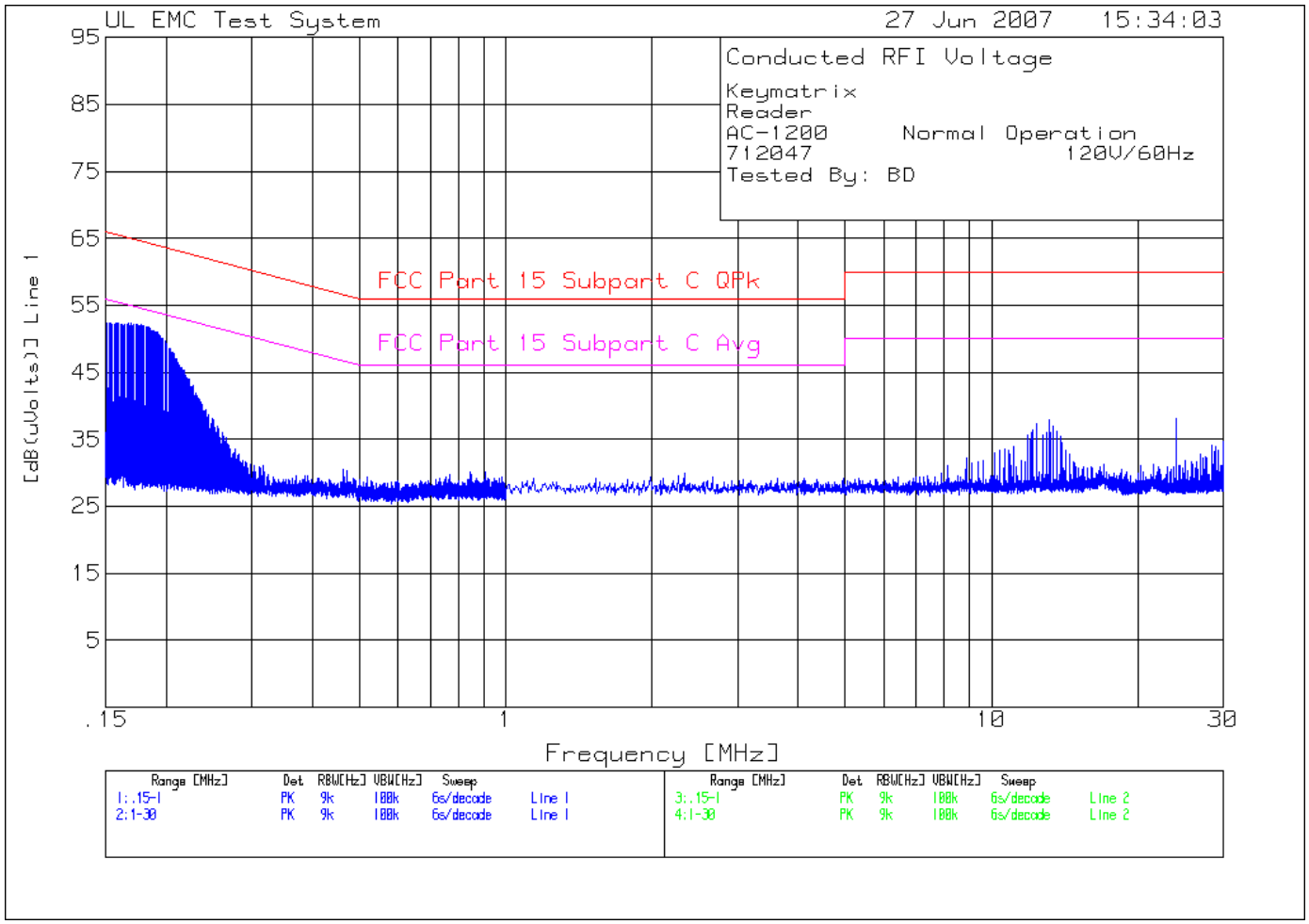

Table 3 Conducted Emissions Data Points

Keymatrix
Reader
AC-1200 Normal Operation
712047 120V/60Hz
Tested By: BD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 1 .15 - 1MHz									
1	.15042	30.63 pk	12	0	42.63	66	56	-	-
				Margin [dB]		-23.37	-13.37	-	-
2	.15106	40.32 pk	12	0	52.32	65.9	55.9	-	-
				Margin [dB]		-13.58	-3.58	-	-
3	.15233	40.41 pk	12	0	52.41	65.9	55.9	-	-
				Margin [dB]		-13.49	-3.49	-	-
4	.1536	40.4 pk	12	0	52.4	65.8	55.8	-	-
				Margin [dB]		-13.4	-3.4	-	-
5	.15467	40.18 pk	12	0	52.18	65.7	55.7	-	-
				Margin [dB]		-13.52	-3.52	-	-
6	.15594	40.2 pk	12	0	52.2	65.7	55.7	-	-
				Margin [dB]		-13.5	-3.5	-	-
7	.15721	40.37 pk	11.9	0	52.27	65.6	55.6	-	-
				Margin [dB]		-13.33	-3.33	-	-
8	.15827	40.35 pk	11.9	0	52.25	65.6	55.6	-	-
				Margin [dB]		-13.35	-3.35	-	-
9	.15954	40.46 pk	11.9	0	52.36	65.5	55.5	-	-
				Margin [dB]		-13.14	-3.14	-	-
10	.16081	40.34 pk	11.9	0	52.24	65.4	55.4	-	-
				Margin [dB]		-13.16	-3.16	-	-
11	.16209	40.2 pk	11.9	0	52.1	65.4	55.4	-	-
				Margin [dB]		-13.3	-3.3	-	-
12	.16315	40.04 pk	11.9	0	51.94	65.3	55.3	-	-
				Margin [dB]		-13.36	-3.36	-	-
13	.16442	40.26 pk	11.8	0	52.06	65.2	55.2	-	-
				Margin [dB]		-13.14	-3.14	-	-
14	.16569	40.32 pk	11.8	0	52.12	65.2	55.2	-	-
				Margin [dB]		-13.08	-3.08	-	-
15	.16675	40.6 pk	11.8	0	52.4	65.1	55.1	-	-
				Margin [dB]		-12.7	-2.7	-	-
16	.16802	40.13 pk	11.8	0	51.93	65.1	55.1	-	-
				Margin [dB]		-13.17	-3.17	-	-
17	.16929	40.57 pk	11.8	0	52.37	65	55	-	-
				Margin [dB]		-12.63	-2.63	-	-
18	.17035	40.16 pk	11.8	0	51.96	64.9	54.9	-	-
				Margin [dB]		-12.94	-2.94	-	-

