

TEST REPORT OF FCC DoC

On Behalf of

Sonos, Inc.

Controller

Model No.: CR100

Brand : SONOS

Prepared for : Sonos, Inc.
506 Chapala St., Santa Barbara,
CA93101

Prepared by : Audix Corporation
Technical Division EMC Department
No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
Taipei Hsien 24443, Taiwan, R.O.C.

Tel : (02) 2609-9301, 2609-2133

Fax : (02) 2609-9303

File Number : EM931483
Report Number : EM-F930264
Date of Test : Dec. 15 ~ 21, 2004
Date of Report : Dec. 24, 2004

TABLE OF CONTENTS

Description	Page
Test Report For FCC Compliance Declaration.....	3
1. GENERAL INFORMATION	4
1.1. Description of Device (EUT).....	4
1.2. Description of Test Facility	5
1.3. Measurement Uncertainty.....	5
2. CONDUCTED EMISSION MEASUREMENT	6
2.1. Test Equipment.....	6
2.2. Block Diagram of Test Setup.....	6
2.3. Conducted Emission Limit (§15.107, Class B)	6
2.4. EUT's Configuration during Compliance Measurement	7
2.5. Operating Condition of EUT	7
2.6. Test Procedure	7
2.7. Conducted Emission Measurement Results.....	8
3. RADIATED EMISSION MEASUREMENT	11
3.1. Test Equipment.....	11
3.2. Block Diagram of Test Setup.....	11
3.3. Radiation Limit (§15.109/CISPR 22, Class B).....	13
3.4. EUT's Configuration during Compliance Measurement	13
3.5. Operating Condition of EUT	13
3.6. Test Procedure	13
3.7. Radiated Emission Measurement Results.....	14
4. DEVIATION TO TEST SPECIFICATIONS.....	18
5. PHOTOGRAPHS.....	19
5.1. Photos of Conducted Emission Measurement	19
5.2. Photos of Radiated Measurement at Open Area Test Site (30-1000MHz, 10m).....	20
5.3. Photos of Radiated Measurement at Semi-Anechoic Chamber (1-2GHz, 3m)	22

APPENDIX I (Photos of EUT)

TEST REPORT FOR FCC COMPLIANCE DECLARATION

Applicant : Sonos, Inc.
Manufacturer : Inventec Electronics (M) Sdn Bhd.
EUT Description : Controller
(A) MODEL NO. : CR100
(B) SERIAL NO. : N/A
(C) BRAND : SONOS
(D) POWER SUPPLY : DC IN 6V or Battery
(E) TEST VOLTAGE : AC 120V/60Hz (via Power Supply)

Measurement Regulations and Procedure Used:

FCC CFR 47 Part 15 Subpart B/Jul. 2004 and CISPR 22/1997, ANSI C63.4-2003

The device described above was tested by AUDIX CORPORATION, to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 Subpart B with the provisions of sections 15.107(a) and 15.109(g) Class B limits both conducted and radiated emission.

The measurement results are contained in this test report and AUDIX CORPORATION. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX CORPORATION.

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

Date of Test : Dec. 15 ~ 21, 2004

Prepared by : Julie Hsu Dec. 17, 2004
(Julie Hsu/Assistant Administrator)

Test Engineer : Ben Cheng Dec. 17, 2004
(Ben Cheng/Section Manager)

Approved & Authorized Signer : Leon Liu Dec. 27, 2004
(Leon Liu/Senior Manager)

Name of the Representative of the Responsible Party : _____

Signature : _____

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Controller This devices is a controller for digital music system.
Model Number	:	CR100
Serial Number	:	N/A
Brand Name	:	SONOS
Applicant	:	Sonos, Inc. 506 Chapala St. Santa Barbara, CA 93101
Manufacturer	:	Inventec Electronics (M) Sdn. Bhd. Plot 102, Bayan Lepas Industrial Estate, 11900 Bayan Lepas, Penang, Malaysia.
High Frequency of Used	:	5.0MHz 、 10.0MHz 、 20.0MHz 、 33.0MHz 、 32.768kHz
Li-Polymer Battery (Rechargeable)	:	PL-0548135 >3000mAh
Wireless LAN Card	:	Ambit, M/N T60H786 IEEE 802.11g FCC ID. MCLT60H786
I.T.E. Power Supply	:	UNIFIUE, M/N UIA324-06 S/N 409-0145802 BSMI ID. D53008 I/O: AC 100-240V, 50/60Hz, 0.6A O/P: DC 6V, 3.8A Cable: Shielded, Undetachable, 1.5m Bonded a ferrite core
AC Power Cord (2Pin)	:	Non-Shielded, Detachable, 1.7m
Date of Receipt of Sample	:	Dec. 15, 2004
Date of Test	:	Dec. 15 ~ 21, 2004

1.2. Description of Test Facility

Name of Firm : **Audix Corporation**
 Technical Division EMC Department
 No. 53-11, Tin-Fu Tsun, Lin-Kou,
 Taipei County, Taiwan, R.O.C.

