

APPLICATION FOR CERTIFICATION  
On Behalf of

Vision Electronics Co., Ltd.

Gamecube 2.4G RF Wireless Controller

Model Number: 2103/G5090

Prepared for : Vision Electronics Co., Ltd.  
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Report Number : ACS-F03124  
Date of Test : Apr. 28, 2003  
Date of Report : Jun. 10, 2003

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## TEST REPORT DECLARATION

Applicant : Vision Electronics Co., Ltd.  
 Manufacturer : Vision Electronics Co., Ltd.  
 EUT Description : Gamecube 2.4G RF Wireless Controller  
     (A) MODEL NO. : 2103/G5090  
     (B) SERIAL NO. : F2003061001  
     (C) POWER SUPPLY : 2103: DC 4.8V  
                           G5090: DC 3V

Test Procedure Used:  
 FCC Rules and Regulations Part 15 Subpart C Aug 2002.

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both radiated and conducted emissions.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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 : Apr.28, 2003

Prepared by : Jane Dai  
 Jane Dai / Assistant

Reviewer : Lake Wang  
 Lake Wang / Supervisor

Approved & Authorized Signer : Alex Deng  
 For and on behalf of  
 AUDIX TECHNOLOGY (SHENZHEN) CO.,LTD.  
 Alex Deng (Authorized Signer)

Name of the Representative of the Responsible Party : \_\_\_\_\_

Signature : \_\_\_\_\_

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

Description	:	Gamecube 2.4G RF Wireless Controller (Note: The receiver and EUT are separate, and the receivers are not part of this application for certification.)
Modulation Technique	:	DSSS
Range With -5dBi antenna	:	>10m (~33ft) indoor
Model Number	:	2103/G5090 (Between the two model 2103 & G5090 the electric circuit are same just the layout and appearance are different. )
Applicant	:	Vision Electronics Co., Ltd. 11F-6, No.400 Huan Pei Rd., Chung Li City, Tai Wan, R.O.C.
Manufacturer	:	Vision Electronics Co., Ltd. 11F-6, No.400 Huan Pei Rd., Chung Li City, Tai Wan, R.O.C.
Data Cable	:	Shielded, Detachable 1.8m
Power Cord	:	Unshielded, Detachable 1.8m
Date of Test	:	Apr. 28, 2003

### 1.2. Tested Supporting System Details

Gamecube Host	:	Manufacturer: NINTENAO M/N: DOL-001 (USA) DC 12V
Host Power Supply	:	Manufacturer: NINTENAO M/N: DOL-002 (EUR) Input: 230V/50Hz, Output: 12Vac/3.25A
TV	:	Manufacturer: TCL M/N: 1419A
Receiver	:	Manufacturer: Vision M/N: 2176/2178

### 1.3. Test Facility

#### Site Description

3m Anechoic Chamber : Certificated by FCC, USA  
Aug. 24, 2000

EMC Lab. : Certificated by DATech, German  
Feb. 02, 1999

Certificated by NVLAP, USA  
NVLAP Code: 200372-0  
Mar. 31, 2003

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.

Site Location : No. 6, Ke Feng Rd., 52 Block,  
Shenzhen Science & Industrial Park,  
Nantou, Shenzhen, Guangdong, China

### 1.4. Test Uncertainty

Conducted Emission Uncertainty =  $\pm 2.66\text{dB}$

Radiated Emission Uncertainty =  $\pm 4.26\text{dB}$

## 2. POWER LINE CONDUCTED EMISSION TEST

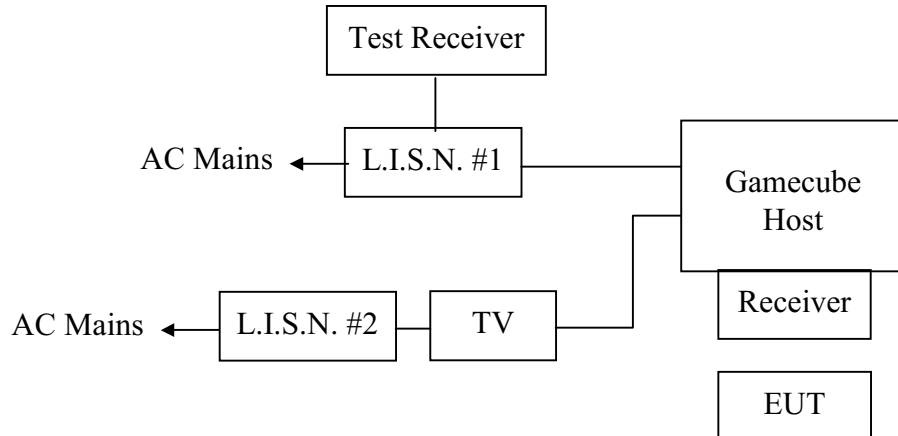
### 2.1. Test Equipment

The following test equipments are used during the power line conducted emission test:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS20	836600/006	Jun. 02, 02	1 Year
2.	L.I.S.N. #1	Kyoritsu	KNW-407	8-541-4	Jun. 02, 02	1 Year
3.	L.I.S.N. #2	R&S	ESH2-Z5	834066/011	Jun. 02, 02	1 Year
4.	Terminator	EMCO	50Ω	No. 1	Jun. 02, 02	1 Year
5.	Terminator	EMCO	50Ω	No. 2	Jun. 02, 02	1 Year
6.	RF Cable	FUJIKURA	RG-55/U	LISN Cable	Feb. 22, 03	1/2 Year
7.	Coaxial Switch	Anritsu	MP59B	M74389	Nov. 30, 02	1/2 Year
8.	PC	N/A	586ATXS	N/A	N/A	N/A
9.	Printer	HP	Laserjet2100	SGGJ092351	N/A	N/A

### 2.2. Block Diagram of Test Setup

#### 2.2.1. Block diagram of connection between the EUT and simulators



(EUT: Gamecube 2.4G RF Wireless Controller)

### 2.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150KHz ~ 500KHz	66 ~ 56*	56 ~ 46*
500KHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

## 2.4.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

### 2.4.1.Gamecube 2.4G RF Wireless Controller (EUT)

Model Number : 2103/G5090  
Serial Number : F2003061001  
Manufacturer : Vision Electronics Co., Ltd.

2.4.2.Support Equipment : As Tested Supporting System Detail, in Section 1.2..

## 2.5.Operating Condition of EUT

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

2.5.2.Turn on the power of all equipment.

2.5.3.Let the EUT work in test mode (Running) and test it.

## 2.6.Test Procedure

The gamecube host is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm coupling impedance for the gamecube host. Please refer the block diagram of the test setup and photographs. Power on the EUT and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-1992 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS20) is set at 10KHz.

The frequency range from 150KHz to 30MHz is checked.

The test result are reported on Section 2.7., all the scanning waveforms for Conducted Emission Test are attached in Appendix I.



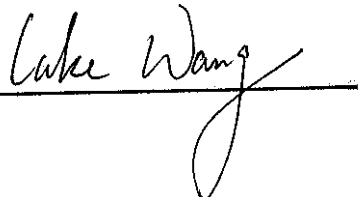


Date of Test : Apr. 28, 2003 Temperature : 24.6°C  
 EUT : Gamecube 2.4G RF Wireless Controller Humidity : 54%  
 Model No. : Controller: G5090, Receiver: 2178 Test Mode : Running  
 Test Engineer : Sean Xing

Frequency (MHz)	Reading (dBμV)				Limit (dBμV)	
	VA		VB		Quasi-Peak	Average
	Quasi-Peak	Average	Quasi-Peak	Average		
0.173	51.73	48.05	*	*	64.84	54.84
0.174	*	*	50.69	47.26	64.79	54.79
0.287	42.04	40.21	*	*	60.62	50.62
0.288	*	*	41.67	39.06	60.57	50.57
0.403	35.39	34.73	*	*	57.80	47.80
1.790	*	*	39.75	35.98	56.00	46.00
1.846	40.62	36.37	*	*	56.00	46.00
1.903	40.67	37.94	*	*	56.00	46.00
1.905	*	*	37.77	33.76	56.00	46.00
2.771	37.10	30.15	34.49	30.68	56.00	46.00
4.156	*	*	37.48	35.08	56.00	46.00

"\*" As the QP value is too low against AV limit, So AV Value had been omitted.