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 1 .15 - 1MHz									
19	.17163	40.5 pk	11.7	0	52.2	64.9	54.9	-	-
				Margin [dB]		-12.7	-2.7	-	-
20	.1729	40.36 pk	11.7	0	52.06	64.8	54.8	-	-
				Margin [dB]		-12.74	-2.74	-	-
21	.17417	40.39 pk	11.7	0	52.09	64.8	54.8	-	-
				Margin [dB]		-12.71	-2.71	-	-
22	.17523	40.17 pk	11.7	0	51.87	64.7	54.7	-	-
				Margin [dB]		-12.83	-2.83	-	-
23	.1765	40.26 pk	11.7	0	51.96	64.6	54.6	-	-
				Margin [dB]		-12.64	-2.64	-	-
24	.17778	40.53 pk	11.6	0	52.13	64.6	54.6	-	-
				Margin [dB]		-12.47	-2.47	-	-
25	.17884	40.45 pk	11.6	0	52.05	64.5	54.5	-	-
				Margin [dB]		-12.45	-2.45	-	-
26	.18011	40.29 pk	11.6	0	51.89	64.5	54.5	-	-
				Margin [dB]		-12.61	-2.61	-	-
27	.18138	40.22 pk	11.6	0	51.82	64.4	54.4	-	-
				Margin [dB]		-12.58	-2.58	-	-
28	.18244	40.21 pk	11.6	0	51.81	64.4	54.4	-	-
				Margin [dB]		-12.59	-2.59	-	-
29	.18371	40.22 pk	11.6	0	51.82	64.3	54.3	-	-
				Margin [dB]		-12.48	-2.48	-	-
30	.18498	40.17 pk	11.5	0	51.67	64.3	54.3	-	-
				Margin [dB]		-12.63	-2.63	-	-
31	.18626	39.78 pk	11.5	0	51.28	64.2	54.2	-	-
				Margin [dB]		-12.92	-2.92	-	-
32	.18732	39.61 pk	11.5	0	51.11	64.2	54.2	-	-
				Margin [dB]		-13.09	-3.09	-	-
33	.18859	39.71 pk	11.5	0	51.21	64.1	54.1	-	-
				Margin [dB]		-12.89	-2.89	-	-
34	.18986	39.47 pk	11.5	0	50.97	64	54	-	-
				Margin [dB]		-13.03	-3.03	-	-
35	.19092	39.46 pk	11.5	0	50.96	64	54	-	-
				Margin [dB]		-13.04	-3.04	-	-
36	.19219	39.43 pk	11.5	0	50.93	63.9	53.9	-	-
				Margin [dB]		-12.97	-2.97	-	-
37	.19347	39.1 pk	11.5	0	50.6	63.9	53.9	-	-
				Margin [dB]		-13.3	-3.3	-	-
38	.19453	39.09 pk	11.4	0	50.49	63.8	53.8	-	-
				Margin [dB]		-13.31	-3.31	-	-
39	.1958	38.59 pk	11.4	0	49.99	63.8	53.8	-	-
				Margin [dB]		-13.81	-3.81	-	-
40	.19707	38.59 pk	11.4	0	49.99	63.7	53.7	-	-
				Margin [dB]		-13.71	-3.71	-	-
41	.19834	38.22 pk	11.4	0	49.62	63.7	53.7	-	-
				Margin [dB]		-14.08	-4.08	-	-

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 1 .15 - 1MHz ----------									
42	.1994	38.02 pk	11.4	0	49.42	63.6	53.6	-	-
				Margin [dB]		-14.18	-4.18	-	-
43	.20067	37.9 pk	11.4	0	49.3	63.6	53.6	-	-
				Margin [dB]		-14.3	-4.3	-	-
44	.20195	37.19 pk	11.4	0	48.59	63.5	53.5	-	-
				Margin [dB]		-14.91	-4.91	-	-
45	.20301	37.23 pk	11.4	0	48.63	63.5	53.5	-	-
				Margin [dB]		-14.87	-4.87	-	-
46	.20428	37.16 pk	11.4	0	48.56	63.4	53.4	-	-
				Margin [dB]		-14.84	-4.84	-	-
47	.20555	36.64 pk	11.3	0	47.94	63.4	53.4	-	-
				Margin [dB]		-15.46	-5.46	-	-
48	.20661	36.58 pk	11.3	0	47.88	63.3	53.3	-	-
				Margin [dB]		-15.42	-5.42	-	-
49	.20788	36.45 pk	11.3	0	47.75	63.3	53.3	-	-
				Margin [dB]		-15.55	-5.55	-	-

LIMIT 1: FCC Part 15 Subpart C QPk
LIMIT 2: FCC Part 15 Subpart C Avg

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection
tm - Trace Math Result

Keymatrix
Reader
AC-1200 Normal Operation
712047 120V/60Hz
Tested By: BD

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 1 .15 - 1MHz								
.15175	1.24 ave	12	0	13.24	65.9	55.9	-	-
			Margin [dB]:		-52.66	-42.66	-	-
.15175	1.06 ave	12	0	13.06	65.9	55.9	-	-
			Margin [dB]:		-52.84	-42.84	-	-
.15233	.79 ave	12	0	12.79	65.9	55.9	-	-
			Margin [dB]:		-53.11	-43.11	-	-
.1536	.86 ave	12	0	12.86	65.8	55.8	-	-
			Margin [dB]:		-52.94	-42.94	-	-
.15467	.88 ave	12	0	12.88	65.7	55.7	-	-
			Margin [dB]:		-52.82	-42.82	-	-
.15594	.81 ave	12	0	12.81	65.7	55.7	-	-
			Margin [dB]:		-52.89	-42.89	-	-
.15721	.8 ave	11.9	0	12.7	65.6	55.6	-	-
			Margin [dB]:		-52.9	-42.9	-	-
.15827	.75 ave	11.9	0	12.65	65.6	55.6	-	-
			Margin [dB]:		-52.95	-42.95	-	-
.15954	.78 ave	11.9	0	12.68	65.5	55.5	-	-
			Margin [dB]:		-52.82	-42.82	-	-
.16081	.69 ave	11.9	0	12.59	65.4	55.4	-	-
			Margin [dB]:		-52.81	-42.81	-	-
.16209	.79 ave	11.9	0	12.69	65.4	55.4	-	-
			Margin [dB]:		-52.71	-42.71	-	-
.16315	.62 ave	11.9	0	12.52	65.3	55.3	-	-
			Margin [dB]:		-52.78	-42.78	-	-
.16442	.63 ave	11.8	0	12.43	65.2	55.2	-	-
			Margin [dB]:		-52.77	-42.77	-	-
.16569	.64 ave	11.8	0	12.44	65.2	55.2	-	-
			Margin [dB]:		-52.76	-42.76	-	-
.16675	.71 ave	11.8	0	12.51	65.1	55.1	-	-
			Margin [dB]:		-52.59	-42.59	-	-
.16802	.64 ave	11.8	0	12.44	65.1	55.1	-	-
			Margin [dB]:		-52.66	-42.66	-	-
.16929	.68 ave	11.8	0	12.48	65	55	-	-
			Margin [dB]:		-52.52	-42.52	-	-
.17035	.62 ave	11.8	0	12.42	64.9	54.9	-	-
			Margin [dB]:		-52.48	-42.48	-	-
.17163	.71 ave	11.7	0	12.41	64.9	54.9	-	-
			Margin [dB]:		-52.49	-42.49	-	-
.1729	.68 ave	11.7	0	12.38	64.8	54.8	-	-
			Margin [dB]:		-52.42	-42.42	-	-