Test Facility & Location : **No. 2 Shielded Room &**
 (C2/AC/R8) No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei Hsien 24443, Taiwan, R.O.C.

Semi-Anechoic Chamber
 No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
 Taipei Hsien 24443, Taiwan, R.O.C.

May 16, 2003 Renewal on
 Federal Communication Commission
 Registration Number: 90993

No. 8 Open Area Test Site
 No. 67-4, Tin-Fu Tsun, Lin-Kou,
 Taipei County, Taiwan, R.O.C.

Sep. 29, 2004 File on
 Federal Communication Commission
 Registration Number: 220521

NVLAP Lab. Code : 200077-0
 (NVLAP is a NATA accredited body under Mutual Recognition Agreement)

DAR-Registration No. : DAT-P-145/03-01

1.3. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conduction Test	150kHz~30MHz	±1.73dB
Radiation Test (Distance: 3m)	30MHz~300MHz	±2.91dB
	300MHz~1000MHz	±2.94dB
Radiation Test (Distance: 10m)	30MHz~300MHz	±2.99dB
	300MHz~1000MHz	±2.73dB

Remark : Uncertainty = $k_{uc}(y)$

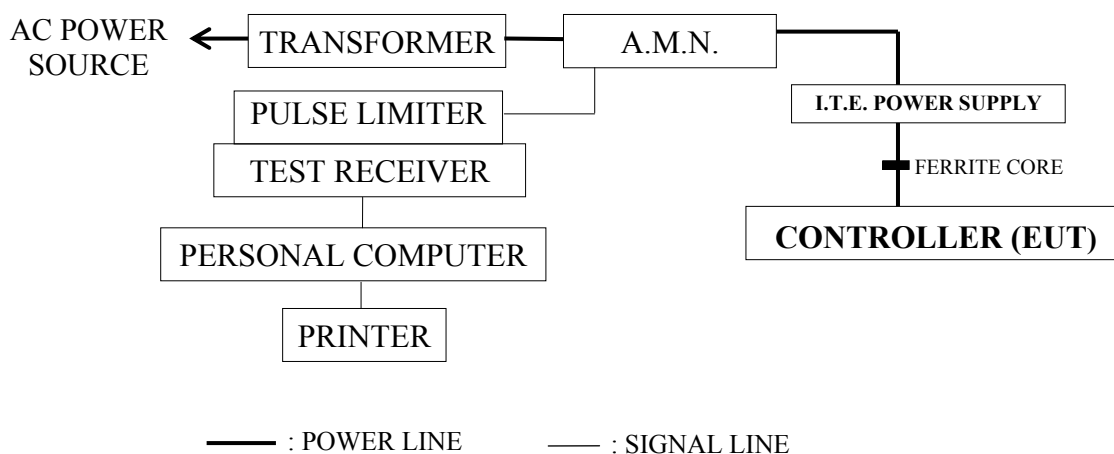
2. CONDUCTED EMISSION MEASUREMENT

2.1. Test Equipment

The following test equipment were used during the conducted emission measurement :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	Rohde & Schwarz	ESCS 30	100265	Oct.05, 04'	Oct.04, 05'
2.	A.M.N.	Rohde & Schwarz	ESH2-Z5	890485/023	Feb.05, 04'	Feb.04, 05'
3.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	001	Apr.28, 04'	Apr.27, 05'

2.2. Block Diagram of Test Setup



2.3. Conducted Emission Limit (§15.107, Class B)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB μ V	56 ~ 46 dB μ V
500kHz ~ 5MHz	56 dB μ V	46 dB μ V
5MHz ~ 30MHz	60 dB μ V	50 dB μ V

- Remark: 1. If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.
 2. The lower limit applies at the band edges.

2.4. EUT's Configuration during Compliance Measurement

The following equipment were installed on RF LINE VOLTAGE measurement to meet the commission requirement and operating in a manner which tended to maximize its emission characteristics in a normal application.

2.4.1. Controller (EUT)

Model Number	:	CR100
Serial Number	:	N/A
Manufacturer	:	Inventec Electronics (M) Sdn. Bhd.
Li-Polymer Battery	:	PL-0548135
(Rechargeable)	:	>3000mAh
Wireless LAN Card	:	Ambit, M/N T60H786
		IEEE 802.11g
		FCC ID. MCLT60H786
I.T.E. Power Supply	:	UNIFIUE, M/N UIA324-06
		S/N 409-0145802
		BSMI ID. D53008
		I/O: AC 100-240V, 50/60Hz, 0.6A
		O/P: DC 6V, 3.8A
		Cable: Shielded, Undetachable, 1.5m
		Bonded a ferrite core
AC Power Cord (2Pin)	:	Non-Shielded, Detachable, 1.7m

2.4.2. Supporting System : As in section 1.2

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown on 2.2.

2.5.2. Turn on the power of all equipment.

2.5.3. Run telnet on Notebook to run test software scripts on controller to execute the Wi-Fi Card, Normal application software was running simultaneously.