Reviewer:



### 3. RADIATED EMISSION TEST

#### 3.1. Test Equipment

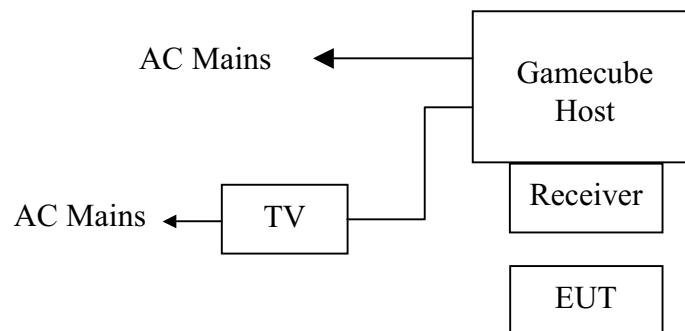
The following test equipments are used during the radiated emission test:

##### 3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Spectrum	HP	85422E	3625A00181	Jun. 02, 02	1 Year
2.	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	Jun. 02, 02	1 Year
3.	Amplifier	HP	8447D	2944A07794	Mar. 19, 03	1/2 Year
4.	Bilog Antenna	Schaffner	CBL6111C	2598	Jan. 14, 03	1 Year
5.	PC	N/A	586ATX3	N/A	N/A	N/A
6.	Printer	HP	Laserjet6P	SGCF019673	N/A	N/A
7.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.1	Feb. 03, 03	1/2 Year
8.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.2	Feb. 03, 03	1/2 Year
9.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.3	Feb. 03, 03	1/2 Year
10.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.4	Feb. 03, 03	1/2 Year
11.	Coaxial Switch	Anritsu	MP59B	M73989	Nov. 30, 02	1/2 Year
12.	Spectrum	Agilent	E4407B	MY41440292	Mar. 28, 03	1 Year
13.	Amp	HP	8449B	3008A00863	Jun. 02, 02	1 Year
14.	Antenna	EMCO	3115	9607-4877	Dec. 04, 02	1.5 Year

#### 3.2. Block Diagram of Test Setup

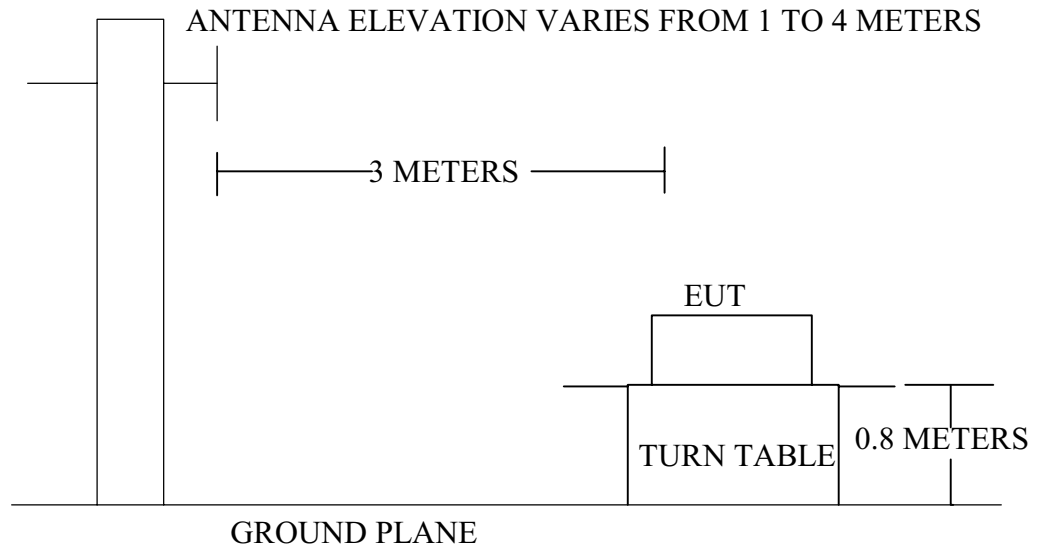
##### 3.2.1. Block diagram of connection between the EUT and simulators



*(EUT: Gamecube 2.4G RF Wireless Controller)*

## 3.2.2.In Anechoic Chamber

## ANTENNA TOWER



## 3.3.Radiated Emission Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V}/\text{m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	Fundamental: 114.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 94.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average) Harmonics: 74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

- Remark :
- (1) Emission level  $(\text{dB})\mu\text{V} = 20 \log$  Emission level  $\mu\text{V}/\text{m}$
  - (2) The smaller limit shall apply at the cross point between two frequency bands.
  - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

### 3.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 3.4.1.Gamecube 2.4G RF Wireless Controller (EUT)

Model Number : 2103/G5090  
Serial Number : F2003061001  
Manufacturer : Vision Electronics Co., Ltd.

3.4.2.Support Equipment : As Tested Supporting System Detail, in Section 1.2.

### 3.5.Operating Condition of EUT

1. Setup the EUT as shown in Section 3.2..
2. Let the EUT work in test mode (Running) and test it.

### 3.6.Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the EMI test receiver (R&S ESVS20) is set at 120KHz.

The frequency range from 30MHz to 24.44GHz is checked.

The test mode (Running) is tested in Anechoic Chamber, and all the scanning waveforms are attached in Appendix II.

### 3.7. Radiated Emission Test Result

**PASS.**

The frequency range from 30MHz to 1000MHz is investigated.  
Please see the following pages.

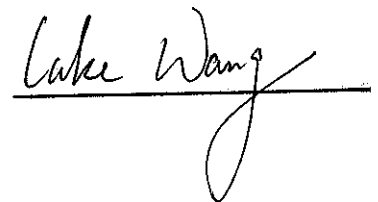
Date of Test :	Apr. 28, 2003	Temperature :	23°C
EUT :	Gamecube 2.4G RF Wireless Controller	Humidity :	58%
Model No. :	Controller: 2103, Receiver: 2176	Test Mode :	Running
Test Engineer:	Sean Xing		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dB $\mu$ V	Emission Level Horizontal dB $\mu$ V/m	Over Limits dB	Limits dB $\mu$ V/m
135.430	11.50	2.35	19.40	33.26	-10.24	43.50
159.980	11.16	2.64	19.69	33.49	-10.01	43.50
168.200	10.26	2.70	20.55	33.50	-10.00	43.50
324.230	14.20	4.04	18.53	36.77	-9.23	46.00
<b>499.360</b>	<b>17.76</b>	<b>5.58</b>	<b>15.40</b>	<b>38.74</b>	<b>-7.26</b>	<b>46.00</b>
810.970	21.47	7.02	9.56	38.05	-7.95	46.00

Remark: 1. All readings are Quasi-Peak values.

2. Emission Level = Antenna Factor + Cable Loss + Meter Reading

Reviewer:



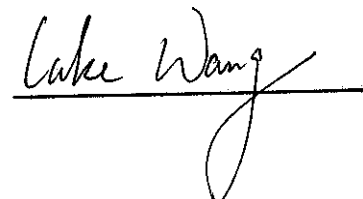
Date of Test :	Apr. 28, 2003	Temperature :	23°C
EUT :	Gamecube 2.4G RF Wireless Controller	Humidity :	58%
Model No. :	Controller: 2103, Receiver: 2176	Test Mode :	Running
Test Engineer:	Sean Xing		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Over Limits dB	Limits dBμV/m
51.330	6.97	1.38	22.00	30.35	-9.65	40.00
103.450	10.85	2.07	15.85	28.78	-14.73	43.50
210.440	9.07	3.07	21.66	33.80	-9.70	43.50
484.840	18.29	5.58	14.73	38.60	-7.40	46.00
500.110	18.90	5.58	13.48	37.95	-8.05	46.00
<b>807.450</b>	<b>21.51</b>	<b>7.02</b>	<b>10.56</b>	<b>39.09</b>	<b>-6.91</b>	<b>46.00</b>

Remark: 1. All readings are Quasi-Peak values.

2. Emission Level = Antenna Factor + Cable Loss + Meter Reading

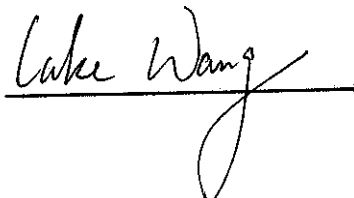
Reviewer:



Date of Test :	<u>Apr. 28, 2003</u>	Temperature :	<u>23°C</u>
EUT :	<u>Gamecube 2.4G RF Wireless Controller</u>	Humidity :	<u>58%</u>
Model No. :	<u>Controller: G5090, Receiver: 2178</u>	Test Mode :	<u>Running</u>
Test Engineer:	<u>Sean Xing</u>		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dB $\mu$ V	Emission Level Horizontal dB $\mu$ V/m	Over Limits dB	Limits dB $\mu$ V/m
135.730	11.50	2.35	19.42	33.27	-10.23	43.50
159.980	11.16	2.64	19.69	33.49	-10.01	43.50
169.680	10.26	2.70	20.81	33.77	-9.73	43.50
324.880	14.20	4.04	18.51	36.75	-9.25	46.00
<b>499.480</b>	<b>17.76</b>	<b>5.58</b>	<b>15.42</b>	<b>38.76</b>	<b>-7.24</b>	<b>46.00</b>
809.880	21.47	7.02	10.17	38.66	-7.34	46.00

- Remark: 1. All readings are Quasi-Peak values.  
 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading  
 3. The worst emission was detected at 499.480MHz with corrected signal level of 38.76dB $\mu$ V/m(Limit is 46.00 dB $\mu$ V/m) when the antenna was at horizontal polarization and at 2.0m high and the turn table was at 200 °.  
 4. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