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 1 .15 - 1MHz								
.17417	.51 ave	11.7	0	12.21	64.8	54.8	-	-
			Margin [dB]:		-52.59	-42.59	-	-
.17523	.65 ave	11.7	0	12.35	64.7	54.7	-	-
			Margin [dB]:		-52.35	-42.35	-	-
.1765	.59 ave	11.7	0	12.29	64.6	54.6	-	-
			Margin [dB]:		-52.31	-42.31	-	-
.17778	.48 ave	11.6	0	12.08	64.6	54.6	-	-
			Margin [dB]:		-52.52	-42.52	-	-
.17884	.58 ave	11.6	0	12.18	64.5	54.5	-	-
			Margin [dB]:		-52.32	-42.32	-	-
.18011	.51 ave	11.6	0	12.11	64.5	54.5	-	-
			Margin [dB]:		-52.39	-42.39	-	-
.18138	.51 ave	11.6	0	12.11	64.4	54.4	-	-
			Margin [dB]:		-52.29	-42.29	-	-
.18244	.54 ave	11.6	0	12.14	64.4	54.4	-	-
			Margin [dB]:		-52.26	-42.26	-	-
.18371	.61 ave	11.6	0	12.21	64.3	54.3	-	-
			Margin [dB]:		-52.09	-42.09	-	-
.18498	.52 ave	11.5	0	12.02	64.3	54.3	-	-
			Margin [dB]:		-52.28	-42.28	-	-
.18626	.47 ave	11.5	0	11.97	64.2	54.2	-	-
			Margin [dB]:		-52.23	-42.23	-	-
.18732	.47 ave	11.5	0	11.97	64.2	54.2	-	-
			Margin [dB]:		-52.23	-42.23	-	-
.18859	.52 ave	11.5	0	12.02	64.1	54.1	-	-
			Margin [dB]:		-52.08	-42.08	-	-
.18986	.3 ave	11.5	0	11.8	64	54	-	-
			Margin [dB]:		-52.2	-42.2	-	-
.19092	.47 ave	11.5	0	11.97	64	54	-	-
			Margin [dB]:		-52.03	-42.03	-	-
.19219	.33 ave	11.5	0	11.83	63.9	53.9	-	-
			Margin [dB]:		-52.07	-42.07	-	-
.19347	.42 ave	11.5	0	11.92	63.9	53.9	-	-
			Margin [dB]:		-51.98	-41.98	-	-
.19453	.28 ave	11.4	0	11.68	63.8	53.8	-	-
			Margin [dB]:		-52.12	-42.12	-	-
.1958	.27 ave	11.4	0	11.67	63.8	53.8	-	-
			Margin [dB]:		-52.13	-42.13	-	-
.19707	.24 ave	11.4	0	11.64	63.7	53.7	-	-
			Margin [dB]:		-52.06	-42.06	-	-
.19834	.2 ave	11.4	0	11.6	63.7	53.7	-	-
			Margin [dB]:		-52.1	-42.1	-	-
.1994	.15 ave	11.4	0	11.55	63.6	53.6	-	-
			Margin [dB]:		-52.05	-42.05	-	-
.20067	.06 ave	11.4	0	11.46	63.6	53.6	-	-
			Margin [dB]:		-52.14	-42.14	-	-

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 1 .15 - 1MHz								
.20195	.01 ave	11.4	0	11.41	63.5	53.5	-	-
			Margin [dB]:		-52.09	-42.09	-	-
.20301	.08 ave	11.4	0	11.48	63.5	53.5	-	-
			Margin [dB]:		-52.02	-42.02	-	-
.20428	-.01 ave	11.4	0	11.39	63.4	53.4	-	-
			Margin [dB]:		-52.01	-42.01	-	-
.20555	-.11 ave	11.3	0	11.19	63.4	53.4	-	-
			Margin [dB]:		-52.21	-42.21	-	-
.20661	-.03 ave	11.3	0	11.27	63.3	53.3	-	-
			Margin [dB]:		-52.03	-42.03	-	-
.20788	-.19 ave	11.3	0	11.11	63.3	53.3	-	-
			Margin [dB]:		-52.19	-42.19	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk
LIMIT 2: FCC Part 15 Subpart C Avg