2.6. Test Procedure

The EUT was put on table which was above the ground by 80cm and its power supply connected to the AC mains through a Artificial Mains Network (A.M.N.). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provided a 50 ohm coupling impedance for the tested equipment. Both sides of A.C. line were detected for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to FCC ANSI C63.4-2003 during conducted measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 9kHz.

The frequency range from 0.15MHz to 30MHz was checked with a peak detector.

The all final readings from Test Receiver were measured with the Quasi-Peak detector and Average detector. (Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

2.7. Conducted Emission Measurement Results

PASSED. All emissions not reported below are too low against the prescribed limits.

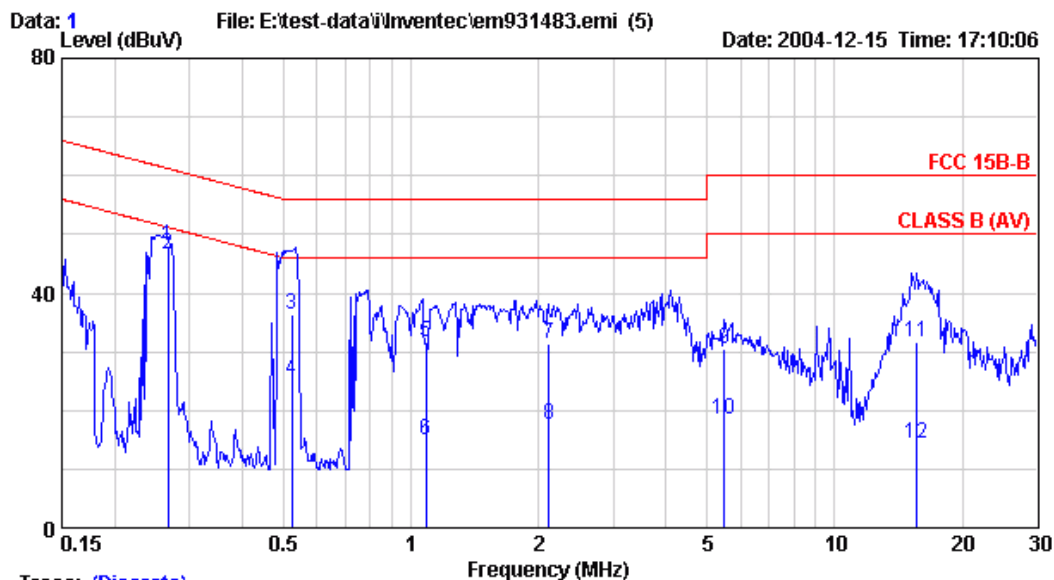
The EUT were performed during conducted measurement and all the test results are attached in next pages.

Test Date : Dec. 15, 2004 Temperature : 21°C Humidity : 62%

Reference Data No.	Neutral	Line
	# 2	# 1



AUDIX Corp. EMC Laboratory
No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
County, Taiwan R.O.C. Post Code:24443
Tel:02-26092133 Fax:02-26099303
Email:ttemc@ttemc.com.tw



Trace: (Discrete)

Site : No.2 Shielded room Data : 1
Condition : ESH2-Z5 Phase : LINE
Limit : FCC 15B-B
Env. / Ins. : 21°C,62% / ESCS 30 Engineer: Cater Chou
EUT : Controller M/N:CR100
Power Rating : 120Vac/60Hz
Test Mode : Operating

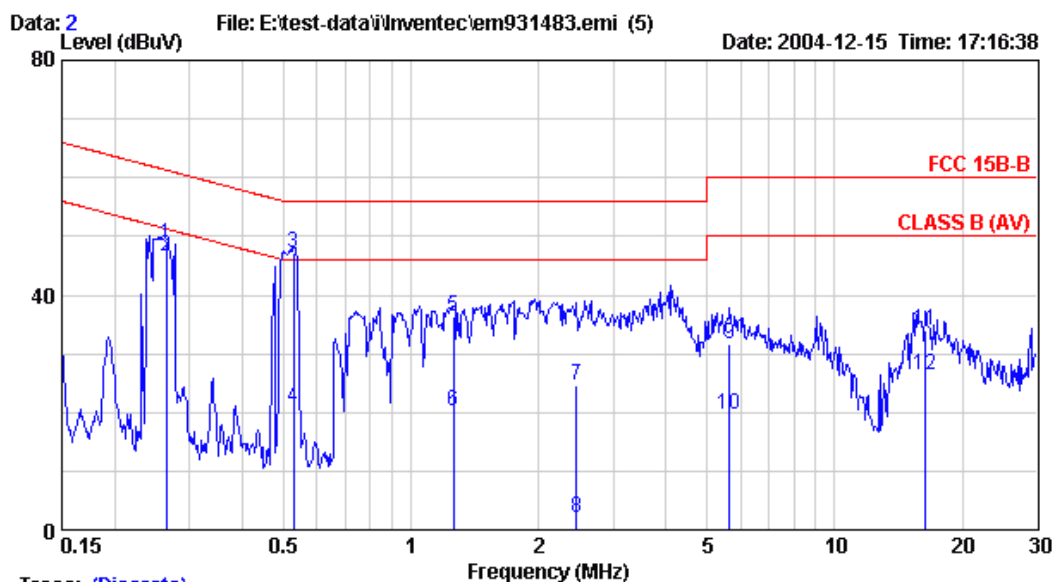
	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dB μ V)	Emission Level (dB μ V)	Limits (dB μ V)	Margin (dB)	Remark
1	0.267	0.10	0.29	47.67	48.06	61.20	13.15	QP
2	0.267	0.10	0.29	46.09	46.48	51.20	4.73	AVERAGE
3	0.525	0.13	0.34	35.96	36.43	56.00	19.57	QP
4	0.525	0.13	0.34	24.74	25.21	46.00	20.79	AVERAGE
5	1.084	0.20	0.40	31.07	31.67	56.00	24.33	QP
6	1.084	0.20	0.40	14.34	14.94	46.00	31.06	AVERAGE
7	2.117	0.20	0.40	30.80	31.40	56.00	24.60	QP
8	2.117	0.20	0.40	17.09	17.69	46.00	28.31	AVERAGE
9	5.480	0.23	0.50	29.76	30.50	60.00	29.50	QP
10	5.480	0.23	0.50	17.77	18.51	50.00	31.49	AVERAGE
11	15.550	0.44	0.70	30.57	31.71	60.00	28.29	QP
12	15.550	0.44	0.70	13.26	14.40	50.00	35.60	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.