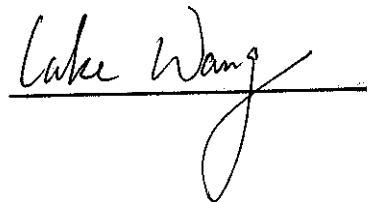
Reviewer: 

Date of Test :	Apr. 28, 2003	Temperature :	23°C
EUT :	Gamecube 2.4G RF Wireless Controller	Humidity :	58%
Model No. :	Controller: G5090, Receiver: 2178	Test Mode :	Running
Test Engineer:	Sean Xing		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dB $\mu$ V	Emission Level Vertical dB $\mu$ V/m	Over Limits dB	Limits dB $\mu$ V/m
51.340	6.97	1.38	22.49	30.84	-9.16	40.00
103.720	10.85	2.07	15.47	28.39	-15.11	43.50
211.390	9.07	3.07	21.20	33.34	-10.16	43.50
484.930	18.29	5.58	15.12	38.99	-7.01	46.00
499.480	18.90	5.58	13.02	37.50	-8.51	46.00
<b>809.880</b>	<b>21.51</b>	<b>7.02</b>	<b>11.30</b>	<b>39.83</b>	<b>-6.17</b>	<b>46.00</b>

- Remark: 1. All readings are Quasi-Peak values.  
 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading  
 3. The worst emission was detected at 809.880MHz with corrected signal level of 39.83dB $\mu$ V/m(Limit is 46.00 dB $\mu$ V/m) when the antenna was at horizontal polarization and at 1.0m high and the turn table was at 240 °.  
 4. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

Reviewer:





Date of Test :	<u>Apr. 28, 2003</u>	Temperature :	<u>23°C</u>
EUT :	<u>Gamecube 2.4G RF Wireless Controller</u>	Humidity :	<u>58%</u>
Model No. :	<u>Controller: 2103</u>	Test Mode :	<u>Running</u>
Test Engineer:	<u>Sean Xing</u>		

Frequency MHz	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Over Limits dB	Limits dBμV/m	Remark
1134.000	23.67	35.55	3.22	51.27	42.61	-31.39	74.00	Peak
1134.000	23.67	35.55	3.22	38.11	29.45	-24.55	54.00	Average
2440.000	28.14	34.98	5.74	68.24	67.14	-46.86	114.00	Peak
2440.000	28.14	34.98	5.74	55.57	54.47	-39.53	94.00	Average
4880.000	33.08	34.46	8.01	47.79	54.42	-19.58	74.00	Peak
4880.000	33.08	34.46	8.01	39.60	46.23	-7.77	54.00	Average

Remark: 1. All readings are Peak and Average values.

2. Emission Level = Antenna Factor + Cable Loss + Meter Reading– Preamp Factor

3. The bandwidth of the RBW is set at 1MHz and VBW is set at 1MHz.

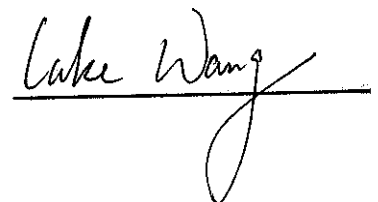
Frequency MHz	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Over Limits dB	Limits dBμV/m	Remark
1134.000	23.67	35.55	3.22	53.19	44.53	-29.47	74.00	Peak
1134.000	23.67	35.55	3.22	45.00	36.34	-17.66	54.00	Average
2440.000	28.14	34.98	5.74	66.38	65.28	-48.72	114.00	Peak
2440.000	28.14	34.98	5.74	54.93	53.83	-40.17	94.00	Average

Remark: 1. All readings are Peak and Average values.

2. Emission Level = Antenna Factor + Cable Loss + Meter Reading– Preamp Factor

3. The bandwidth of the RBW is set at 1MHz and VBW is set at 1MHz.

Reviewer:



Date of Test : Apr. 28, 2003 Temperature : 23°C  
 EUT : Gamecube 2.4G RF Wireless Controller Humidity : 58%  
 Model No. : Controller: G5090 Test Mode : Running  
 Test Engineer: Sean Xing

Frequency MHz	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Over Limits dBμV/m	Limits dBμV/m	Remark
1135.000	23.67	35.55	3.22	51.22	42.56	-31.44	74.00	Peak
1135.000	23.67	35.55	3.22	36.78	28.12	-25.88	54.00	Average
2440.000	28.14	34.98	5.74	72.20	71.10	-42.90	114.00	Peak
2440.000	28.14	34.98	5.74	58.10	57.00	-37.00	94.00	Average
4880.000	33.08	34.46	8.01	48.44	55.07	-18.93	74.00	Peak
4880.000	33.08	34.46	8.01	42.42	49.05	-4.95	54.00	Average

Remark: 1. All readings are Peak and Average values.

2. Emission Level = Antenna Factor + Cable Loss + Meter Reading– Preamp Factor

3. The bandwidth of the RBW is set at 1MHz and VBW is set at 1MHz.

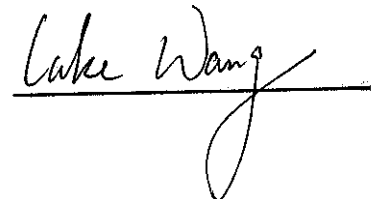
Frequency MHz	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Over Limits dBμV/m	Limits dBμV/m	Remark
1135.000	23.67	35.55	3.22	51.94	43.28	-30.72	74.00	Peak
1135.000	23.67	35.55	3.22	38.01	29.35	-24.65	54.00	Average
2440.000	28.14	34.98	5.74	71.69	70.59	-43.41	114.00	Peak
2440.000	28.14	34.98	5.74	60.10	59.00	-35.00	94.00	Average

Remark: 1. All readings are Peak and Average values.

2. Emission Level = Antenna Factor + Cable Loss + Meter Reading– Preamp Factor

3. The bandwidth of the RBW is set at 1MHz and VBW is set at 1MHz.

Reviewer:

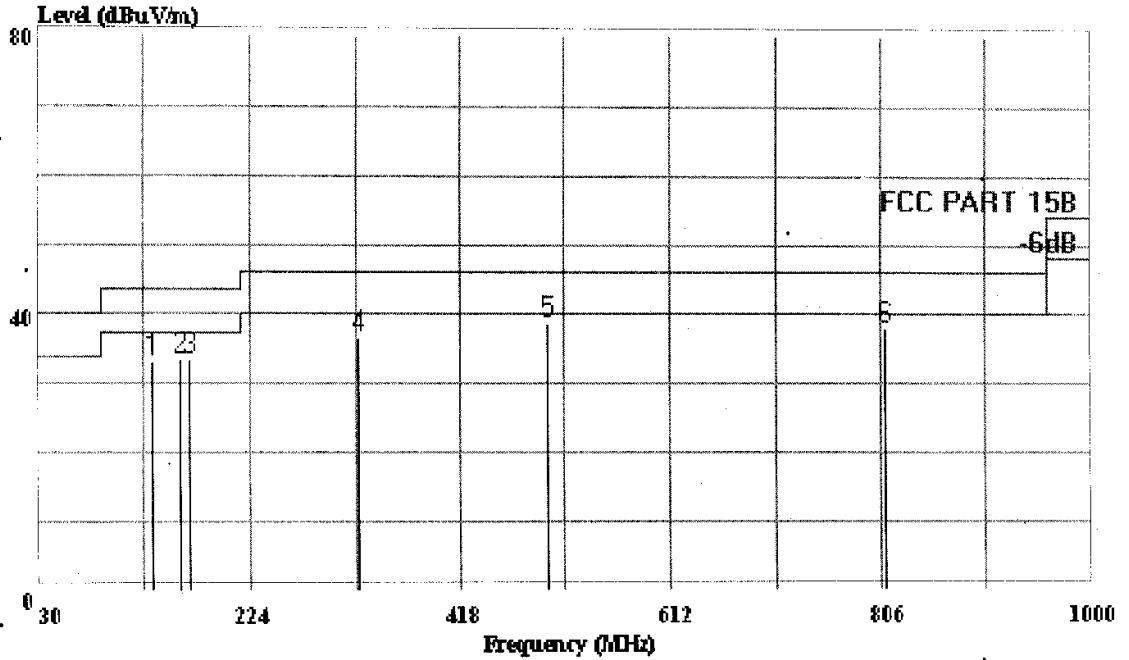




AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind. Park  
 Tel: 0755-26639495~7  
 Fax: 0755-26632877

Data#: 32 File#: Vision.EMI Date: 2003-04-28 Time: 24:58:21



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (3# Chamber)

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: 2103. Receiver: 2176  
 Power : Host 230V/50Hz DC 4.8V  
 Test Engineer: Sean Xing  
 Comment : Temp: 23'C, Humi: 58%  
 Memo : Running