Figure 3 Conducted Emissions Graph

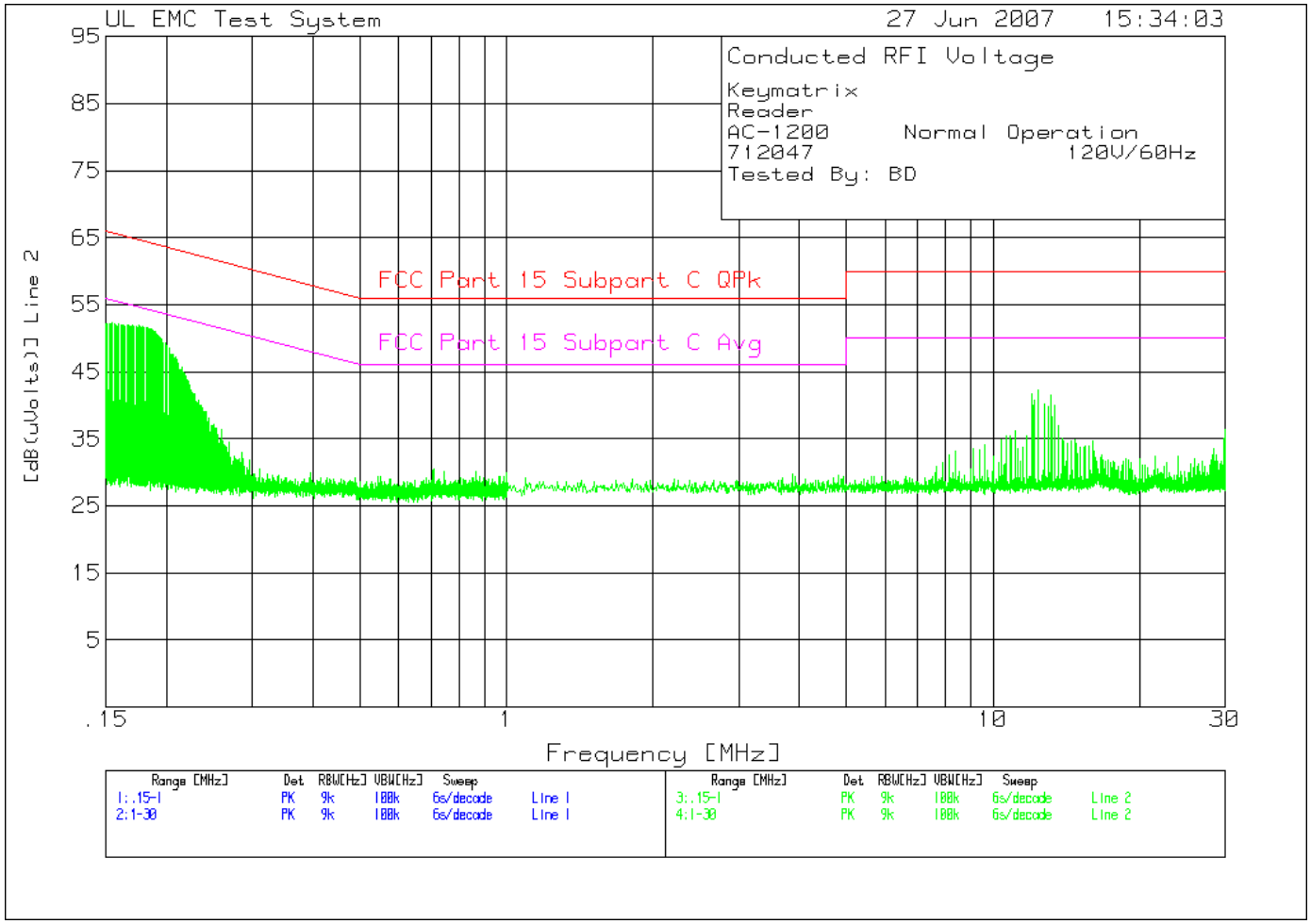

Table 4 Conducted Emissions Data Points

Keymatrix
Reader
AC-1200 Normal Operation
712047 120V/60Hz
Tested By: BD

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 2 .15 - 1MHz									
1	.15	40.03 pk	12.1	0	52.13	66	56	-	-
				Margin [dB]		-13.87	-3.87	-	-
2	.15106	40.19 pk	12	0	52.19	65.9	55.9	-	-
				Margin [dB]		-13.71	-3.71	-	-
3	.15233	40.07 pk	12	0	52.07	65.9	55.9	-	-
				Margin [dB]		-13.83	-3.83	-	-
4	.1536	40.13 pk	12	0	52.13	65.8	55.8	-	-
				Margin [dB]		-13.67	-3.67	-	-
5	.15467	40.28 pk	12	0	52.28	65.7	55.7	-	-
				Margin [dB]		-13.42	-3.42	-	-
6	.15594	40.12 pk	12	0	52.12	65.7	55.7	-	-
				Margin [dB]		-13.58	-3.58	-	-
7	.15721	39.88 pk	12	0	51.88	65.6	55.6	-	-
				Margin [dB]		-13.72	-3.72	-	-
8	.15827	39.86 pk	11.9	0	51.76	65.6	55.6	-	-
				Margin [dB]		-13.84	-3.84	-	-
9	.15954	40.23 pk	11.9	0	52.13	65.5	55.5	-	-
				Margin [dB]		-13.37	-3.37	-	-
10	.16081	40.05 pk	11.9	0	51.95	65.4	55.4	-	-
				Margin [dB]		-13.45	-3.45	-	-
11	.16209	40.1 pk	11.9	0	52	65.4	55.4	-	-
				Margin [dB]		-13.4	-3.4	-	-
12	.16315	40.14 pk	11.9	0	52.04	65.3	55.3	-	-
				Margin [dB]		-13.26	-3.26	-	-
13	.16442	40 pk	11.8	0	51.8	65.2	55.2	-	-
				Margin [dB]		-13.4	-3.4	-	-
14	.16569	40.16 pk	11.8	0	51.96	65.2	55.2	-	-
				Margin [dB]		-13.24	-3.24	-	-
15	.16675	40.1 pk	11.8	0	51.9	65.1	55.1	-	-
				Margin [dB]		-13.2	-3.2	-	-
16	.16802	39.88 pk	11.8	0	51.68	65.1	55.1	-	-
				Margin [dB]		-13.42	-3.42	-	-
17	.16929	39.91 pk	11.8	0	51.71	65	55	-	-
				Margin [dB]		-13.29	-3.29	-	-
18	.17057	40.17 pk	11.8	0	51.97	64.9	54.9	-	-
				Margin [dB]		-12.93	-2.93	-	-
19	.17163	40.11 pk	11.7	0	51.81	64.9	54.9	-	-
				Margin [dB]		-13.09	-3.09	-	-

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 2 .15 - 1MHz									
20	.1729	40.04 pk	11.7	0	51.74	64.8	54.8	-	-
				Margin [dB]		-13.06	-3.06	-	-
21	.17417	39.97 pk	11.7	0	51.67	64.8	54.8	-	-
				Margin [dB]		-13.13	-3.13	-	-
22	.17523	40.18 pk	11.7	0	51.88	64.7	54.7	-	-
				Margin [dB]		-12.82	-2.82	-	-
23	.1765	40.1 pk	11.7	0	51.8	64.6	54.6	-	-
				Margin [dB]		-12.8	-2.8	-	-
24	.17778	39.88 pk	11.7	0	51.58	64.6	54.6	-	-
				Margin [dB]		-13.02	-3.02	-	-
25	.17884	40.12 pk	11.6	0	51.72	64.5	54.5	-	-
				Margin [dB]		-12.78	-2.78	-	-
26	.18011	39.9 pk	11.6	0	51.5	64.5	54.5	-	-
				Margin [dB]		-13	-3	-	-
27	.18138	39.93 pk	11.6	0	51.53	64.4	54.4	-	-
				Margin [dB]		-12.87	-2.87	-	-
28	.18265	40.03 pk	11.6	0	51.63	64.4	54.4	-	-
				Margin [dB]		-12.77	-2.77	-	-
29	.18371	39.8 pk	11.6	0	51.4	64.3	54.3	-	-
				Margin [dB]		-12.9	-2.9	-	-
30	.18498	39.8 pk	11.6	0	51.4	64.3	54.3	-	-
				Margin [dB]		-12.9	-2.9	-	-
31	.18626	39.8 pk	11.5	0	51.3	64.2	54.2	-	-
				Margin [dB]		-12.9	-2.9	-	-
32	.18732	39.66 pk	11.5	0	51.16	64.2	54.2	-	-
				Margin [dB]		-13.04	-3.04	-	-
33	.18859	39.57 pk	11.5	0	51.07	64.1	54.1	-	-
				Margin [dB]		-13.03	-3.03	-	-
34	.18986	39.59 pk	11.5	0	51.09	64	54	-	-
				Margin [dB]		-12.91	-2.91	-	-
35	.19092	39.04 pk	11.5	0	50.54	64	54	-	-
				Margin [dB]		-13.46	-3.46	-	-
36	.19219	38.91 pk	11.5	0	50.41	63.9	53.9	-	-
				Margin [dB]		-13.49	-3.49	-	-
37	.19347	38.68 pk	11.5	0	50.18	63.9	53.9	-	-
				Margin [dB]		-13.72	-3.72	-	-
38	.19474	38.6 pk	11.5	0	50.1	63.8	53.8	-	-
				Margin [dB]		-13.7	-3.7	-	-
39	.1958	38.39 pk	11.4	0	49.79	63.8	53.8	-	-
				Margin [dB]		-14.01	-4.01	-	-
40	.19707	37.85 pk	11.4	0	49.25	63.7	53.7	-	-
				Margin [dB]		-14.45	-4.45	-	-
41	.19834	37.93 pk	11.4	0	49.33	63.7	53.7	-	-
				Margin [dB]		-14.37	-4.37	-	-
42	.1994	37.26 pk	11.4	0	48.66	63.6	53.6	-	-
				Margin [dB]		-14.94	-4.94	-	-

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 2 .15 - 1MHz ----------									
43	.20067	37.51 pk	11.4	0	48.91	63.6	53.6	-	-
				Margin [dB]		-14.69	-4.69	-	-
44	.20195	37.12 pk	11.4	0	48.52	63.5	53.5	-	-
				Margin [dB]		-14.98	-4.98	-	-
45	.20301	36.79 pk	11.4	0	48.19	63.5	53.5	-	-
				Margin [dB]		-15.31	-5.31	-	-
46	.20428	36.18 pk	11.4	0	47.58	63.4	53.4	-	-
				Margin [dB]		-15.82	-5.82	-	-
47	.20555	36.28 pk	11.4	0	47.68	63.4	53.4	-	-
				Margin [dB]		-15.72	-5.72	-	-
48	.20682	36.21 pk	11.3	0	47.51	63.3	53.3	-	-
				Margin [dB]		-15.79	-5.79	-	-
49	.20788	35.67 pk	11.3	0	46.97	63.3	53.3	-	-
				Margin [dB]		-16.33	-6.33	-	-

LIMIT 1: FCC Part 15 Subpart C QPk
LIMIT 2: FCC Part 15 Subpart C Avg

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection
tm - Trace Math Result

Keymatrix
Reader
AC-1200 Normal Operation
712047 120V/60Hz
Tested By: BD

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 2 .15 - 1MHz								
.15175	1.21 ave	12	0	13.21	65.9	55.9	-	-
			Margin [dB]:		-52.69	-42.69	-	-
.15175	1.43 ave	12	0	13.43	65.9	55.9	-	-
			Margin [dB]:		-52.47	-42.47	-	-
.15233	1.21 ave	12	0	13.21	65.9	55.9	-	-
			Margin [dB]:		-52.69	-42.69	-	-
.1536	1.18 ave	12	0	13.18	65.8	55.8	-	-
			Margin [dB]:		-52.62	-42.62	-	-
.15467	1.16 ave	12	0	13.16	65.7	55.7	-	-
			Margin [dB]:		-52.54	-42.54	-	-
.15594	1.19 ave	12	0	13.19	65.7	55.7	-	-
			Margin [dB]:		-52.51	-42.51	-	-
.15721	1.01 ave	12	0	13.01	65.6	55.6	-	-
			Margin [dB]:		-52.59	-42.59	-	-
.15827	.97 ave	11.9	0	12.87	65.6	55.6	-	-
			Margin [dB]:		-52.73	-42.73	-	-
.15954	1 ave	11.9	0	12.9	65.5	55.5	-	-
			Margin [dB]:		-52.6	-42.6	-	-
.16081	.98 ave	11.9	0	12.88	65.4	55.4	-	-
			Margin [dB]:		-52.52	-42.52	-	-
.16209	.92 ave	11.9	0	12.82	65.4	55.4	-	-
			Margin [dB]:		-52.58	-42.58	-	-
.16315	.82 ave	11.9	0	12.72	65.3	55.3	-	-
			Margin [dB]:		-52.58	-42.58	-	-
.16442	.89 ave	11.8	0	12.69	65.2	55.2	-	-
			Margin [dB]:		-52.51	-42.51	-	-
.16569	.71 ave	11.8	0	12.51	65.2	55.2	-	-
			Margin [dB]:		-52.69	-42.69	-	-
.16675	-1.23 ave	11.8	0	10.57	65.1	55.1	-	-
			Margin [dB]:		-54.53	-44.53	-	-
.16802	.69 ave	11.8	0	12.49	65.1	55.1	-	-
			Margin [dB]:		-52.61	-42.61	-	-
.16929	.52 ave	11.8	0	12.32	65	55	-	-
			Margin [dB]:		-52.68	-42.68	-	-
.17057	.64 ave	11.8	0	12.44	64.9	54.9	-	-
			Margin [dB]:		-52.46	-42.46	-	-
.17163	.62 ave	11.7	0	12.32	64.9	54.9	-	-
			Margin [dB]:		-52.58	-42.58	-	-
.1729	.63 ave	11.7	0	12.33	64.8	54.8	-	-
			Margin [dB]:		-52.47	-42.47	-	-

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 2 .15 - 1MHz								
.17417	.56 ave	11.7	0	12.26	64.8	54.8	-	-
			Margin [dB]:		-52.54	-42.54	-	-
.17523	.52 ave	11.7	0	12.22	64.7	54.7	-	-
			Margin [dB]:		-52.48	-42.48	-	-
.1765	.49 ave	11.7	0	12.19	64.6	54.6	-	-
			Margin [dB]:		-52.41	-42.41	-	-
.17778	.6 ave	11.7	0	12.3	64.6	54.6	-	-
			Margin [dB]:		-52.3	-42.3	-	-
.17884	.55 ave	11.6	0	12.15	64.5	54.5	-	-
			Margin [dB]:		-52.35	-42.35	-	-
.18011	.47 ave	11.6	0	12.07	64.5	54.5	-	-
			Margin [dB]:		-52.43	-42.43	-	-
.18138	.49 ave	11.6	0	12.09	64.4	54.4	-	-
			Margin [dB]:		-52.31	-42.31	-	-
.18265	.53 ave	11.6	0	12.13	64.4	54.4	-	-
			Margin [dB]:		-52.27	-42.27	-	-
.18371	.44 ave	11.6	0	12.04	64.3	54.3	-	-
			Margin [dB]:		-52.26	-42.26	-	-
.18498	.54 ave	11.6	0	12.14	64.3	54.3	-	-
			Margin [dB]:		-52.16	-42.16	-	-
.18626	.54 ave	11.5	0	12.04	64.2	54.2	-	-
			Margin [dB]:		-52.16	-42.16	-	-
.18732	.48 ave	11.5	0	11.98	64.2	54.2	-	-
			Margin [dB]:		-52.22	-42.22	-	-
.18859	.48 ave	11.5	0	11.98	64.1	54.1	-	-
			Margin [dB]:		-52.12	-42.12	-	-
.18986	.45 ave	11.5	0	11.95	64	54	-	-
			Margin [dB]:		-52.05	-42.05	-	-
.19092	.33 ave	11.5	0	11.83	64	54	-	-
			Margin [dB]:		-52.17	-42.17	-	-
.19219	.39 ave	11.5	0	11.89	63.9	53.9	-	-
			Margin [dB]:		-52.01	-42.01	-	-
.19347	.35 ave	11.5	0	11.85	63.9	53.9	-	-
			Margin [dB]:		-52.05	-42.05	-	-
.19474	.32 ave	11.5	0	11.82	63.8	53.8	-	-
			Margin [dB]:		-51.98	-41.98	-	-
.1958	.22 ave	11.4	0	11.62	63.8	53.8	-	-
			Margin [dB]:		-52.18	-42.18	-	-
.19707	.08 ave	11.4	0	11.48	63.7	53.7	-	-
			Margin [dB]:		-52.22	-42.22	-	-
.19834	.21 ave	11.4	0	11.61	63.7	53.7	-	-
			Margin [dB]:		-52.09	-42.09	-	-
.1994	.08 ave	11.4	0	11.48	63.6	53.6	-	-
			Margin [dB]:		-52.12	-42.12	-	-
.20067	.03 ave	11.4	0	11.43	63.6	53.6	-	-
			Margin [dB]:		-52.17	-42.17	-	-

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4
Line 2 .15 - 1MHz								
.20195	-.02 ave	11.4	0	11.38	63.5	53.5	-	-
			Margin [dB]:		-52.12	-42.12	-	-
.20301	-.04 ave	11.4	0	11.36	63.5	53.5	-	-
			Margin [dB]:		-52.14	-42.14	-	-
.20428	-.08 ave	11.4	0	11.32	63.4	53.4	-	-
			Margin [dB]:		-52.08	-42.08	-	-
.20555	-.03 ave	11.4	0	11.37	63.4	53.4	-	-
			Margin [dB]:		-52.03	-42.03	-	-
.20682	-.07 ave	11.3	0	11.23	63.3	53.3	-	-
			Margin [dB]:		-52.07	-42.07	-	-
.20788	-.09 ave	11.3	0	11.21	63.3	53.3	-	-
			Margin [dB]:		-52.09	-42.09	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection

LIMIT 1: FCC Part 15 Subpart C QPk
LIMIT 2: FCC Part 15 Subpart C Avg

4.2 Test Conditions and Results – RADIATED EMISSIONS

Test Description	Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in both horizontal and vertical polarities. Final measurements (quasi-peak or average as noted) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable.		
Basic Standard			
UL LPG		80-EM-S0029	
		Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range		0.009 MHz – 1GHz	(3 meter measurement distance)
Limits			
Frequency (MHz)		Limit (dBµV/m)	
		Quasi-Peak	Average
		General Emissions	
0.009 – 0.090		-	128.5 – 108.5
0.090 – 0.110		108.5 – 106.7	-
0.110 – 0.490		-	106.7 – 93.8
0.490 – 1.705		73.8 – 63	-
1.705 – 30		69.5	-
30 – 88		40	-
88 – 216		43.5	-
216 – 960		46	-
960 – 1000		54	-
Supplementary information: None			

Table 8 Radiated Emissions EUT Configuration Settings

Power Interface Mode # (See Section 1.3.4)	EUT Configurations Mode # (See Section 1.6)	EUT Operation Mode # (See 1.5)
1	1	1
Supplementary information: the EUT was tested in 3 orthogonal axes. Only worst-case emissions are reported.		

Table 9 Radiated Emissions Test Equipment

Test Equipment Used			
Description	Manufacturer	Model	Identifier
9kHz-30MHz			
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081
Active Loop Antenna	EMCO	6507	ME5A-288
Switch Driver	HP	11713A	ME7A-627
System Controller	Sunol Sciences	SC99V	44396
Camera Controller	Panasonic	WV-CU254	44395
RF Switch Box	UL	1	44398
Measurement Software	UL	Version 9.3	44740
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268
30-1000MHz			
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081
Bicon Antenna	Schaffner	VBA6106A	54
Log-P Antenna	Schaffner	UPA6109	44067
Switch Driver	HP	11713A	ME7A-627
System Controller	Sunol Sciences	SC99V	44396
Camera Controller	Panasonic	WV-CU254	44395
RF Switch Box	UL	1	44398
Measurement Software	UL	Version 9.3	44740
Temp/Humidity/ Pressure Meter	Cole Parmer	99760-00	4268

Figure 7 Test setup for Radiated Emissions – 9kHz-30MHz – E Field (Front and Rear Views) – See Test Setup Exhibit.

Figure 8 Test setup for Radiated Emissions – 30-1000MHz (Front and Rear Views) – See Test Setup Exhibit.

Figure 9 Radiated Emissions Graph

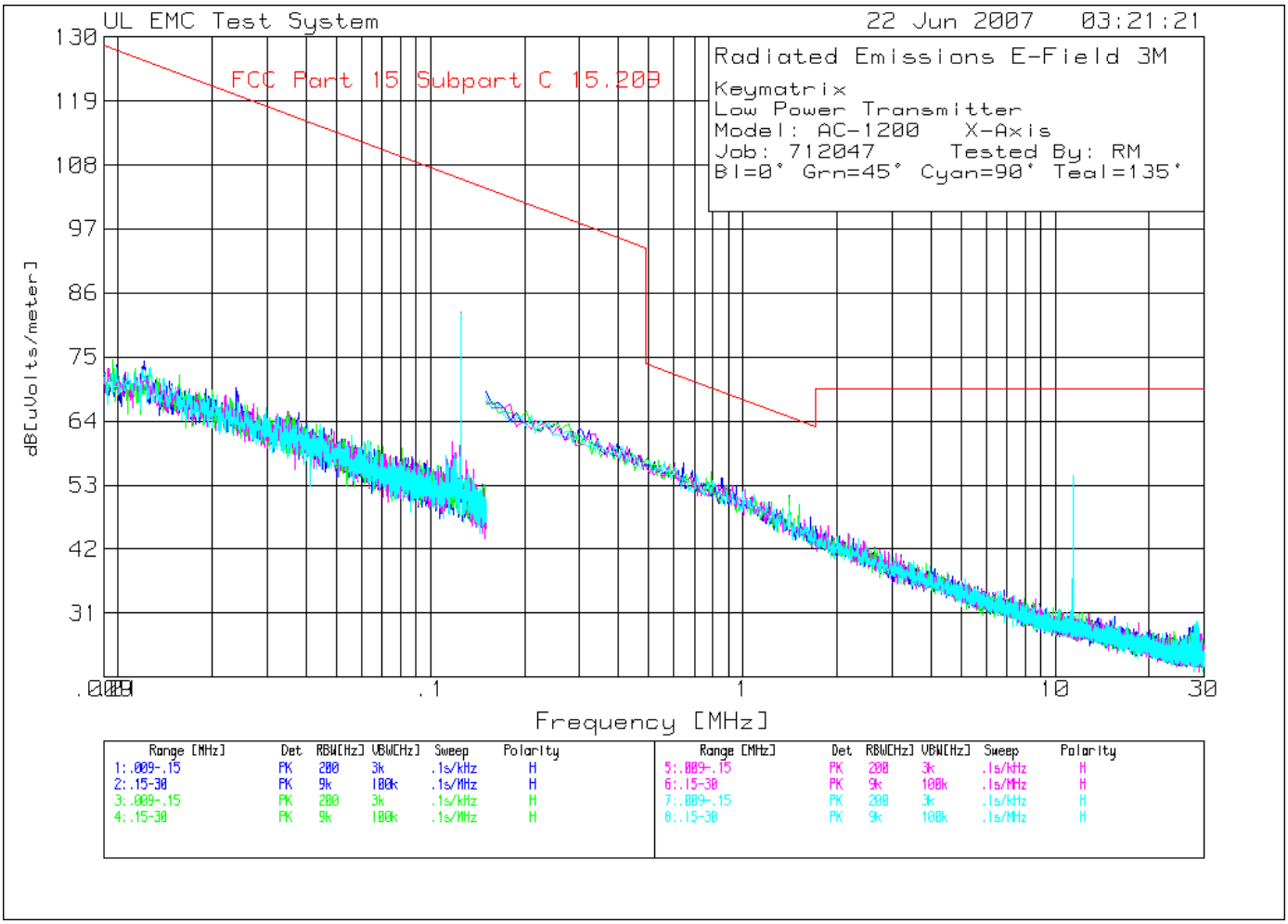

Table 10 Radiated Emissions Data Points

Keymatrix
Low Power Transmitter
Model: AC-1200 X-Axis
Job: 712047 Tested By: RM
Bl=0° Grn=45° Cyan=90° Teal=135°

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4
0° .009 - .15MHz									
1	.02384	46.81 pk	.2	22.8	69.81	120	-	-	-
	Azimuth:299	Height:100 Horz		Margin [dB]		-50.19	-	-	-
2	.12512	63.63 pk	.1	16.2	79.93	105.7	-	-	-
	Azimuth:299	Height:100 Horz		Margin [dB]		-25.77	-	-	-
0° .15 - 30MHz									
3	27.26058	11.04 pk	.4	16.3	27.74	69.5	-	-	-
	Azimuth:332	Height:100 Horz		Margin [dB]		-41.76	-	-	-
45° .009 - .15MHz									
4	.12512	62.43 pk	.1	16.2	78.73	105.7	-	-	-
	Azimuth:284	Height:119 Horz		Margin [dB]		-26.97	-	-	-
45° .15 - 30MHz									
5	1.41148	35.48 pk	.1	15.3	50.88	64.6	-	-	-
	Azimuth:6	Height:119 Horz		Margin [dB]		-13.72	-	-	-
6	27.26058	10.8 pk	.4	16.3	27.5	69.5	-	-	-
	Azimuth:299	Height:119 Horz		Margin [dB]		-42	-	-	-
90° .009 - .15MHz									
7	.12512	66.43 pk	.1	16.2	82.73	105.7	-	-	-
	Azimuth:354	Height:140 Horz		Margin [dB]		-22.97	-	-	-
90° .15 - 30MHz									
8	27.26058	9.89 pk	.4	16.3	26.59	69.5	-	-	-
	Azimuth:1	Height:140 Horz		Margin [dB]		-42.91	-	-	-
135° .009 - .15MHz									
9	.12512	66.26 pk	.1	16.2	82.56	105.7	-	-	-
	Azimuth:358	Height:159 Horz		Margin [dB]		-23.14	-	-	-

Test No.	Meter Frequency [MHz]	Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4
135° .15 - 30MHz									
10	11.37641	38.78 pk	.2	15.7	54.68	69.5	-	-	-
	Azimuth:50	Height:159 Horz		Margin [dB]		-14.82	-	-	-
11	28.00701	12.22 pk	.4	16.3	28.92	69.5	-	-	-
	Azimuth:149	Height:159 Horz		Margin [dB]		-40.58	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection

Keymatrix
Low Power Transmitter
Model: AC-1200 X-Axis
Job: 712047 Tested By: RM
Bl=0° Grn=45° Cyan=90° Teal=135°

Test No.	Meter Frequency [MHz]	Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4
0° .009 - .15MHz									
.12512		63.63 ave	.1	16.2	79.93	105.7	-	-	-
	Azimuth:299	Height:105 Horz		Margin [dB]		-25.77	-	-	-

Figure 10 Radiated Emissions Graph

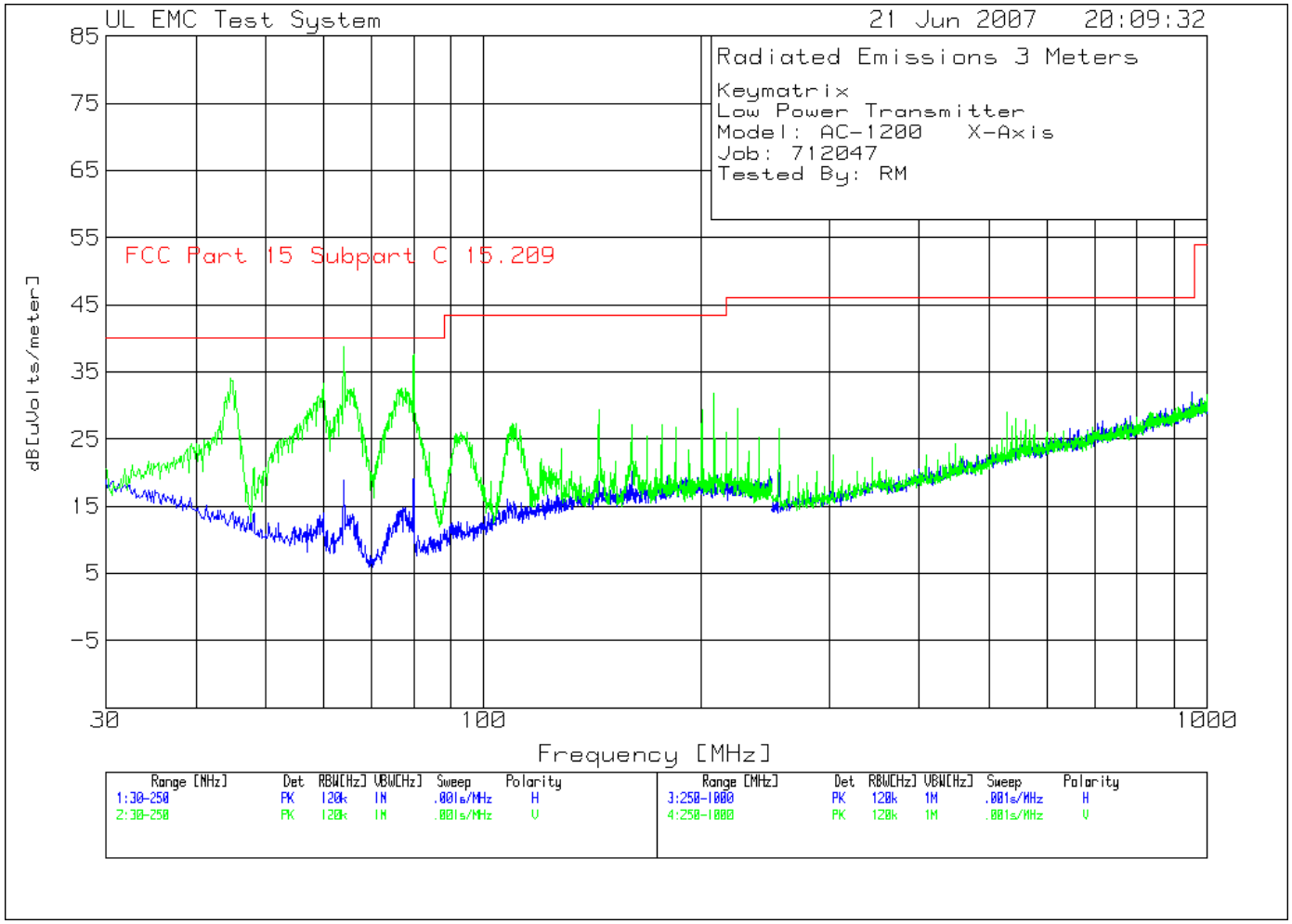

Table 11 Radiated Emissions Data Points

Keymatrix
Low Power Transmitter
Model: AC-1200 X-Axis
Job: 712047
Tested By: RM

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4
Horizontal 30 - 250MHz									
1	64.0494	13.22 pk	-.1	5.7	18.82	40	-	-	-
	Azimuth:2	Height:400 Horz		Margin [dB]		-21.18	-	-	-
Vertical 30 - 250MHz									
2	44.6765	22.12 pk	-.3	12.2	34.02	40	-	-	-
	Azimuth:281	Height:101 Vert		Margin [dB]		-5.98	-	-	-
3	59.94	26.89 pk	-.1	6.6	33.39	40	-	-	-
	Azimuth:165	Height:101 Vert		Margin [dB]		-6.61	-	-	-
4	64.0494	33.23 pk	-.1	5.7	38.83	40	-	-	-
	Azimuth:165	Height:101 Vert		Margin [dB]		-1.17	-	-	-
5	80.0467	30.73 pk	-.1	7	37.63	40	-	-	-
	Azimuth:18	Height:101 Vert		Margin [dB]		-2.37	-	-	-
6	144.036	15.02 pk	.1	14.3	29.42	43.5	-	-	-
	Azimuth:145	Height:101 Vert		Margin [dB]		-14.08	-	-	-
7	208.0254	15.46 pk	.2	16.1	31.76	43.5	-	-	-
	Azimuth:165	Height:101 Vert		Margin [dB]		-11.74	-	-	-
Vertical 250 - 1000MHz									
8	528.1855	9.42 pk	.9	18.7	29.02	46	-	-	-
	Azimuth:51	Height:101 Vert		Margin [dB]		-16.98	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection
tm - Trace Math Result

Keymatrix
Low Power Transmitter
Model: AC-1200 X-Axis
Job: 712047
Tested By: RM

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4
Vertical 30 - 250MHz								
44.7331	21.83 qp	-.2	12.2	33.83	40	-	-	-
Azimuth: 241	Height:104	Vert		Margin [dB]:	-6.17	-	-	-
59.9936	25.15 qp	-.1	6.6	31.65	40	-	-	-
Azimuth: 356	Height:103	Vert		Margin [dB]:	-8.35	-	-	-
63.9984	32.19 qp	-.1	5.7	37.79	40	-	-	-
Azimuth: 358	Height:108	Vert		Margin [dB]:	-2.21	-	-	-
80.0056	29.19 qp	-.1	7	36.09	40	-	-	-
Azimuth: 279	Height:117	Vert		Margin [dB]:	-3.91	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector

4.3 Example Calculations

Radiated Emissions Limit conversion from uV/m to dBuV/m (accordance with paragraph 15.209)

Radiated Emissions Limit (dBuV/m) = 20*log (uV/m)
Radiated Emissions Limit (dBuV/m) = 20 * log (90)
Radiated Emissions Limit (dBuV/m) = 39.1

Radiated Emissions test data obtained during measurements.

Field Strength (dBuV/m) = Measured field strength (dBuV) + Antenna Factor (dB/m) + Cable Factor (dB)
Field Strength (dBuV/m) = 29.19dBuV + 7dB/m + (1)dB
Field Strength (dBuV/m) = 36.09dBuV/m

Appendix A

Accreditations and Authorizations

NVLAP Lab code: 100255-0

NVLAP: Recognized under the National Voluntary Laboratory Accreditation Program (NVLAP) for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC EN17025 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. For a full scope listing see http://ts.nist.gov/ts/htdocs/210/214/scopes/1002550.htm

FCC: Details of the measurement facilities used for these tests have been filed with the Federal Communications Commission's Laboratory in Columbia, Maryland (Ref. No. 91040).

Industry Canada Industrie Canada

Industry of Canada: Accredited by Industry Canada for performance of radiated measurements. Our test site complies with RSP 100, Issue 7, Section 3.3. File #: IC 2181

VCCI: Accepted as an Associate Member to the VCCI. The measurement facilities detailed in this test report have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. Registration Nos.: (Radiated Emissions) R-797, (Conducted Emissions) C-832, C-833, C-834 and (Conducted Emissions - Telecommunications Ports) T-160.

ICASA: ICASA (Independent Communications Authority of South Africa) has appointed UL as a Designated Test Laboratory to test Telecommunications equipment for type approval in compliance with CISPR 22 to assist in fulfilling its mandate under section 54(1) of the Telecommunications Act, 1996 (Act 103 of 1996).

NIST/CAB: Validated by the European Commission as a U.S. Conformity Assessment Body (CAB) of the U.S.-EU Mutual Recognition Agreement (MRA) for the Electromagnetic Compatibility - Council Directive 89/336/EEC, Article 10 (2). Also validated for the Telecommunication Equipment-Council Directive 99/5/EC, Annex III and IV, Identification Number: 0983.
NIST/CAB: Provisioned to act as a U.S. Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the Asia Pacific Economic Cooperation (APEC) MRA between the American Institute in Taiwan (AIT) and the United States. Our laboratory is considered qualified to test equipment subject to the applicable EMC regulations of the Chinese Taipei Bureau of Standards, Metrology and Inspection (BSMI) which require testing to CNS 13438 (CISPR 22).
NIST/CAB: Recognized by the Infocomm Development Authority of Singapore (IDA) under the Asia Pacific Economic Cooperation Mutual Recognition Agreement (APEC MRA). Our laboratory is provisionally designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC MRA. Our scope of designation includes IDA TS EMC (CISPR 22), IEC 61000-4-2, -4-3, -4-4, -4-5, and -4-6