2.If the average limit is met when using a quasi-peak detector
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.



AUDIX Corp. EMC Laboratory
No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
County, Taiwan R.O.C. Post Code:24443
Tel:02-26092133 Fax:02-26099303
Email:ttemc@ttemc.com.tw



Site : No.2 Shielded room Data : 2
Condition : ESH2-Z5 Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 21°C,62% / ESCS 30 Engineer: Cater Chou
EUT : Controller M/N:CR100
Power Rating : 120Vac/60Hz
Test Mode : Operating

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dB μ V)	Emission Level (dB μ V)	Limits (dB μ V)	Margin (dB)	Remark
1	0.265	0.10	0.28	48.36	48.74	61.28	12.54	QP
2	0.265	0.10	0.28	46.09	46.47	51.28	4.81	AVERAGE
3	0.529	0.13	0.34	46.69	47.17	56.00	8.83	QP
4	0.529	0.13	0.34	20.31	20.79	46.00	25.21	AVERAGE
5	1.260	0.20	0.40	35.88	36.48	56.00	19.52	QP
6	1.260	0.20	0.40	19.49	20.09	46.00	25.91	AVERAGE
7	2.460	0.20	0.40	24.14	24.74	56.00	31.26	QP
8	2.460	0.20	0.40	1.42	2.02	46.00	43.98	AVERAGE
9	5.650	0.24	0.51	30.83	31.58	60.00	28.42	QP
10	5.650	0.24	0.51	18.93	19.68	50.00	30.32	AVERAGE
11	16.310	0.43	0.70	32.98	34.11	60.00	25.89	QP
12	16.310	0.43	0.70	25.29	26.42	50.00	23.58	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment were used during the radiated measurement :

3.1.1. For 30-1000MHz Frequency at No. 8 Open Field Site

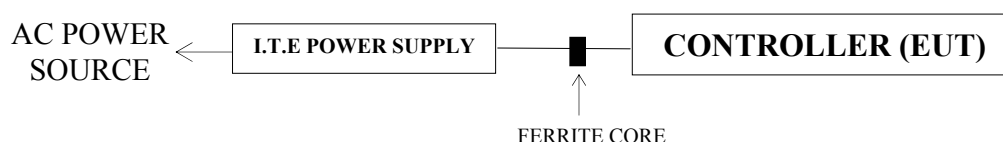
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY42000133	Jun.30, 04'	Jun.29, 05'
2.	Test Receiver	Rohde & Schwarz	ESCS30	100337	May 06, 04'	May 05, 05'
3.	Amplifier	HP	8447D	2944A07178	May 20, 04'	May 19, 05'
4.	Bilog Antenna (30-2000MHz)	Schwarzbeck	CBL6112B	2829	May 18, 04'	May 17, 05'