Page: 1

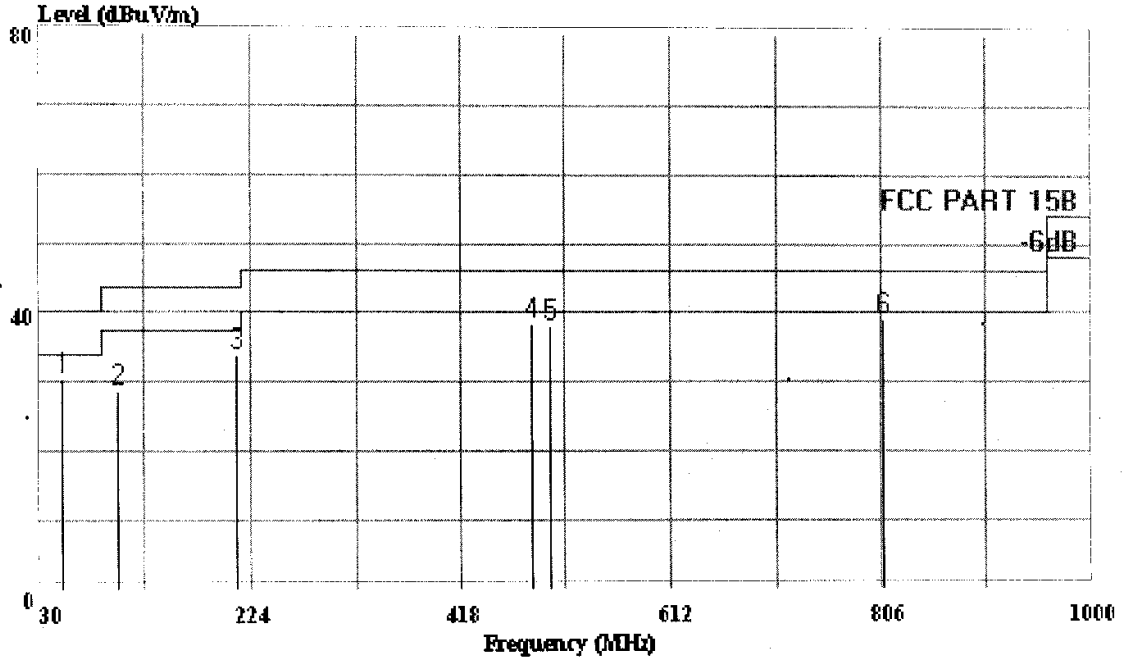
	Freq	Level	Limit	Over	Read	Probe	Cable
	MHz	dBuV/m	Line	Limit	Level	Factor	Loss
			dBuV/m	dB	dBuV	dB	dB
1	135.430	33.26	43.50	-10.24	19.40	11.50	2.35
2	159.980	33.49	43.50	-10.01	19.69	11.16	2.64
3	168.200	33.50	43.50	-10.00	20.55	10.26	2.70
4	324.230	36.77	46.00	-9.23	18.53	14.20	4.04
5	499.360	38.74	46.00	-7.26	15.40	17.76	5.58
6	810.970	38.05	46.00	-7.95	9.56	21.47	7.02



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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Tel: 0755-26639495~7  
Fax: 0755-26632877

Data#: 31 File#: Vision.EMI Date: 2003-04-28 Time: 24:52:23



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (3# Chamber)

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR VERTICAL.  
EUT : GAMECUBE 2.4G RF Wireless Controller  
M/N : Controller: 2103. Receiver: 2176  
Power : Host 230V/50Hz DC 4.8V  
Test Engineer: Sean Xing  
Comment : Temp: 23'C, Humi: 58%  
Memo : Running

Page: 1

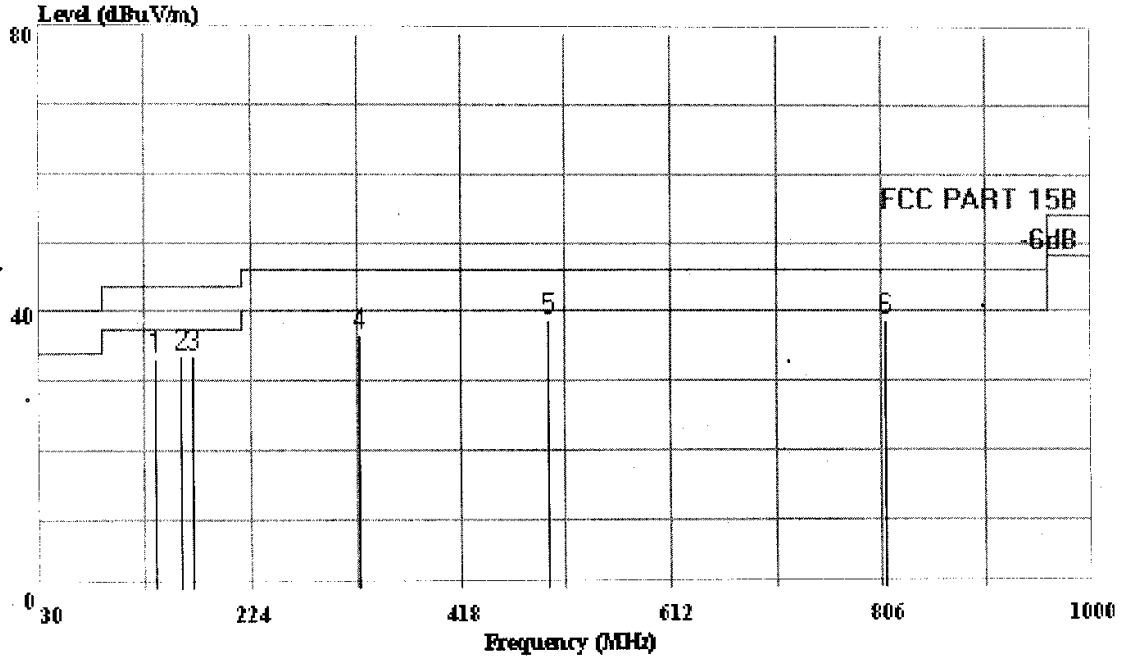
	Freq	Level	Limit	Over	Read	Probe	Cable
	MHz	dBuV/m	Line	Limit	Level	Factor	Loss
			dBuV/m	dB	dBuV	dB	dB
1	51.330	30.35	40.00	-9.65	22.00	6.97	1.38
2	103.450	28.78	43.50	-14.73	15.85	10.85	2.07
3	210.440	33.80	43.50	-9.70	21.66	9.07	3.07
4	484.840	38.60	46.00	-7.40	14.73	18.29	5.58
5	500.110	37.95	46.00	-8.05	13.48	18.90	5.58
6	807.450	39.09	46.00	-6.91	10.56	21.51	7.02



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind. Park  
Tel: 0755-26639495~7  
Fax: 0755-26632877

Data#: 24 File#: Vision.EMI Date: 2003-04-28 Time: 23:31:02



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (3# Chamber)

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL  
EUT : GAMECUBE 2.4G RF Wireless Controller  
M/N : Controller: G5090. Receiver: 2178  
Power : Host 230V/50Hz DC 3V  
Test Engineer: Sean Xing  
Comment : Temp: 23'C, Humi: 58%  
Memo : Running  
: Freq: 499.480MHz  
: Ant Pos: 2 m, T-Table Pos: 200 degree

Page: 1

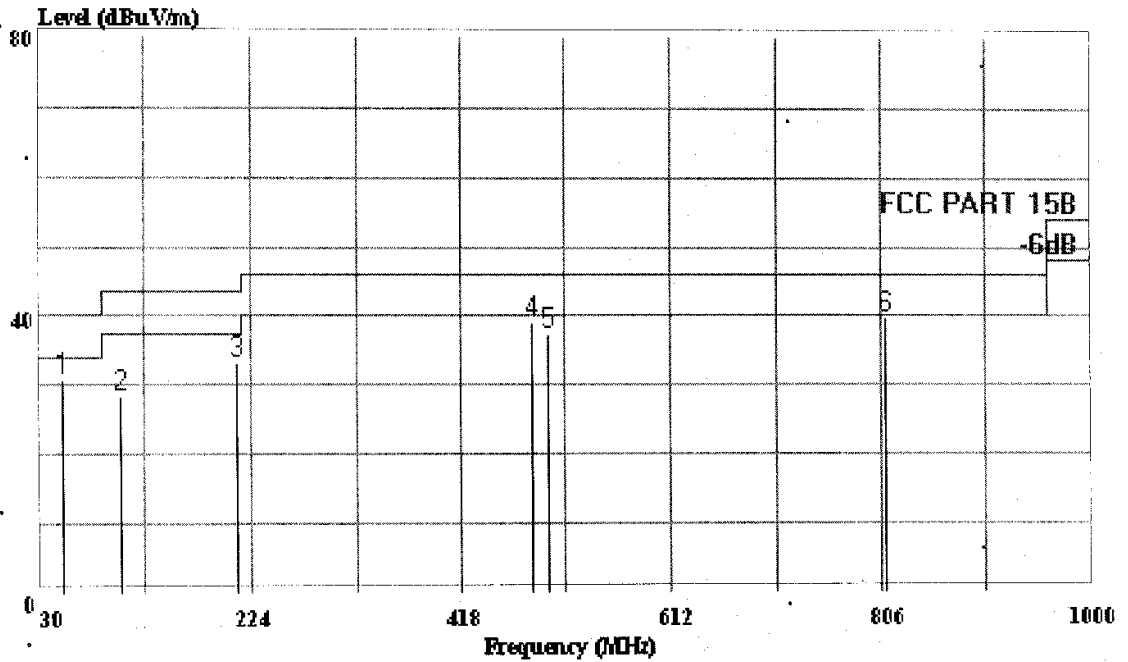
	Freq	Level	Limit	Over	Read	Probe	Cable
	MHz	dBuV/m	Line	Limit	Level	Factor	Loss
			dBuV/m	dB	dBuV	dB	dB
1	135.730	33.27	43.50	-10.23	19.42	11.50	2.35
2	159.980	33.49	43.50	-10.01	19.69	11.16	2.64
3	169.680	33.77	43.50	-9.73	20.81	10.26	2.70
4	324.880	36.75	46.00	-9.25	18.51	14.20	4.04
5	499.480	38.76	46.00	-7.24	15.42	17.76	5.58
6	809.880	38.66	46.00	-7.34	10.17	21.47	7.02



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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Fax: 0755-26632877

Data#: 23 File#: Vision.EMI Date: 2003-04-28 Time: 23:30:23



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (# Chamber)

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR VERTICAL  
EUT : GAMECUBE 2.4G RF Wireless Controller  
M/N : Controller: G5090. Receiver: 2178  
Power : Host 230V/50Hz DC 3V  
Test Engineer: Sean Xing  
Comment : Temp: 23'C, Humi: 58%  
Memo : Running  
: Freq: 809.880MHz  
: Ant Pos: 1m, T-Table Pos: 240 degree

Page: 1

	Freq	Level	Limit	Over	Read	Probe	Cable
	MHz	dBuV/m	dBuV/m	Limit	Level	Factor	Loss
				dB	dBuV	dB	dB
1	51.340	30.84	40.00	-9.16	22.49	6.97	1.38
2	103.720	28.39	43.50	-15.11	15.47	10.85	2.07
3	211.390	33.34	43.50	-10.16	21.20	9.07	3.07
4	484.930	38.99	46.00	-7.01	15.12	18.29	5.58
5	499.480	37.50	46.00	-8.51	13.02	18.90	5.58
6	809.880	39.83	46.00	-6.17	11.30	21.51	7.02

#### **4. DEVIATION TO TEST SPECIFICATIONS**

(None.)

# APPENDIX I



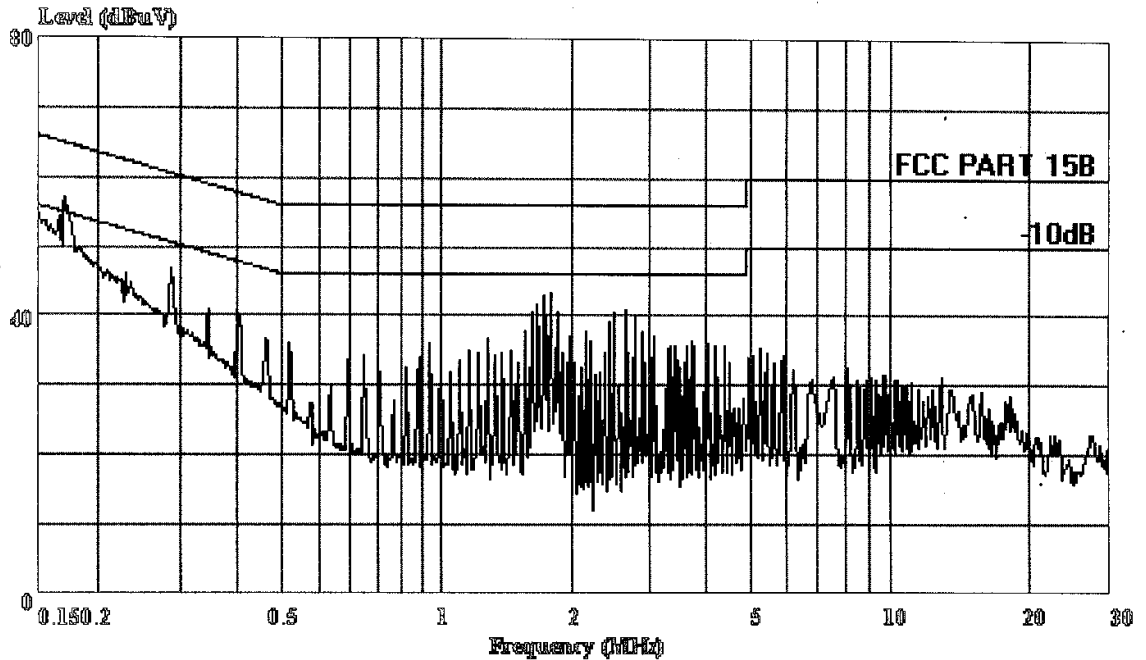


AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind Park  
 Tel:0755-26639496  
 Fax:26632877

Data#: 45 File#: Vision.EMI

Date: 2003-04-28 Time: 09:23:17



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (Audix ATC)

Trace:

Ref Trace:

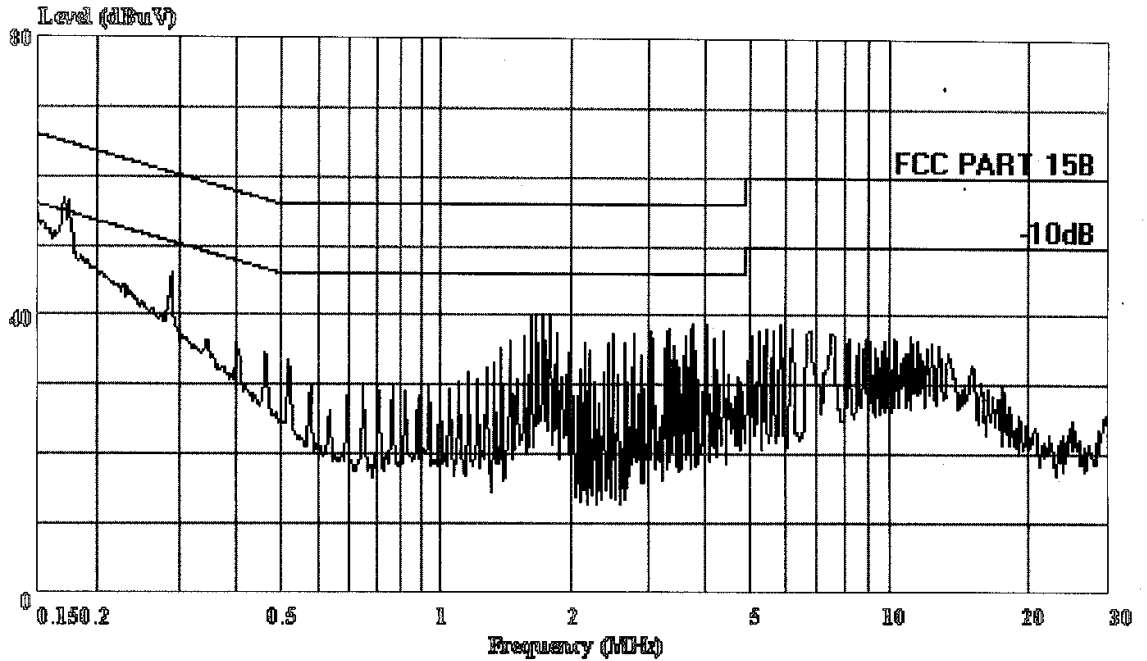
Condition: FCC PART 15B VA(KNW-407)  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: 2103 Receiver: 2176  
 OP Cond : Running  
 Test Spec : AC 230V/50Hz DC4.8v  
 Test Engineer: Chris  
 Comment : Temp:24.6'C Humi:54%



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind Park  
 Tel:0755-26639496  
 Fax:26632877

Data#: 46 File#: Vision.EMI Date: 2003-04-28 Time: 09:25:32



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (Audix ATC)

Trace:

Ref Trace:

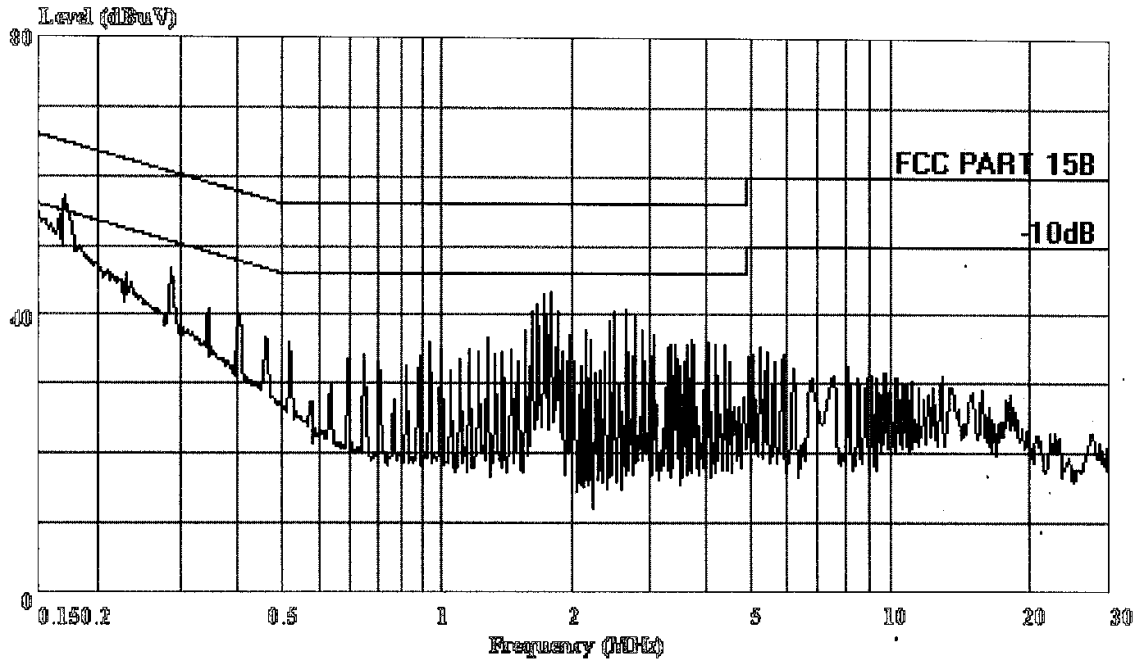
Condition: FCC PART 15B VB(KNW-407)  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: 2103 Receiver: 2176  
 OP Cond : Running  
 Test Spec : AC 230V/50Hz DC4.8v  
 Test Engineer: Chris  
 Comment : Temp:24.6'C Humi:54%



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind Park  
 Tel:0755-26639496  
 Fax:26632877

Data#: 57 File#: Vision.EMI Date: 2003-04-28 Time: 09:33:17



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (Audix ATC)

Trace:

Ref Trace:

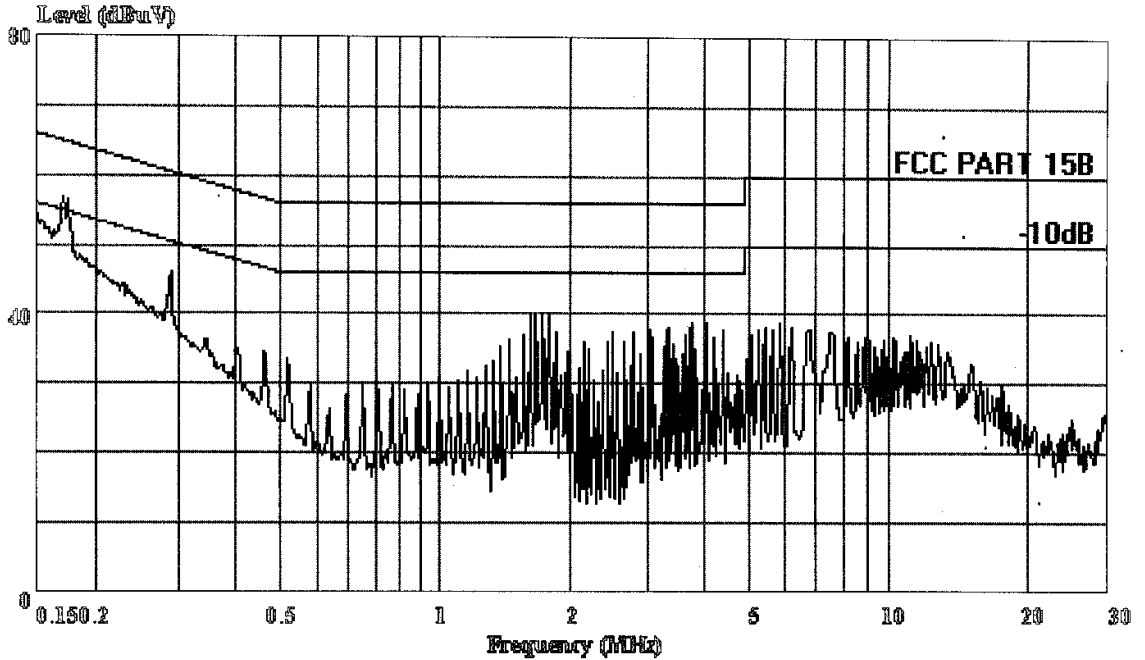
Condition: FCC PART 15B VA(KNW-407)  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: G5090 Receiver: 2178  
 OP Cond : Running  
 Test Spec : AC 230V/50Hz DC3V  
 Test Engineer: Chris  
 Comment : Temp:24.6'C Humi:54%



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind Park  
 Tel:0755-26639496  
 Fax:26632877

Data#: 58 File#: Vision.EMI Date: 2003-04-28 Time: 09:36:32



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (Audix ATC)

Trace:

Ref Trace:

Condition: FCC PART 15B VB(KNW-407)  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: G5090 Receiver: 2178  
 OP Cond : Running  
 Test Spec : AC 230V/50Hz DC3V  
 Test Engineer: Chris  
 Comment : Temp:24.6'C Humi:54%

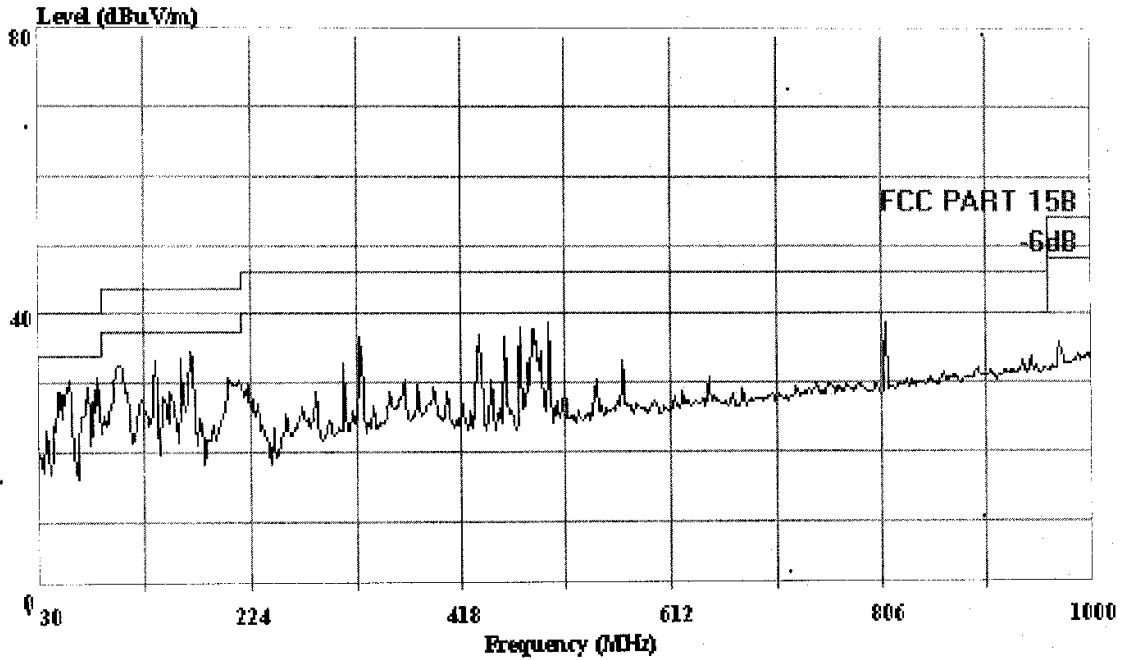
# APPENDIX II



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind. Park  
 Tel: 0755-26639495~7  
 Fax: 0755-26632877

Data#: 25 File#: Vision.EMI Date: 2003-04-28 Time: 24:05:23



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (3# Chamber)

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: 2103. Receiver: 2176  
 Power : Host 230V/50Hz DC 4.8V  
 Test Engineer: Sean Xing  
 Comment : Temp: 23'C, Humi: 58%  
 Memo : Running



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

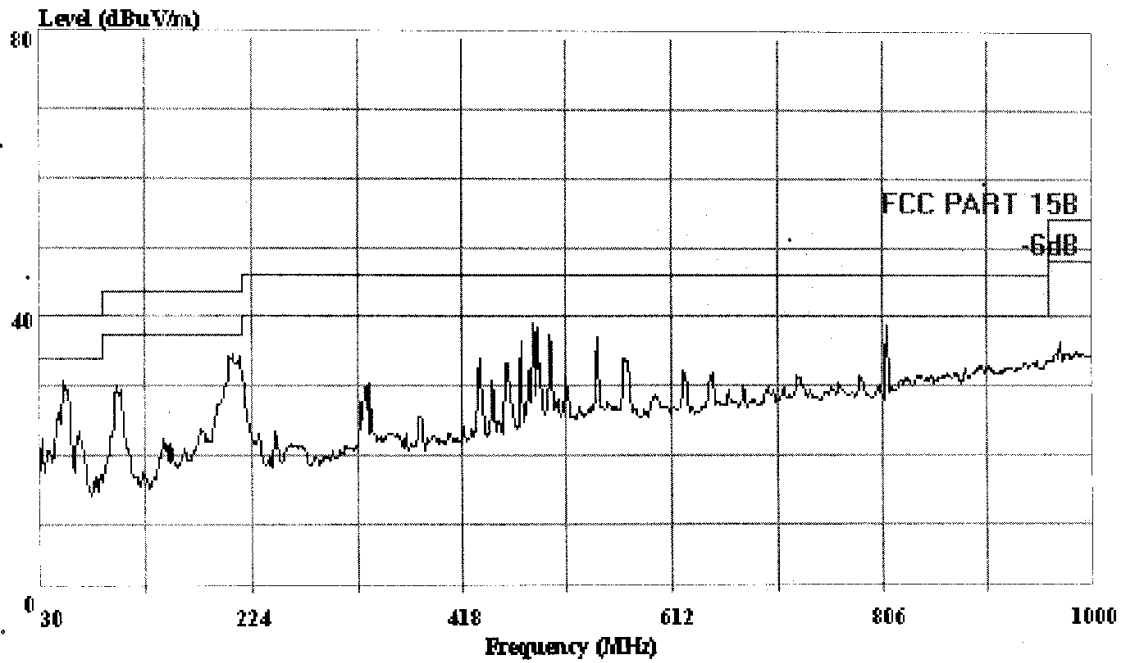
Shenzhen Science & Ind. Park

Tel: 0755-26639495~7

Fax: 0755-26632877

Data#: 26 File#: Vision.EMI

Date: 2003-04-28 Time: 24:06:19



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (# Chamber)

Trace:

Ref Trace:

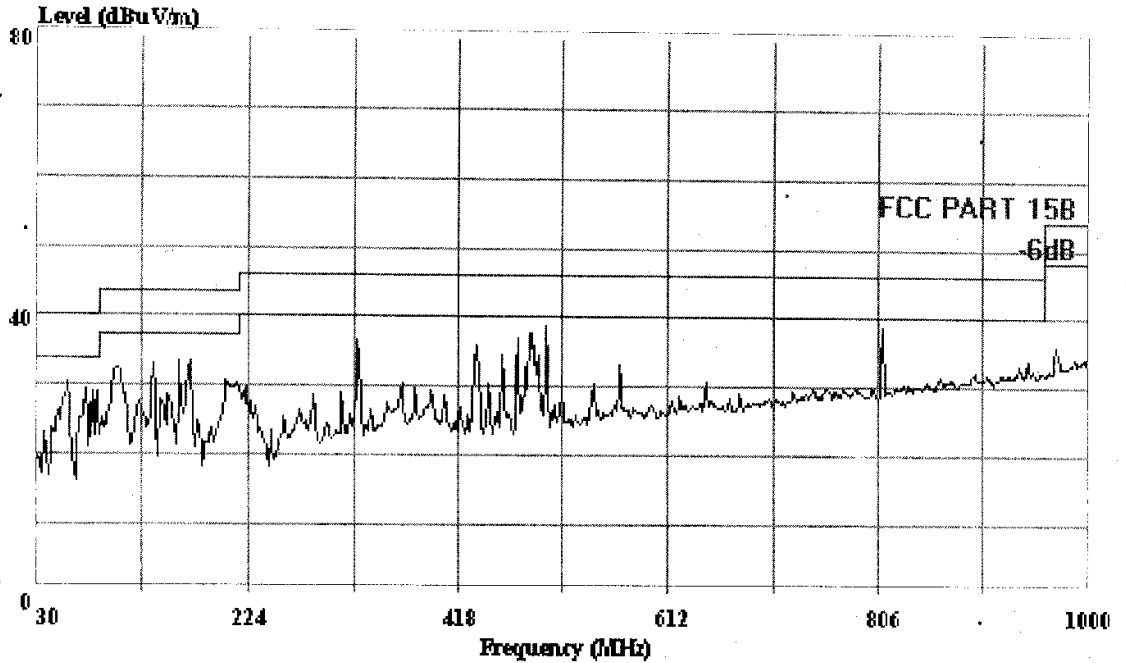
Condition: FCC PART 15B 3m 2598FACTOR VERTICAL.  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: 2103. Receiver: 2176  
 Power : Host 230V/50Hz DC 4.8V  
 Test Engineer: Sean Xing  
 Comment : Tempo: 23'C, Humi: 58%  
 Memo : Running



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind. Park  
 Tel: 0755-26639495~7  
 Fax: 0755-26632877

Data#: 17 File#: Vision.EMI Date: 2003-04-28 Time: 23:01:05



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (3# Chamber)

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: G5090. Receiver: 2178  
 Power : Host 230V/50Hz DC 3V  
 Test Engineer: Sean Xing  
 Comment : Temp: 23'C, Humi: 58%  
 Memo : Running

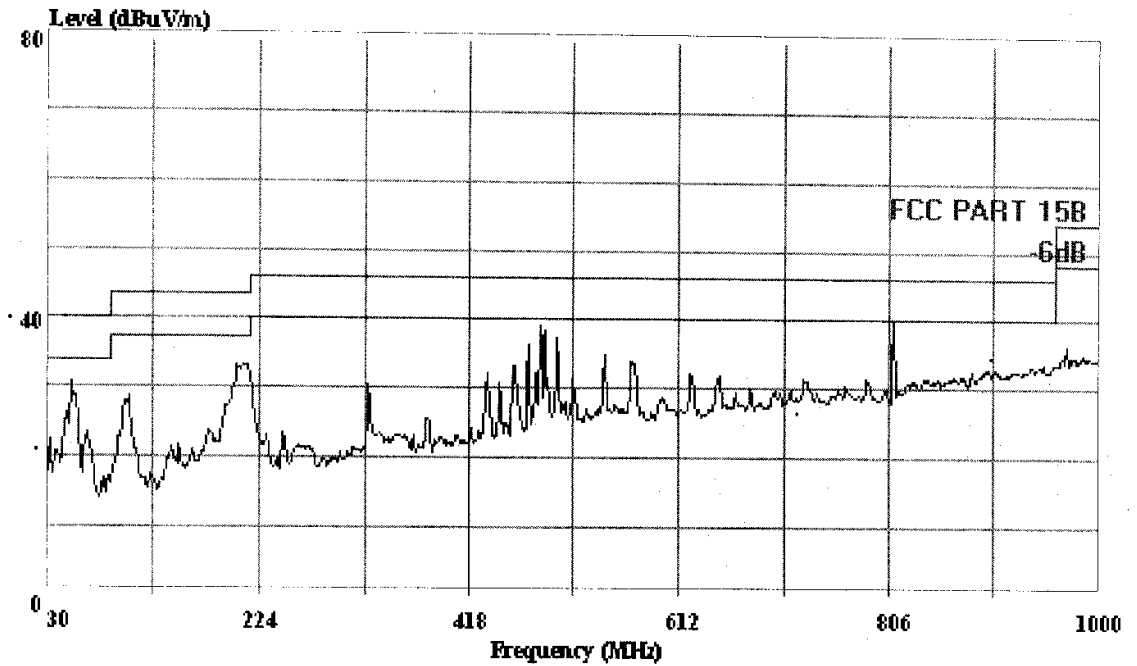




AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind. Park  
 Tel: 0755-26639495~7  
 Fax: 0755-26632877

Data#: 18 File#: Vision.EMI Date: 2003-04-28 Time: 23:05:43



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (3# Chamber)

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR VERTICAL.  
 EUT : GAMECUBE 2.4G RF Wireless Controller  
 M/N : Controller: G5090. Receiver: 2178  
 Power : Host 230V/50Hz DC 3V  
 Test Engineer: Sean Xing  
 Comment : Temp: 23'C, Humi: 58%  
 Memo : Running

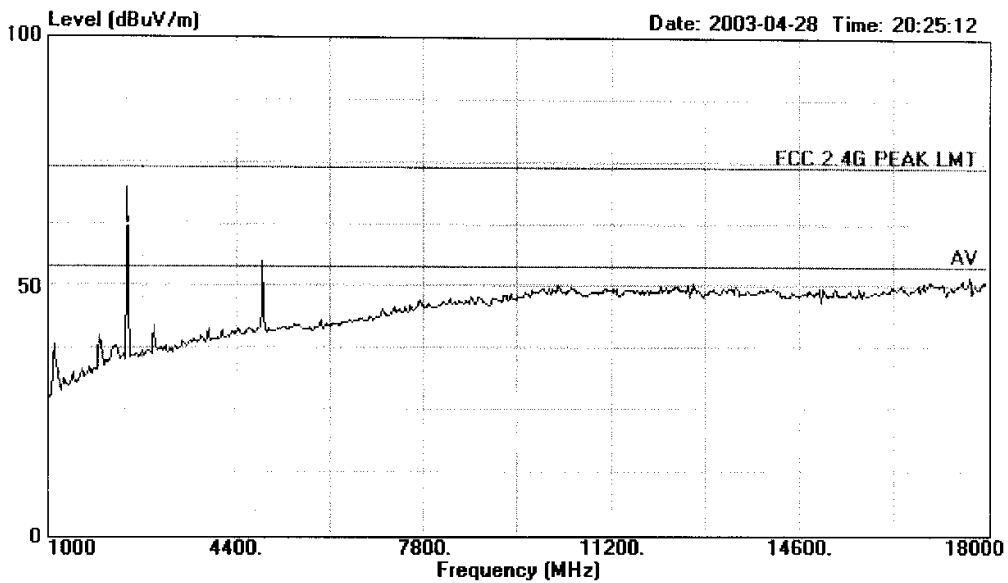


信華科技(深圳)有限公司

AUDIX Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Road, Block 52,  
Shenzhen Science & Industry Park  
Nantou, Shenzhen, Guangdong, China  
Tel:+86-755-26639496 Fax:+86-755-26632877

Data#: 37 File#: C:\EMI TEST DATA\V\Vision.EMI



Site : 1# Chamber  
Condition : FCC 2.4G PEAK LMT 3m 3115FACTOR HORIZONTAL  
EUT : GAMECUBE 2.4G RF Wireless Controller  
M/N : Controller 2103  
Power : DC 4.8V  
Test Engineer : Sean Xing  
Memo : Running

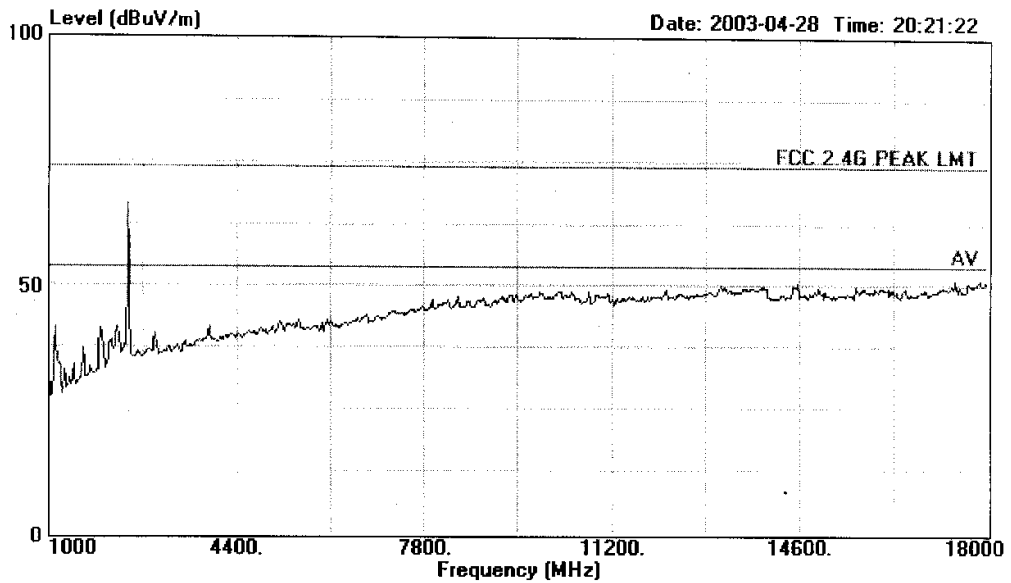


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AUDIX Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Road, Block 52,  
Shenzhen Science & Industry Park  
Nantou, Shenzhen, Guangdong, China  
Tel:+86-755-26639496 Fax:+86-755-26632877

Data#: 35 File#: C:\EMI TEST DATA\V\Vision.EMI



Site : 1# Chamber  
Condition : FCC 2.4G PEAK LMT 3m 3115FACTOR VERTICAL  
EUT : GAMECUBE 2.4G RF Wireless Controller  
M/N : Controller 2103  
Power : DC 4.8V  
Test Engineer : Sean Xing  
Memo : Running

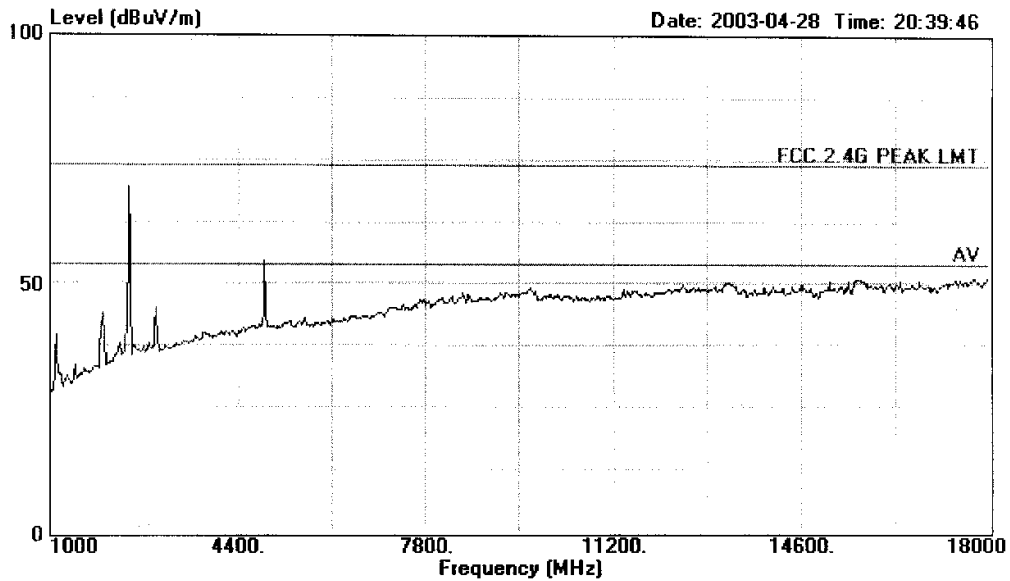


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AUDIX Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Road, Block 52,  
Shenzhen Science & Industry Park  
Nantou, Shenzhen, Guangdong, China  
Tel:+86-755-26639496 Fax:+86-755-26632877

Data#: 39 File#: C:\EMI TEST DATA\Vision.EMI



Site : 1# Chamber  
Condition : FCC 2.4G PEAK LMT 3m 3115FACTOR HORIZONTAL  
EUT : GAMECUBE 2.4G RF Wireless Controller  
M/N : Controller G5090  
Power : DC 3V  
Test Engineer : Sean Xing  
Memo : Running

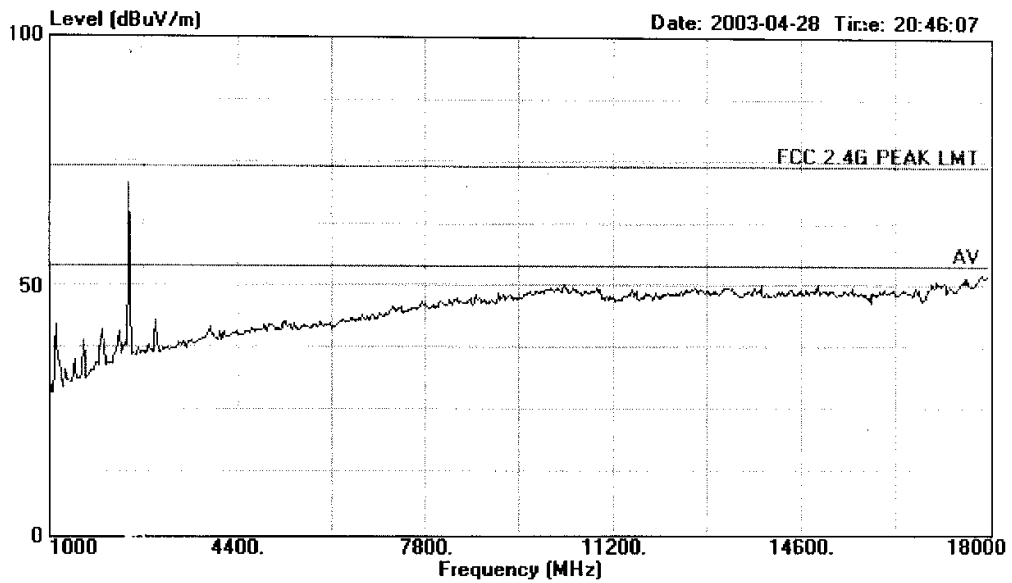


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AUDIX Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Road, Block 52,  
Shenzhen Science & Industry Park  
Nantou, Shenzhen, Guangdong, China  
Tel:+86-755-26639496 Fax:+86-755-26632877

Data#: 41 File#: C:\EMI TEST DATA\V\Vision.EMI



Site : 1# Chamber  
Condition : FCC 2.4G PEAK LMT 3m 3115FACTOR VERTICAL  
EUT : GAMECUBE 2.4G RF Wireless Controller  
M/N : Controller G5090  
Power : DC 3V  
Test Engineer : Sean Xing  
Memo : Running