3.1.2. For 1GHz~2GHz Frequency at Semi-Anechoic Chamber

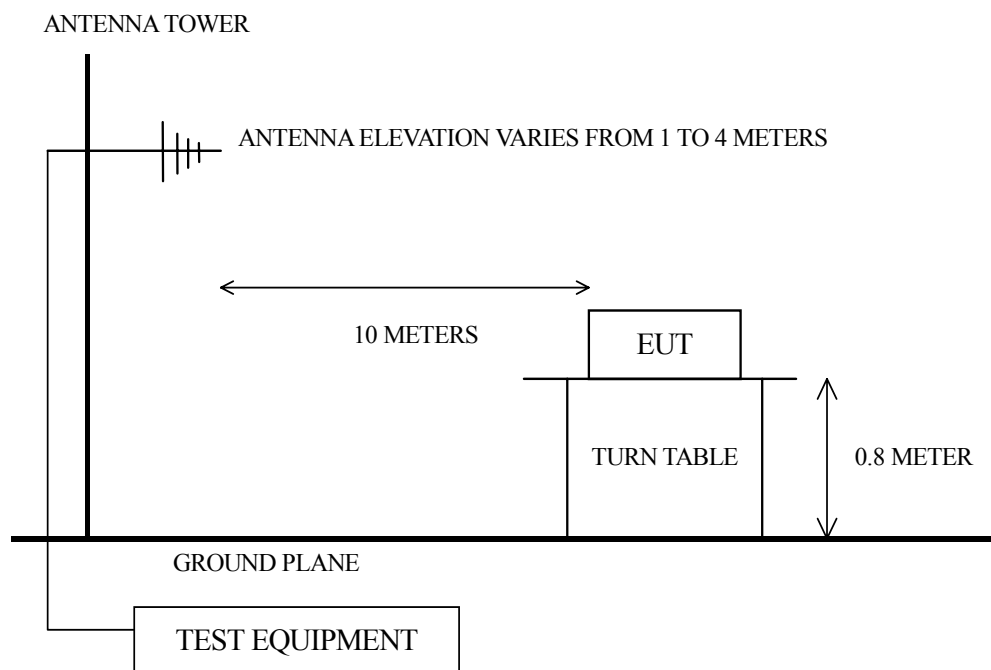
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Oct.04, 04'	Oct.03, 05'
2.	Pre-Amplifier	HP	8449B	3008A00529	Jan.29, 04'	Jan.28, 05'
3.	Horn Antenna	EMCO	3115	9112-3775	May 05, 04'	May 04, 05'

3.2. Block Diagram of Test Setup

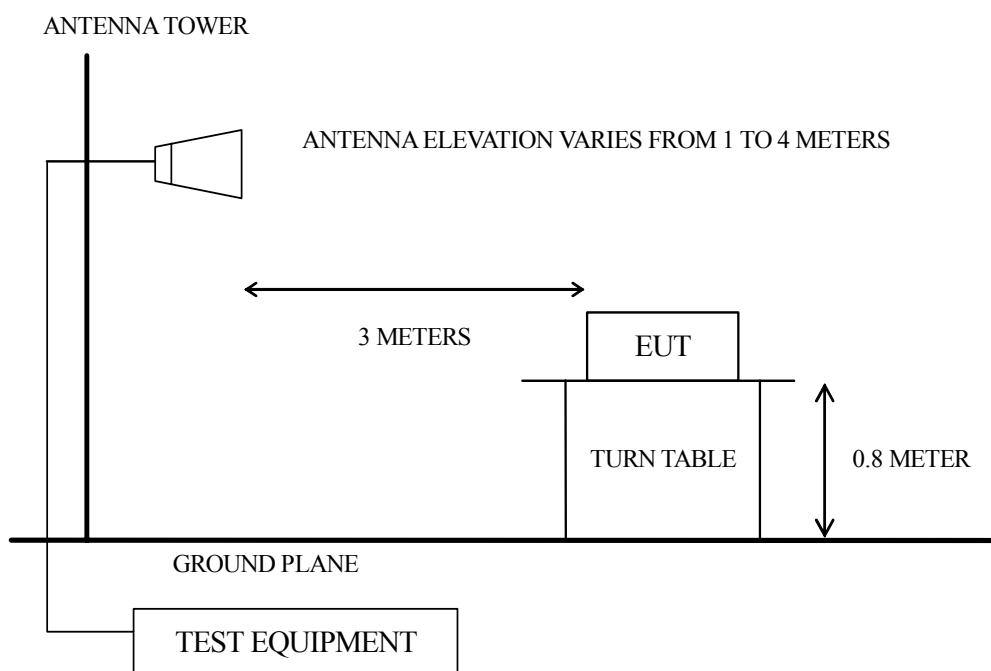
3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Open Area Test Site (10m) Setup Diagram for 30-1000MHz Frequency Range



3.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for 1-2GHz Frequency Range



3.3. Radiation Limit (§15.109/CISPR 22, Class B)

All emanations from a class B computing devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dBμV/m)
30 ~ 230	10 (3)	30 (40)
230 ~ 1000	10 (3)	37 (47)
Above 1000	3	74.0 (Peak)
Above 1000	3	54.0 (Average)

Note : (1) The tighter limit applies at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the E.U.T.

(3) There is no over 1GHz limits in CISPR 22 standard. Therefor, a FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.109 (g).

(4) The 3m limit apply relation: $L2 = L1(d1/d2)$

3.4. EUT's Configuration during Compliance Measurement

The ANSI C63.4 test method was used to find the maximum emission during radiated measurement against §15.31 (a)(b) of FCC Part 15.

The configuration of EUT was same as used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

Same as conducted measurement which was listed in 2.5. except the test set up replaced by section 3.2.

3.6. Test Procedure

3.6.1. For frequency range 30MHz-1000MHz measurement at distance of 10m at open area test site

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 10 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Bilog Antenna (calibrated biconical) and dipole antenna were used as receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-2003 and CISPR 22 on radiated measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 120kHz. The frequency range from 30MHz to 1000MHz was checked with a peak detector and all final readings from test receiver were measured with Quasi-Peak detector.

3.6.2. For frequency range 1GHz-2GHz measurement at distance of 3m at semi-anechoic chamber

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level, EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. A calibrated Horn Antenna was used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement, and both average and peak emission level were recorded from spectrum analyzer. In order to find the maximum emission level, all the interface cables were manipulated according to ANSI C63.4-2003 on radiated measurement.

The resolution bandwidth of spectrum analyzer 8593EM was set at 1MHz. The frequency range from 1GHz to 2GHz was checked and all final readings from spectrum analyzer were measured with Peak detector and Average detector.

3.7. Radiated Emission Measurement Results

PASSED. All emissions not reported below are too low against the prescribed limits.

The EUT with DC IN Power & Battery Power were pre-checked and selected the worst test mode (**DC IN Power**) re-measured and reported test data in this section.

For 30MHz~1000MHz frequency range:

All the test results are attached in section 3.7.1.

Test Date : Dec. 21, 2004 Temperature : 23°C Humidity : 62%

Test Power	Reference Data No.	
	Horizontal	Vertical
DC IN Power	# 4	# 3

For 1GHz~2GHz frequency range:

All the test results are attached in section 3.7.2.

Test Date : Dec. 15, 2004 Temperature : 24°C Humidity : 57%

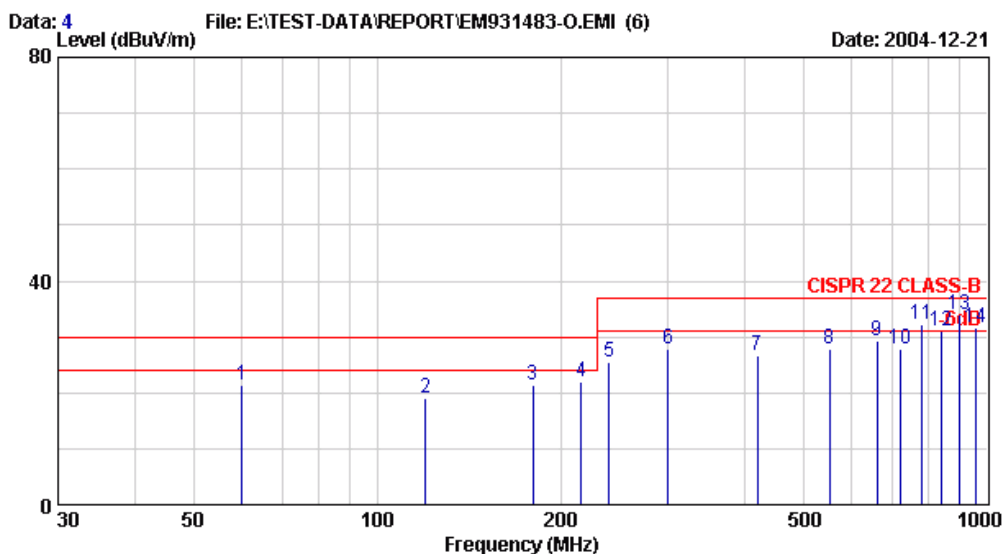
Test Power	Reference Data No.			
	Horizontal		Vertical	
DC IN Power	Peak	# 18	Peak	# 17

There is not a disturbance above (L-20) dB that has to report, where L is the limit level against the FCC 15.35(b) and 15.109(a) (g) radiated emission measurement of those emission data were pre-scanned in semi-anechoic chamber and attached in section 3.7.2.

3.7.1. 30MHz to 1000MHz frequency range and at 10 meters distance measurement.



AUDIX Corp. EMC Laboratory
No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
County, Taiwan R.O.C. Post Code:24443
Tel:+886-2-26092133 Fax:+886-2-26099303
Email:ttemc@ttemc.com.tw



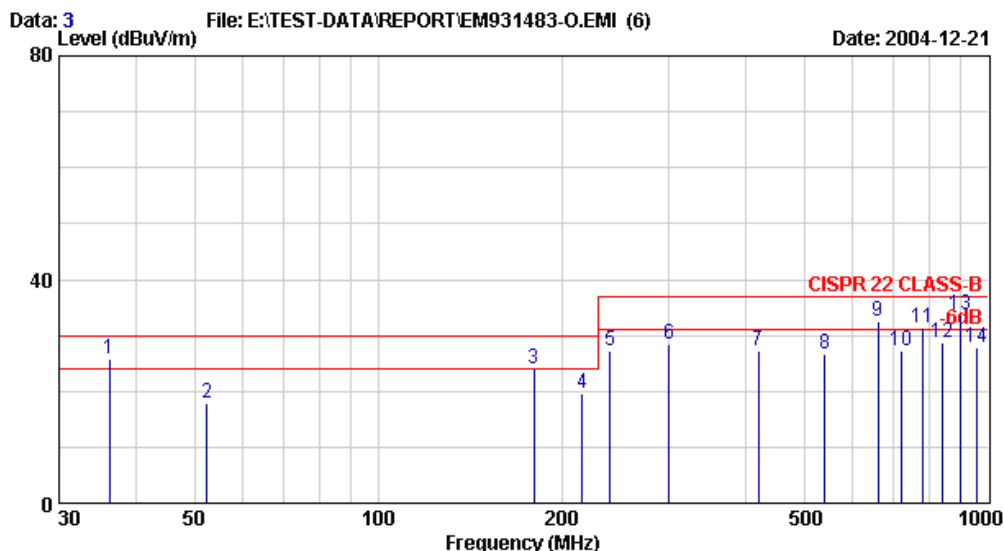
Site no. : OATS NO.8 Data no. : 4
Dis. / Ant. : 10m CBL6112B(2829) Ant. pol. : HORIZONTAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : (23°C/62%) / ESCS 30 Engineer : Byron Wu
EUT : Controller M/N:CR100
Power Rating : 120Vac/60Hz
Test Mode : Operating

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	60.003	6.02	1.14	14.26	21.42	30.00	8.58	
2	120.000	12.50	1.43	5.11	19.03	30.00	10.97	
3	180.013	9.79	1.80	9.83	21.42	30.00	8.58	
4	216.003	9.86	1.85	10.33	22.04	30.00	7.96	
5	240.002	12.57	1.89	11.01	25.46	37.00	11.54	
6	300.001	13.62	2.30	12.04	27.96	37.00	9.04	
7	420.005	16.49	2.70	7.54	26.73	37.00	10.27	
8	552.010	18.83	3.00	6.05	27.88	37.00	9.12	
9	660.008	18.77	3.22	7.45	29.45	37.00	7.55	
10	720.009	19.43	3.36	5.14	27.92	37.00	9.08	
11	780.008	19.74	3.54	8.81	32.09	37.00	4.91	
12	840.009	20.26	3.72	7.10	31.08	37.00	5.92	
13	900.010	20.56	3.90	9.50	33.96	37.00	3.04	*
14	960.013	21.32	3.96	6.40	31.68	37.00	5.32	

- Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. The worst emission was detected at 900.010MHz with corrected signal level of 33.96dBμV/m (limit is 37.0dBμV/m) when the antenna was at horizontal polarization and was at 1m high and the turn table was at 285°.
4. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.



AUDIX Corp. EMC Laboratory
No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
County, Taiwan R.O.C. Post Code:24443
Tel:+886-2-26092133 Fax:+886-2-26099303
Email:ttmc@ttmc.com.tw



Site no. : OATS NO.8 Data no. : 3
Dis. / Ant. : 10m CBL6112B(2829) Ant. pol. : VERTICAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : (23°C/62%) / ESCS 30 Engineer : Byron Wu
EUT : Controller M/N:CR100
Power Rating : 120Vac/60Hz
Test Mode : Operating

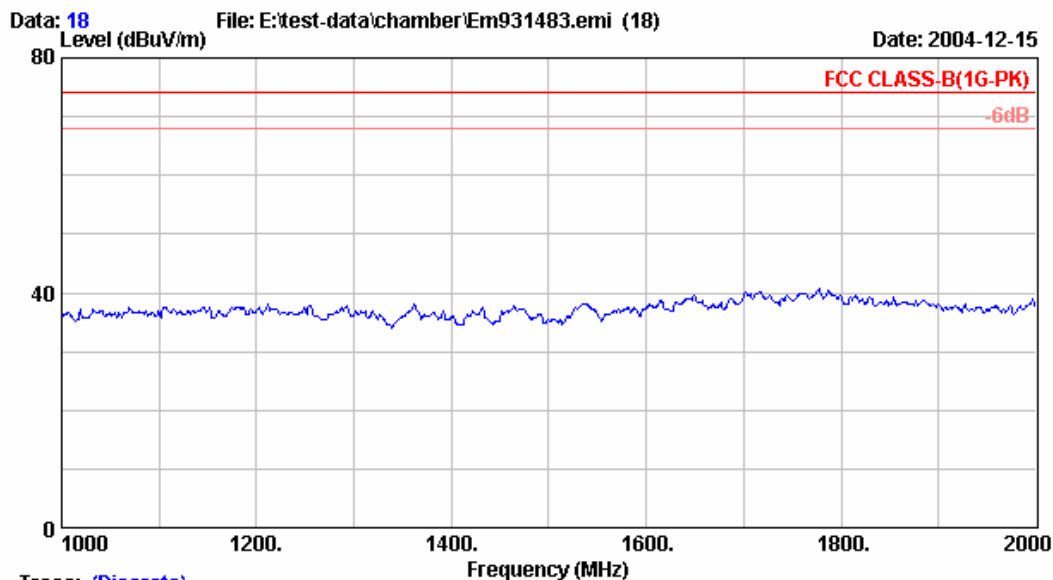
	Freq.	Ant.	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB/m)	(dB)	(dB μ V)	(dB μ V/m)	(dB μ V/m)	(dB)	
1	36.295	14.22	1.03	10.40	25.65	30.00	4.35	
2	52.375	6.74	1.11	10.10	17.95	30.00	12.05	
3	180.003	9.61	1.80	12.64	24.05	30.00	5.95	
4	216.003	9.33	1.85	8.54	19.72	30.00	10.28	
5	240.002	10.97	1.89	14.28	27.14	37.00	9.86	
6	300.003	13.56	2.30	12.60	28.46	37.00	8.54	
7	420.005	17.37	2.70	7.14	27.21	37.00	9.79	
8	540.007	17.69	2.98	6.06	26.73	37.00	10.27	
9	660.007	18.87	3.22	10.30	32.39	37.00	4.61	
10	720.009	19.71	3.36	4.13	27.20	37.00	9.80	
11	780.009	20.51	3.54	7.20	31.25	37.00	5.75	
12	840.011	20.91	3.72	4.10	28.72	37.00	8.28	
13	900.010	20.99	3.90	8.81	33.70	37.00	3.30	*
14	960.015	20.76	3.96	3.00	27.72	37.00	9.28	

- Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. The worst emission was detected at 900.010MHz with corrected signal level of 33.70dB μ V/m (limit is 37.0dB μ V/m) when the antenna was at vertical polarization and was at 2.4m high and the turn table was at 335°.
4. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

3.7.2. 1GHz to 2GHz frequency range and at 3 meters distance measurement.

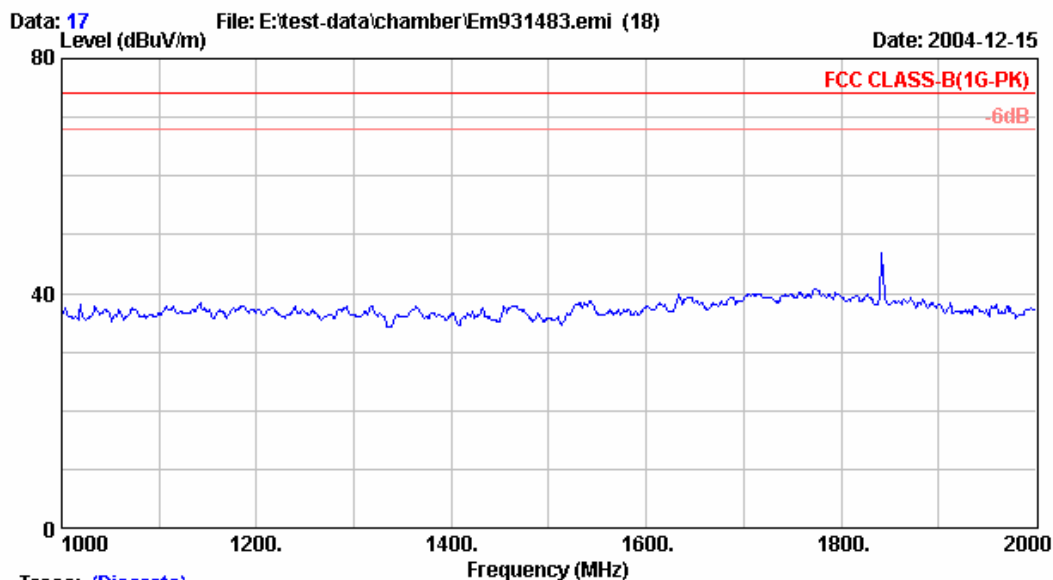


AUDIX Corp. EMC Laboratory
 No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei
 County, Taiwan R.O.C. Post Code:24443
 Tel:02-26092133 Fax:02-26099303
 Email:ttemc@ttemc.com.tw



Trace: (Discrete)

Site no. : A/C Chamber	Data no. : 18
Dis. / Ant. : 3m 3115	Ant. pol. : HORIZONTAL
Limit : FCC CLASS-B(1G-PK)	
Env. / Ins. : 8593EM 24°C/57%	Engineer : henning
EUT : Controller M/N:CR100	
Power Rating : 120Vac/60Hz	
Test Mode : Stand By	



Trace: (Discrete)

Site no. : A/C Chamber	Data no. : 17
Dis. / Ant. : 3m 3115	Ant. pol. : VERTICAL
Limit : FCC CLASS-B(1G-PK)	
Env. / Ins. : 8593EM 24°C/57%	Engineer : henning
EUT : Controller M/N:CR100	
Power Rating : 120Vac/60Hz	
Test Mode : Stand By	

4. DEVIATION TO TEST SPECIFICATIONS

【NONE】

5. PHOTOGRAPHS

5.1. Photos of Conducted Emission Measurement



FRONT VIEW OF CONDUCTED MEASUREMENT



BACK VIEW OF CONDUCTED MEASUREMENT

5.2. Photos of Radiated Measurement at Open Area Test Site (30-1000MHz, 10m)



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT



SETUP WITH MAXIMUM DETECTED EMISSION AT HORIZONTAL POLARIZATION



SETUP WITH MAXIMUM DETECTED EMISSION AT VERTICAL POLARIZATION

5.3. Photos of Radiated Measurement at Semi-Anechoic Chamber (1-2GHz, 3m)



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT