

APPLICATION FOR CERTIFICATION
On Behalf of

Vision Electronics Co., Ltd.

X-BOX 2.4G RF Wireless Controller

Model Number: 2701/G8090

Prepared for : Vision Electronics Co., Ltd.
11F-6, No.400 Huan Pei Rd., Chung Li City,
Tai Wan, R.O.C.

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Report Number : ACS-F03122
Date of Test : Apr. 28, 2003
Date of Report : Jun. 06, 2003

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TEST REPORT DECLARATION

Applicant : Vision Electronics Co., Ltd.
 Manufacturer : Vision Electronics Co., Ltd.
 EUT Description : X-BOX 2.4G RF Wireless Controller
 (A) MODEL NO. : 2701/G8090
 (B) SERIAL NO. : F2003060602
 (C) POWER SUPPLY : 2701: DC 6V
 G8090: 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

Jane Dai

Jane Dai / Assistant

Prepared by :

Lake Wang

Lake Wang / Supervisor

Reviewer :

For and on behalf of
 AUDIX TECHNOLOGY (SHENZHEN) CO.,LTD.

Alex Deng

Alex Deng Authorized Signer

Approved & Authorized Signer :

Name of the Representative of the Responsible Party : _____

Signature : _____

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	X-BOX 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	:	2701/G8090 (Between the two model 2701 & G8090 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

X-BOX Host	:	Manufacturer: Microsoft Product ID: 743412017625202 S/N: 412017625202 Rating Power: 100~127V, 50Hz/60Hz
TV	:	Manufacturer: TCL M/N: 1419A
Receiver	:	Manufacturer: Vision M/N: 2771

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

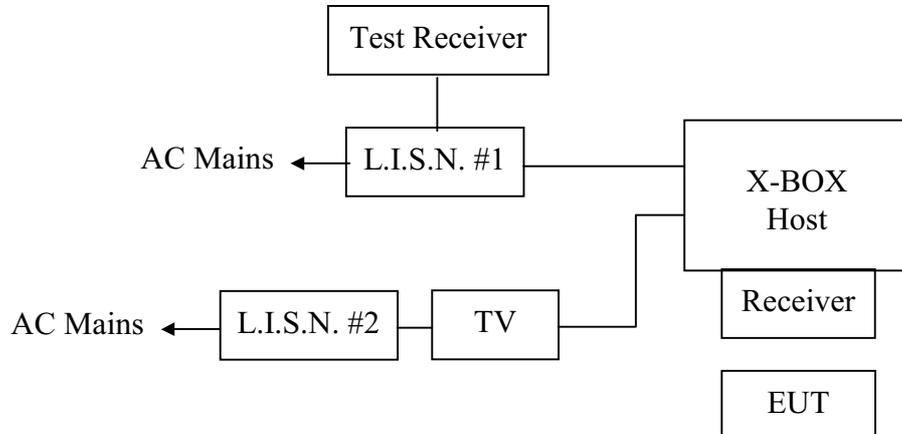
2.1. Test Equipment

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: X-BOX 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.X-BOX 2.4G RF Wireless Controller (EUT)

Model Number : 2701/G8090
Serial Number : F2003060602
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 X-BOX 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 X-BOX 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.

2.7.Power Line Conducted Emission Test Results

PASS.

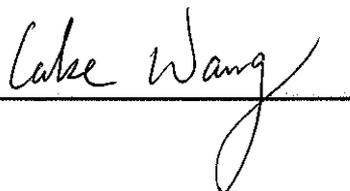
The frequency range from 150KHz to 30 MHz is investigated.

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

Date of Test : Apr. 28, 2003 Temperature : 24.6°C
 EUT : X-BOX 2.4G RF Wireless Controller Humidity : 54%
 Model No. : Controller: 2701, Test Mode : Running
 Receiver: 2771
 Test Engineer : Sean Xing

Frequency (MHz)	Reading (dB μ V)				Limit (dB μ V)	
	VA		VB		Quasi-Peak	Average
	Quasi-Peak	Average	Quasi-Peak	Average		
0.169	*	*	42.98	16.63	65.00	55.00
0.207	46.25	44.36	*	*	63.34	53.34
0.209	*	*	45.06	40.39	63.25	53.25
0.313	*	*	36.50	33.09	59.88	49.88
0.315	37.00	34.85	*	*	59.84	49.84
0.627	30.19	29.40	*	*	56.00	46.00
0.628	*	*	26.99	26.24	56.00	46.00
0.734	*	*	24.94	24.25	56.00	46.00
2.932	28.78	27.51	*	*	56.00	46.00
3.874	26.46	24.63	*	*	56.00	46.00
9.623	*	*	20.34	17.25	60.00	50.00
27.863	23.99	22.05	*	*	60.00	50.00

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

Reviewer: 

Date of Test : Apr. 28, 2003 Temperature : 24.6°C
 EUT : PS2 2.4G RF Wireless Controller Humidity : 54%
 Model No. : Controller: G8090, Receiver: 2771 Test Mode : Running
 Test Engineer : Sean Xing

Frequency (MHz)	Reading (dBμV)				Limit (dBμV)	
	VA		VB		Quasi-Peak	Average
	Quasi-Peak	Average	Quasi-Peak	Average		
0.207	44.41	39.78	*	*	63.31	53.31
0.209	*	*	46.96	45.17	63.24	53.24
0.314	36.58	33.32	37.49	35.11	59.86	49.86
0.628	27.09	26.41	*	*	56.00	46.00
0.629	*	*	30.33	29.74	56.00	46.00
1.154	*	*	29.73	29.07	56.00	46.00
3.354	*	*	28.73	26.68	56.00	46.00
3.583	14.76	12.84	*	*	56.00	46.00
9.234	12.62	6.95	*	*	60.00	50.00
24.130	*	*	19.94	18.14	60.00	50.00
28.732	23.02	19.94	*	*	60.00	50.00

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

Reviewer:

Calke Wang

3. RADIATED EMISSION TEST

3.1. Test Equipment

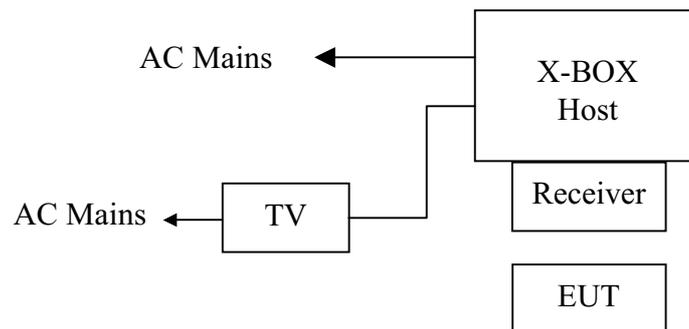
The following test equipments are used during the radiated emission test:

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

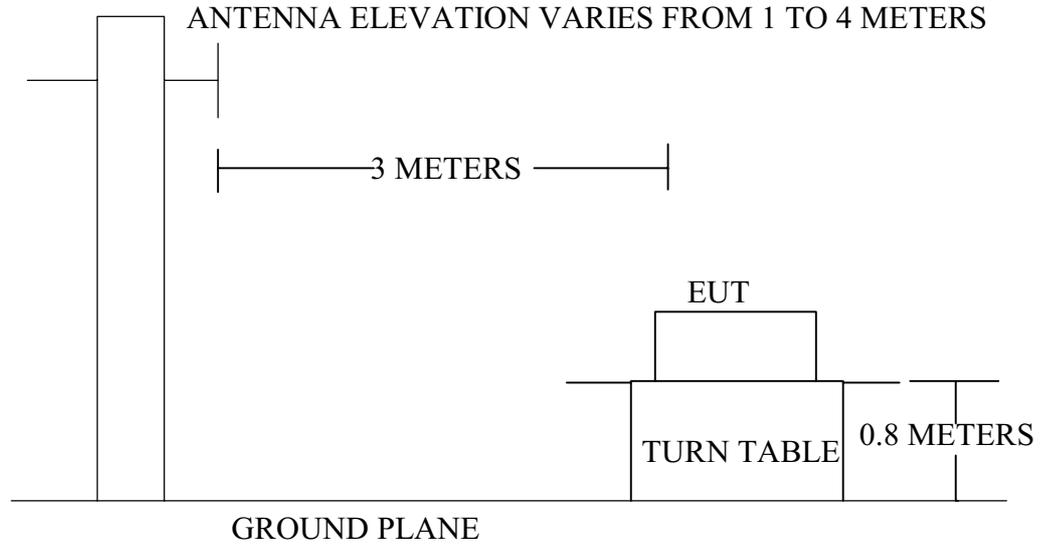
3.2.1. Block diagram of connection between the EUT and simulators



(EUT: X-BOX 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.X-BOX 2.4G RF Wireless Controller (EUT)

Model Number : 2701/G8090
Serial Number : F2003060602
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 :	X-BOX 2.4G RF Wireless Controller	Humidity :	58%
Model No. :	Controller: 2701, Receiver: 2771	Test Mode :	Running
Test Engineer:	Sean Xing		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dB μ V	Emission Level Horizontal dB μ V/m	Over Limits dB	Limits dB μ V/m
72.680	5.41	1.70	22.18	29.29	-10.71	40.00
145.430	12.08	2.47	23.08	37.63	-5.87	43.50
158.040	11.47	2.60	21.06	35.13	-8.37	43.50
193.930	9.32	2.91	22.15	34.37	-9.13	43.50
533.430	17.91	6.05	8.35	32.31	-13.69	46.00
798.240	21.53	6.97	8.57	37.07	-8.93	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 145.430MHz with corrected signal level of 37.63dB μ V/m(Limit is 43.50 dB μ V/m) when the antenna was at horizontal polarization and at 1.9m 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:

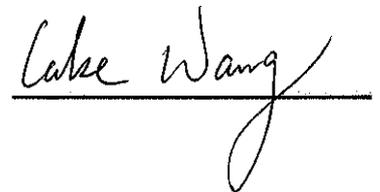
Calke Wang

Date of Test :	<u>Apr. 28, 2003</u>	Temperature :	<u>23°C</u>
EUT :	<u>X-BOX 2.4G RF Wireless Controller</u>	Humidity :	<u>58%</u>
Model No. :	<u>Controller: 2701, Receiver: 2771</u>	Test Mode :	<u>Running</u>
Test Engineer:	<u>Sean Xing</u>		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dB μ V	Emission Level Vertical dB μ V/m	Over Limits dB	Limits dB μ V/m
95.960	9.49	1.99	19.09	30.57	-12.93	43.50
158.040	10.22	2.60	17.22	30.04	-13.46	43.50
237.580	12.26	3.33	13.97	29.56	-16.44	46.00
533.430	18.95	6.05	8.06	33.06	-12.94	46.00
710.940	21.38	6.55	8.21	36.14	-9.86	46.00
798.240	21.16	6.97	11.74	39.87	-6.13	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 798.240MHz with corrected signal level of 39.87dB μ V/m(Limit is 46.00 dB μ V/m) when the antenna was at horizontal polarization and at 1.0m high and the turn table was at 170 °.
 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>X-BOX 2.4G RF Wireless Controller</u>	Humidity :	<u>58%</u>
Model No. :	<u>Controller: 2701</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
1123.000	23.60	35.56	3.17	50.90	42.11	-31.89	74.00	Peak
1123.000	23.60	35.56	3.17	39.96	31.17	-22.83	54.00	Average
2440.000	28.14	34.98	5.74	63.96	62.86	-51.14	114.00	Peak
2440.000	28.14	34.98	5.74	54.95	53.85	-40.15	94.00	Average
4880.000	33.08	34.46	8.01	46.83	53.46	-20.54	74.00	Peak
4880.000	33.08	34.46	8.01	32.85	39.48	-14.52	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
1121.000	23.60	35.56	3.17	63.27	54.48	-19.52	74.00	Peak
1121.000	23.60	35.56	3.17	52.83	44.04	-9.96	54.00	Average
2440.000	28.14	34.98	5.74	63.49	62.39	-51.61	114.00	Peak
2440.000	28.14	34.98	5.74	54.14	53.04	-40.96	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:

Case Wang

Date of Test :	<u>Apr. 28, 2003</u>	Temperature :	<u>23°C</u>
EUT :	<u>X-BOX 2.4G RF Wireless Controller</u>	Humidity :	<u>58%</u>
Model No. :	<u>Controller: G8090</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
2440.000	28.14	34.98	5.74	63.79	62.69	-51.31	114.00	Peak
2440.000	28.14	34.98	5.74	54.11	53.01	-40.99	94.00	Average
4880.000	33.08	34.46	8.01	44.96	51.59	-22.41	74.00	Peak
4880.000	33.08	34.46	8.01	35.52	42.15	-11.85	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
1124.000	23.60	35.56	3.17	64.30	55.51	-18.49	74.00	Peak
1124.000	23.60	35.56	3.17	54.09	45.30	-8.70	54.00	Average
2440.000	28.14	34.98	5.74	71.95	70.85	-43.15	114.00	Peak
2440.000	28.14	34.98	5.74	55.68	54.58	-39.42	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:

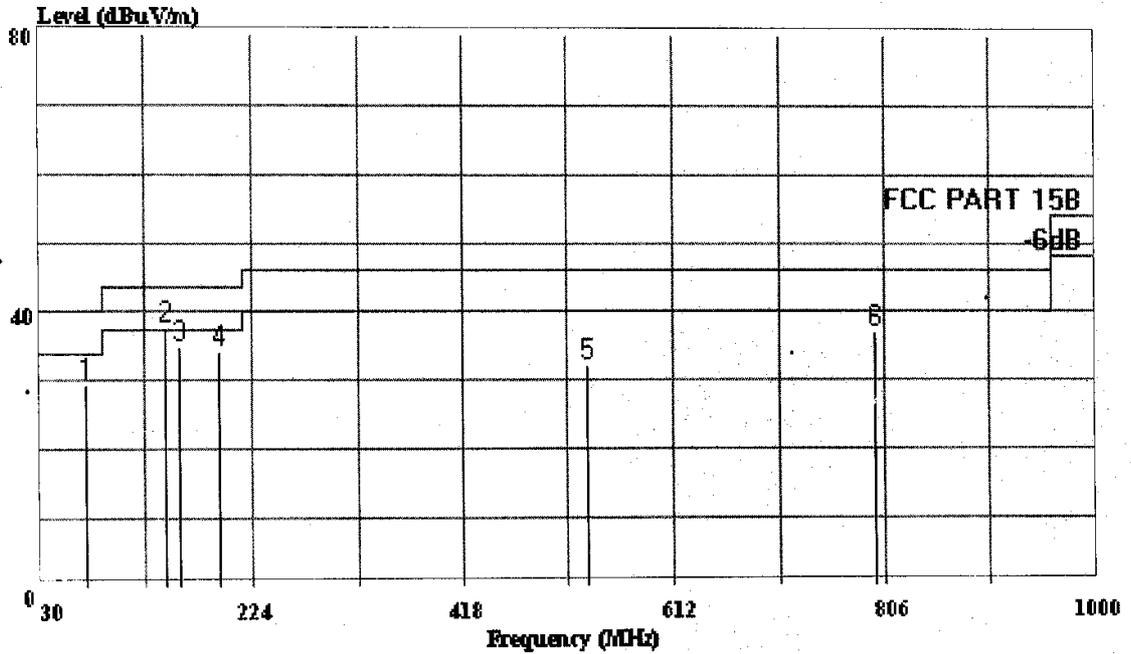
Case Wang



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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

Data#: 22 File#: Vision.EMI Date: 2003-04-28 Time: 23:29:43



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

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: 2701. Receiver: 2771
 Power : Host 120V/60Hz DC 6V
 Test Engineer: Sean Xing
 Comment : Temp: 23'C, Humi: 58%
 Memo : Running
 : Freq: 145.430MHz
 : Ant Pos: 1.9m, T-Table Pos: 200 degree

Page: 1

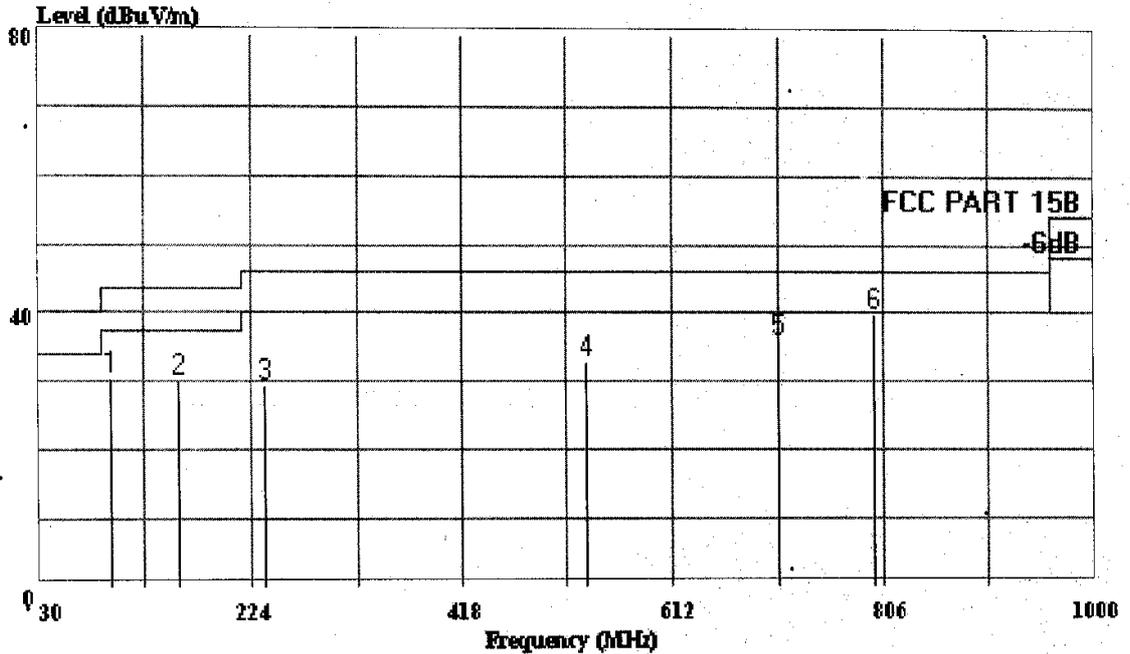
	Freq	Level	Limit	Over	Read	Probe	Cable
	MHz	dBuV/m	Line	Limit	Level	Factor	Loss
			dBuV/m	dB	dBuV	dB	dB
1	72.680	29.29	40.00	-10.71	22.18	5.41	1.70
2 !	145.430	37.63	43.50	-5.87	23.08	12.08	2.47
3	158.040	35.13	43.50	-8.37	21.06	11.47	2.60
4	193.930	34.37	43.50	-9.13	22.15	9.32	2.91
5	533.430	32.31	46.00	-13.69	8.35	17.91	6.05
6	798.240	37.07	46.00	-8.93	8.57	21.53	6.97



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind. Park
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Fax: 0755-26632877

Data#: 21 File#: Vision.EMI Date: 2003-04-28 Time: 23:29:11



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

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR VERTICAL
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: 2701. Receiver: 2771
 Power : Host 120V/60Hz DC 6V
 Test Engineer: Sean Xing
 Comment : Temp: 23'C, Humi: 58%
 Memo : Running
 : Fred: 798.240MHz
 : Ant Pos: 1m, T-Table Pos: 170 degree

Page: 1

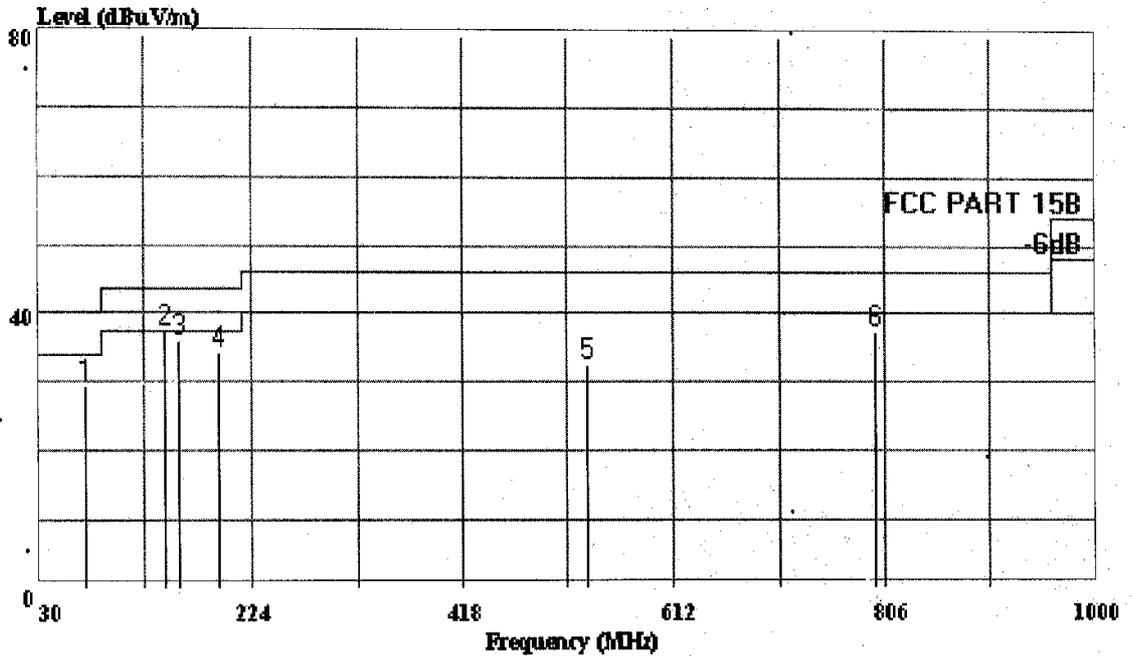
	Fred	Level	Limit	Over	Read	Probe	Cable
	MHz	dBuV/m	dBuV/m	Limit	Level	Factor	Loss
				dB	dBuV	dB	dB
1	95.960	30.57	43.50	-12.93	19.09	9.49	1.99
2	158.040	30.04	43.50	-13.46	17.22	10.22	2.60
3	237.580	29.56	46.00	-16.44	13.97	12.26	3.33
4	533.430	33.06	46.00	-12.94	8.06	18.95	6.05
5	710.940	36.14	46.00	-9.86	8.21	21.38	6.55
6	798.240	39.87	46.00	-6.13	11.74	21.16	6.97



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Data#: 30 File#: Vision.EMI Date: 2003-04-28 Time: 24:36:23



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

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: G8090. Receiver: 2771
 Power : Host 120V/60Hz DC 3V
 Test Engineer: Sean Xing
 Comment : Temp: 23'C, Humi: 58%
 Memo : Running

Page: 1

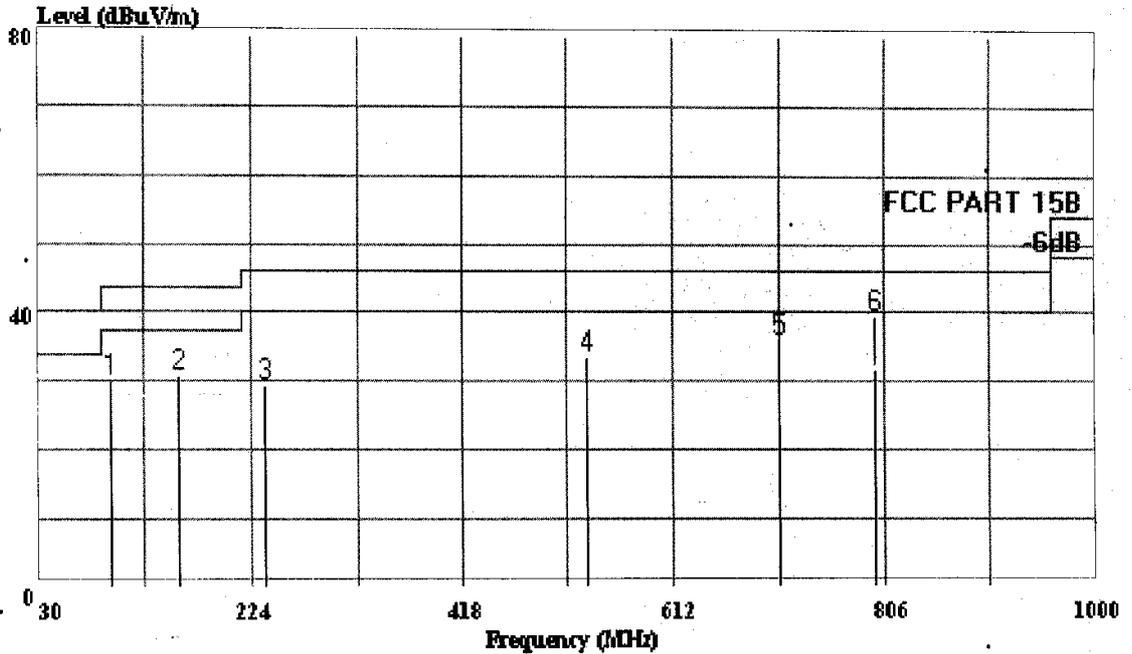
	Freq	Level	Limit	Over	Read	Probe	Cable
	MHz	dBuV/m	Line	Limit	Level	Factor	Loss
			dBuV/m	dB	dBuV	dB	dB
1	72.540	29.51	40.00	-10.49	22.41	5.41	1.70
2	144.880	37.55	43.50	-5.95	23.00	12.08	2.47
3	158.110	35.95	43.50	-7.55	21.88	11.47	2.60
4	193.550	34.33	43.50	-9.17	22.10	9.32	2.91
5	533.010	32.69	46.00	-13.31	8.73	17.91	6.05
6	798.010	37.40	46.00	-8.60	8.90	21.53	6.97



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Data#: 29 File#: Vision.EMI Date: 2003-04-28 Time: 24:30:33



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

Trace:

Ref Trace:

Condition: FCC PART 15B 3m 2598FACTOR VERTICAL
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: G8090. Receiver: 2771
 Power : Host 120V/60Hz DC 3V
 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	96.880	30.25	43.50	-13.25	18.77	9.49	1.99
2	157.088	30.95	43.50	-12.55	18.13	10.22	2.60
3	237.260	29.27	46.00	-16.73	13.68	12.26	3.33
4	533.460	33.69	46.00	-12.31	8.70	18.95	6.05
5	709.110	36.11	46.00	-9.89	8.18	21.38	6.55
6	798.010	39.40	46.00	-6.60	11.27	21.16	6.97

4. DEVIATION TO TEST SPECIFICATIONS

(None.)

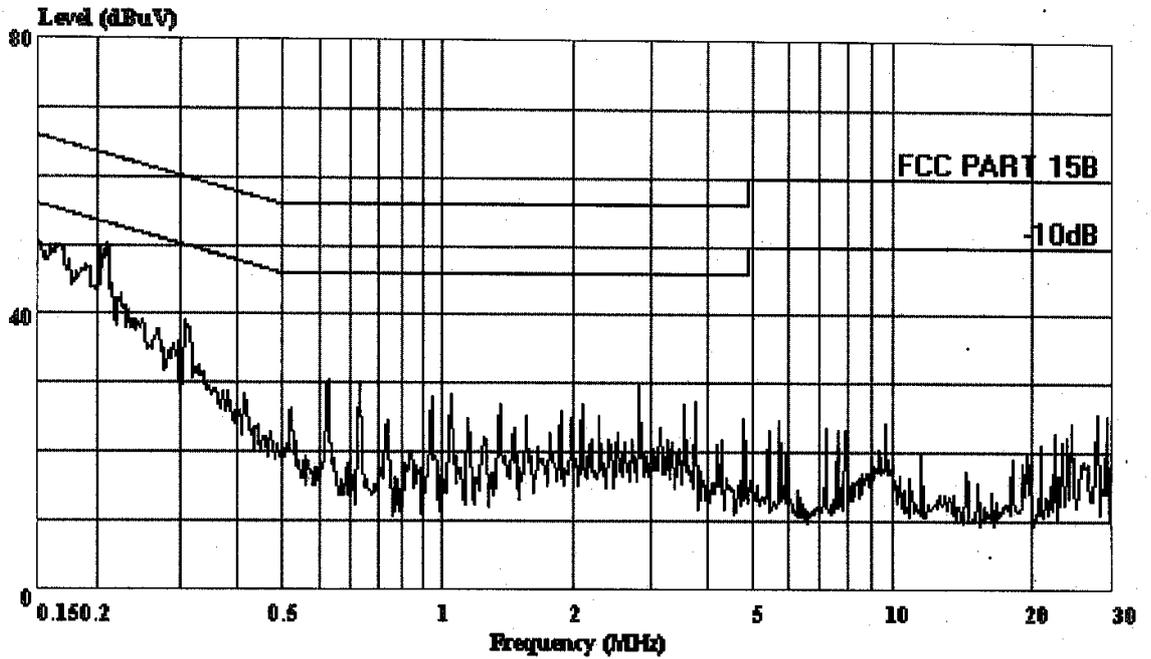
APPENDIX I



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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

Data#: 51 File#: Vision.EMI Date: 2003-04-28 Time: 19:39:34



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

Trace:

Ref Trace:

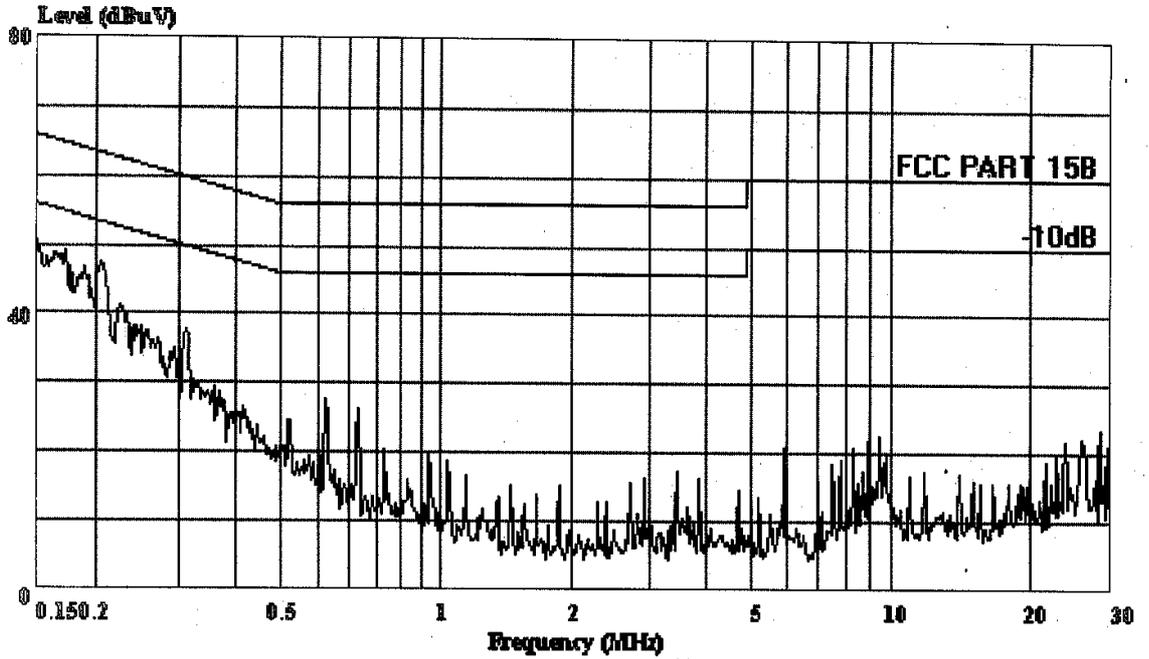
Condition: FCC PART 15B VA(KNW-407)
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller : 2701 Receiver: 2771
 OP Cond : Running
 Test Spec : 120V/60Hz DC 6V
 Test Engineer: Sean Xing
 Comment : Temp:24.6'C Humi:54%



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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

Data#: 49 File#: Vision.EMI Date: 2003-04-28 Time: 19:35:28



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

Trace:

Ref Trace:

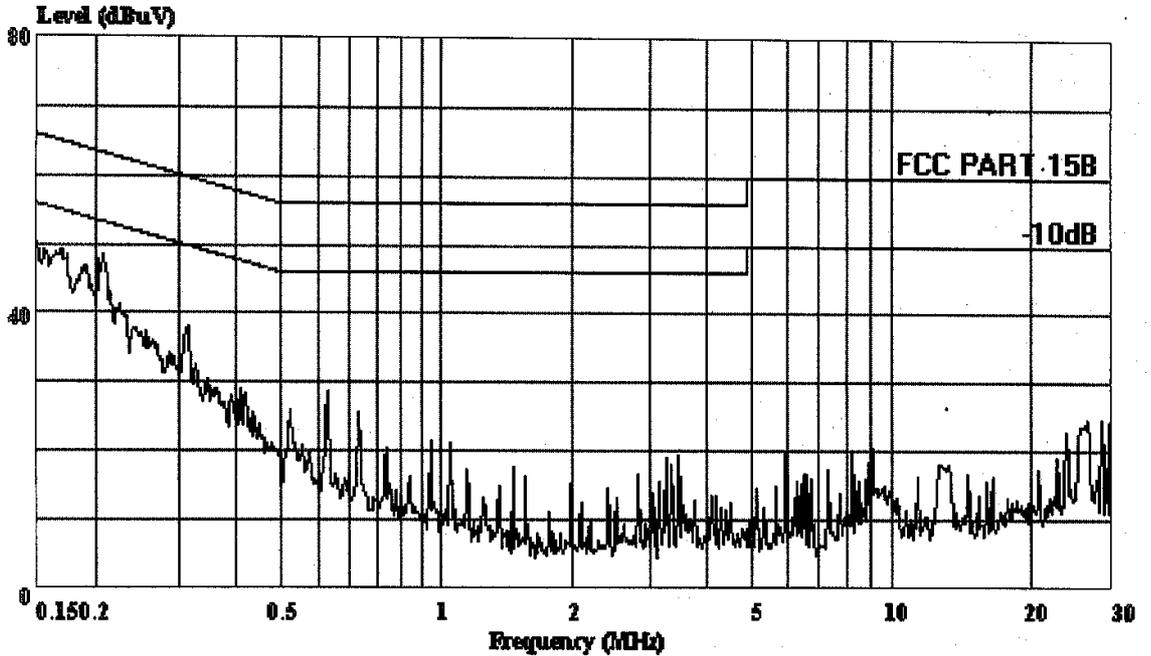
Condition: FCC PART 15B VB(KNW-407)
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller : 2701 Receiver: 2771
 OP Cond : Running
 Test Spec : 120V/60Hz DC 6V
 Test Engineer: Sean Xing
 Comment : Temp:24.6'C Humi:54%



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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

Data#: 55 File#: Vision.EMI Date: 2003-04-28 Time: 20:06:31



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

Trace:

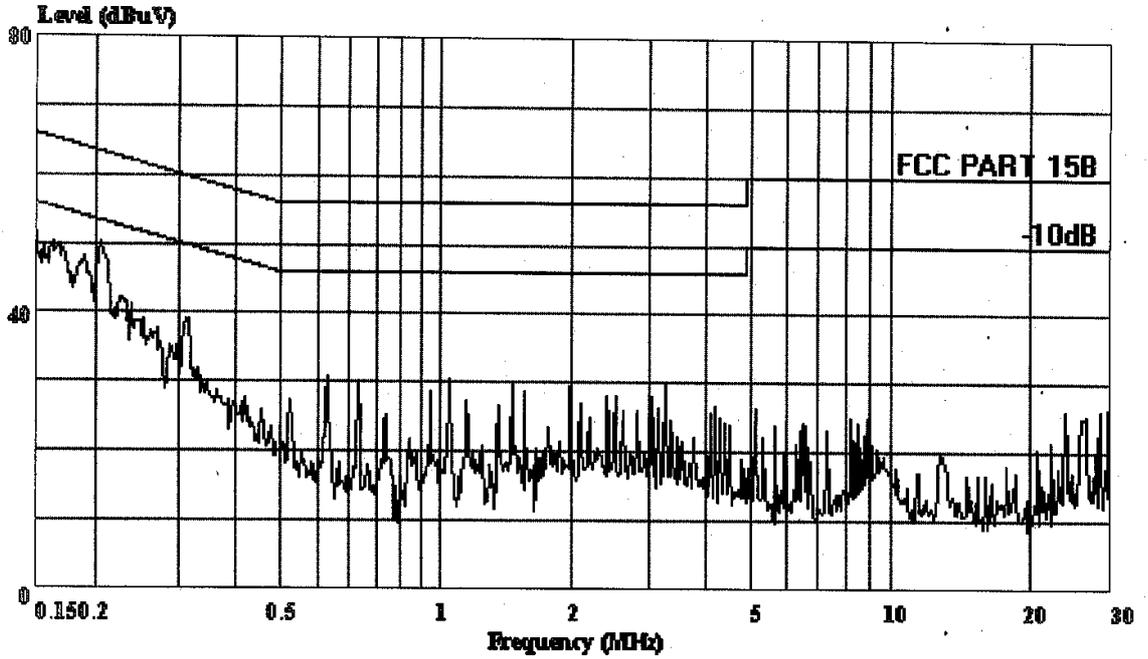
Ref Trace:

Condition: FCC PART 15B VA(KNW-407)
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller : G8090 Receiver: 2771
 OP Cond : Running
 Test Spec : 120V/60Hz DC 3V
 Test Engineer: Sean Xing
 Comment : Temp:24.6'C Humi:54%



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

Data#: 53 File#: Vision.EMI Date: 2003-04-28 Time: 19:56:36



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

Trace:

Ref Trace:

Condition: FCC PART 15B VB(KNW-407)
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller : G8090 Receiver: 2771
 OP Cond : Running
 Test Spec : 120V/60Hz DC 3V
 Test Engineer: Sean Xing
 Comment : Temp:24.6'C Humi:54%

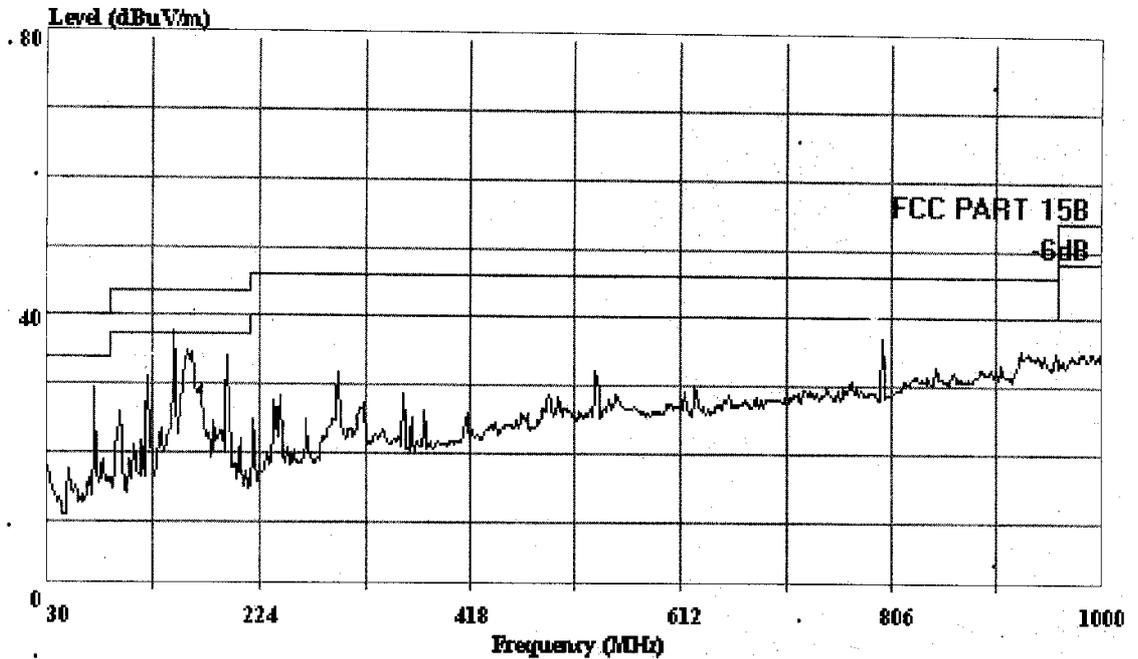
APPENDIX II



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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

Data#: 19 File#: Vision.EMI Date: 2003-04-28 Time: 23:18:57



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

Trace:

Ref Trace:

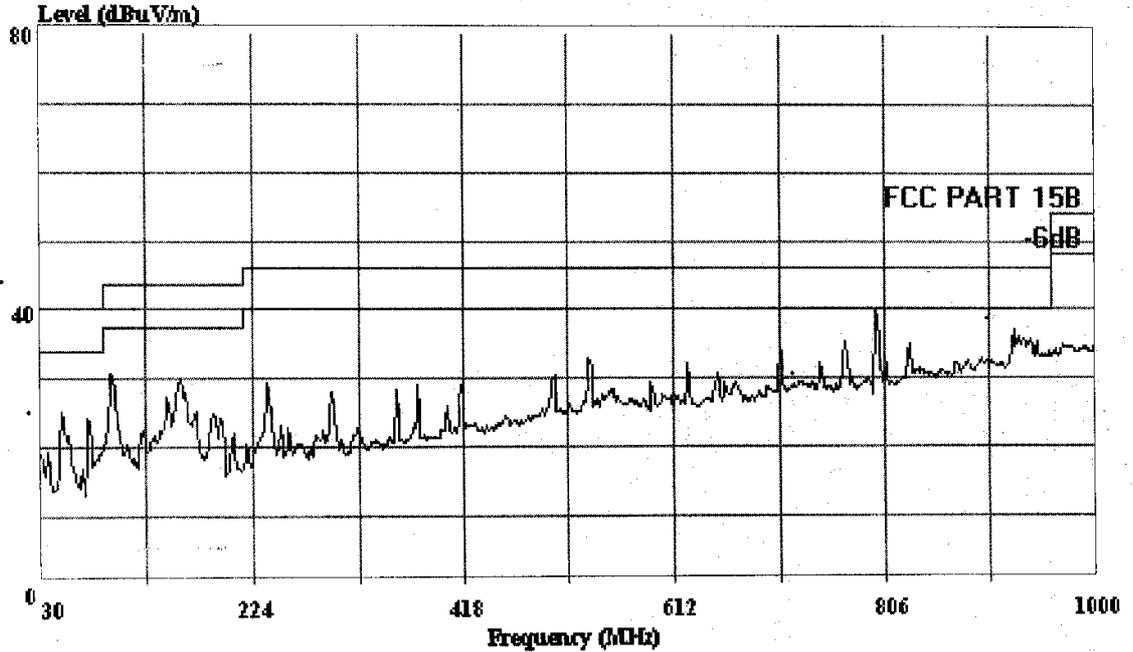
Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: 2701. Receiver: 2771
 Power : Host 120V/60Hz DC 6V
 Test Engineer: Sean Xing
 Comment : Temp: 23'C, Humi: 58%
 Memo : Running



AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Shenzhen Science & Ind. Park
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 Fax: 0755-26632877

Data#: 20 File#: Vision.EMI Date: 2003-04-28 Time: 23:24:38



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

Trace:

Ref Trace:

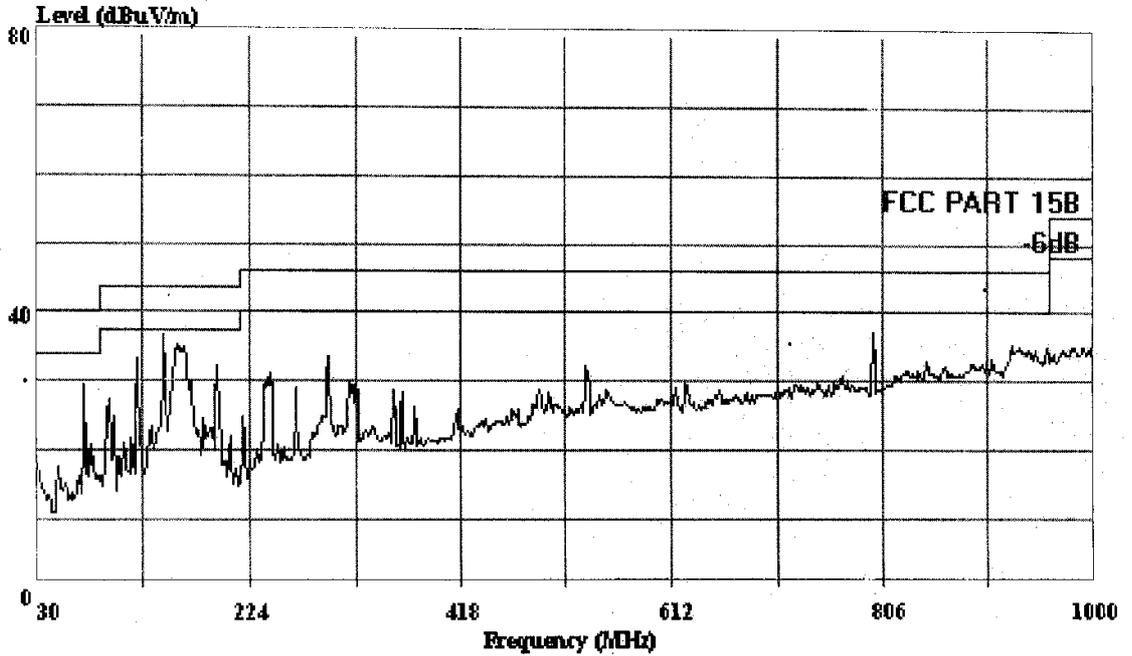
Condition: FCC PART 15B 3m 2598FACTOR VERTICAL
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: 2701. Receiver: 2771
 Power : Host 120V/60Hz DC 6V
 Test Engineer: Sean Xing
 Comment : Temp: 23'C, Humi: 58%
 Memo : Running



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

Data#: 27 File#: Vision.EMI Date: 2003-04-28 Time: 24:15:51



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

Trace:

Ref Trace:

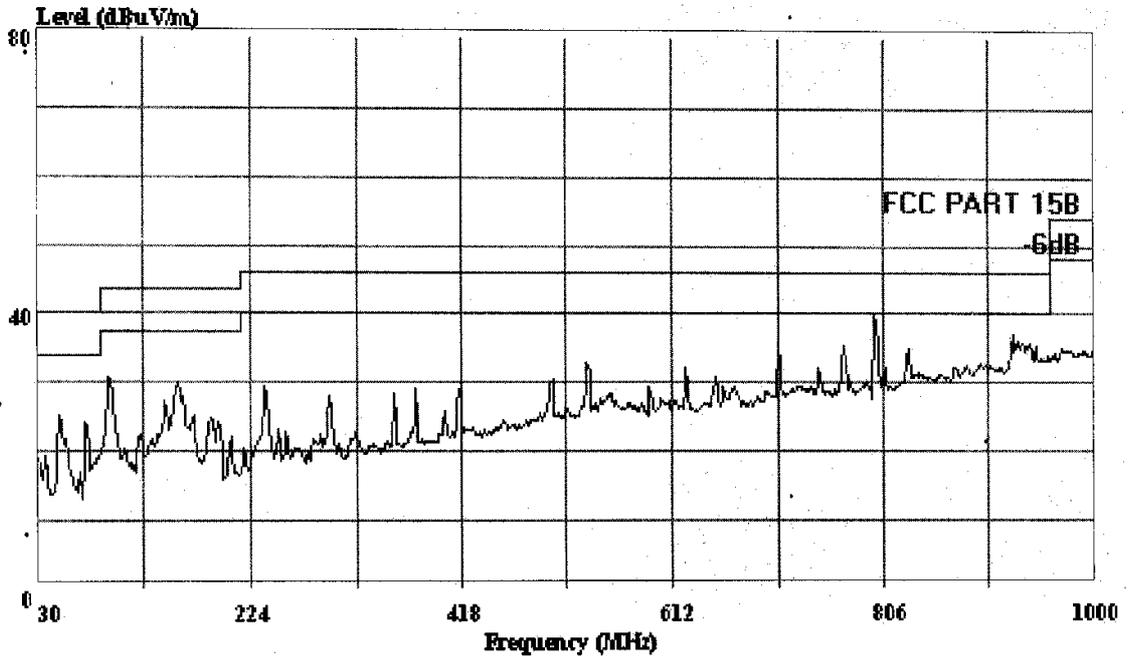
Condition: FCC PART 15B 3m 2598FACTOR HORIZONTAL
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: G8090, Receiver: 2771
 Power : Host 120V/60Hz DC 3V
 Test Engineer: Sean Xing
 Comment : Temp: 23'C, Humi: 58%
 Memo : Running



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

Data#: 28 File#: Vision.EMI Date: 2003-04-28 Time: 24:22:46



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

Trace:

Ref Trace:

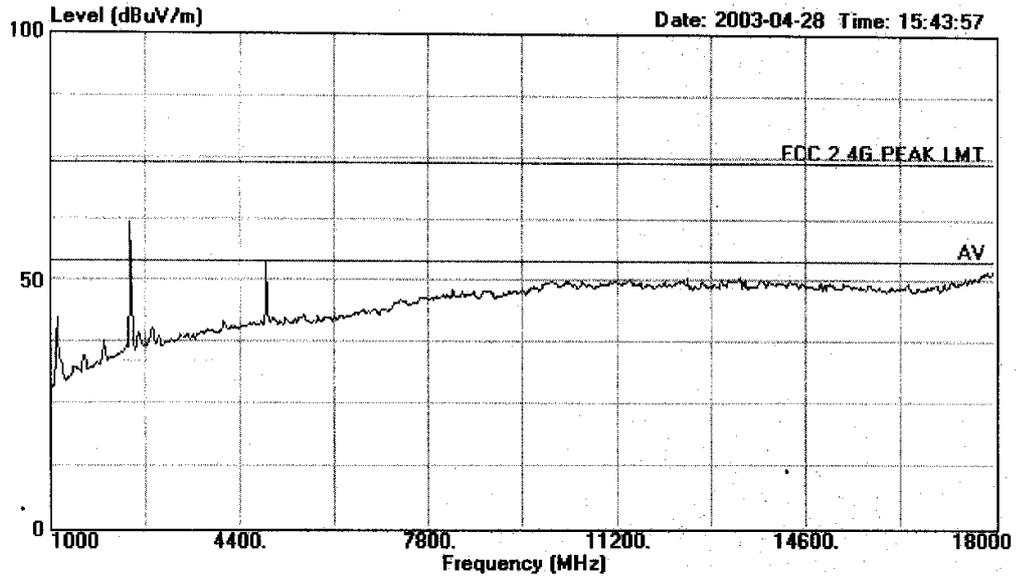
Condition: FCC PART 15B 3m 2598FACTOR VERTICAL.
 EUT : X-BOX 2.4G RF Wireless Controller
 M/N : Controller: G8090. Receiver: 2771
 Power : Host 120V/60Hz DC 3V
 Test Engineer: Sean Xing
 Comment : Temp: 23'C, Humi: 58%
 Memo : Running



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 Nantou, Shenzhen, Guangdong, China
 Tel: +86-755-26639496 Fax: +86-755-26632877

Data#: 23 File#: C:\EMI TEST DATA\V\Vision.EMI



Site : 1# Chamber
 Condition : FCC 2.4G PEAK LMT 3m 311SFACOR HORIZONTAL
 EUT : X-Box 2.4G RF Wireless Controller
 M/N : Controller 2701
 Power : DC 6V
 Test Engineer : Sean Xing
 Memo : Running

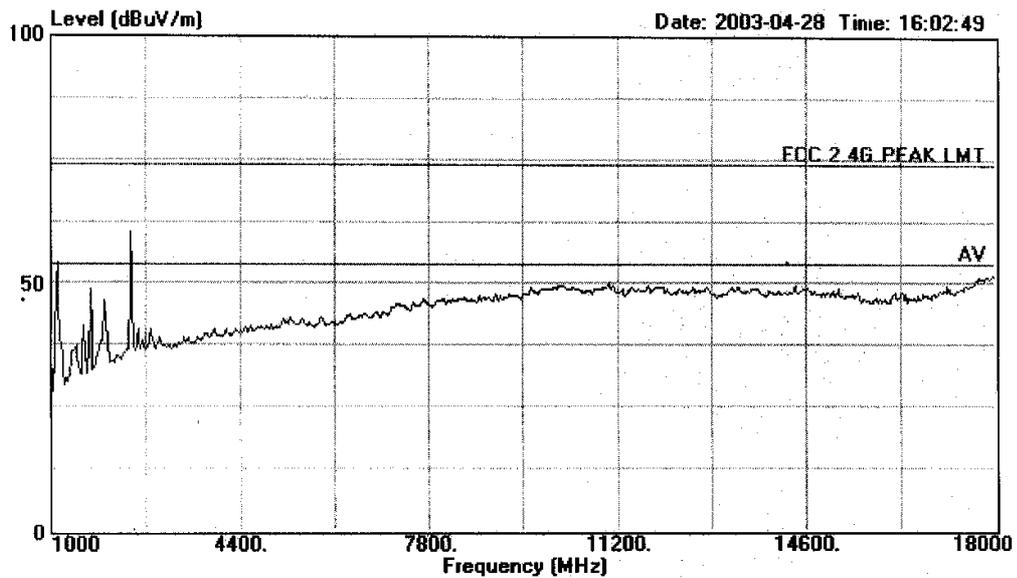


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Data#: 25 File#: C:\EMI TEST DATA\V\Vision.EMI



Site : 1# Chamber
Condition : FCC 2.4G PEAK LMT 3m 3115FACTOR VERTICAL
EUT : X-Box 2.4G RF Wireless Controller
M/N : Controller 2701
Power : DC 6V
Test Engineer : Sean Xing
Memo : Running

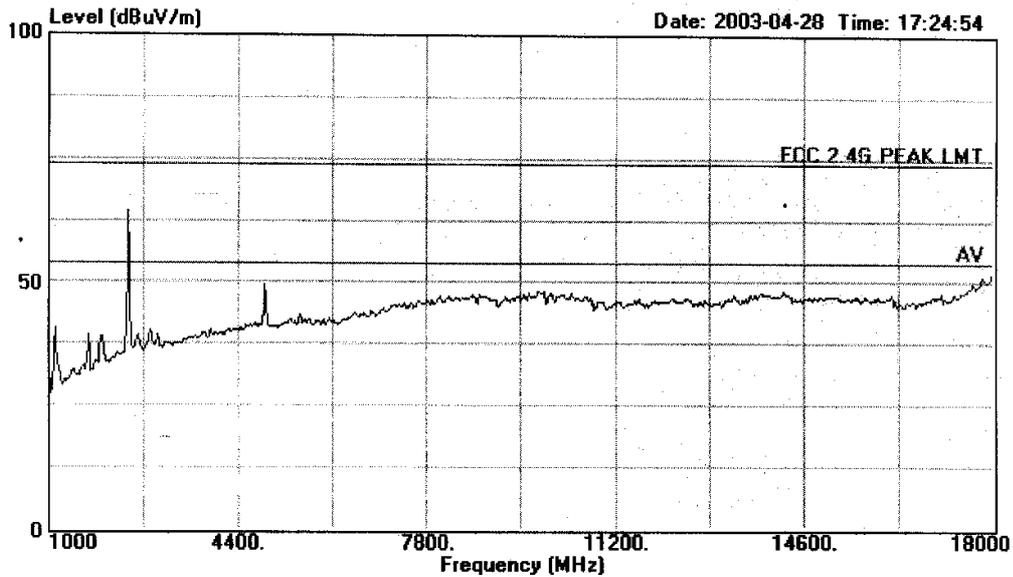


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Nantou, Shenzhen, Guangdong, China
Tel:+86-755-26639496 Fax:+86-755-26632877

Data#: 29 File#: C:\EMI TEST DATA\V\Vision.EMI



Site : 1# Chamber
Condition : FCC 2.4G PEAK LMT 3m 3115FACTOR HORIZONTAL
EUT : X-Box 2.4G RF Wireless Controller
M/N : Controller G8090
Power : DC 3V
Test Engineer : Sean Xing
Memo : Running

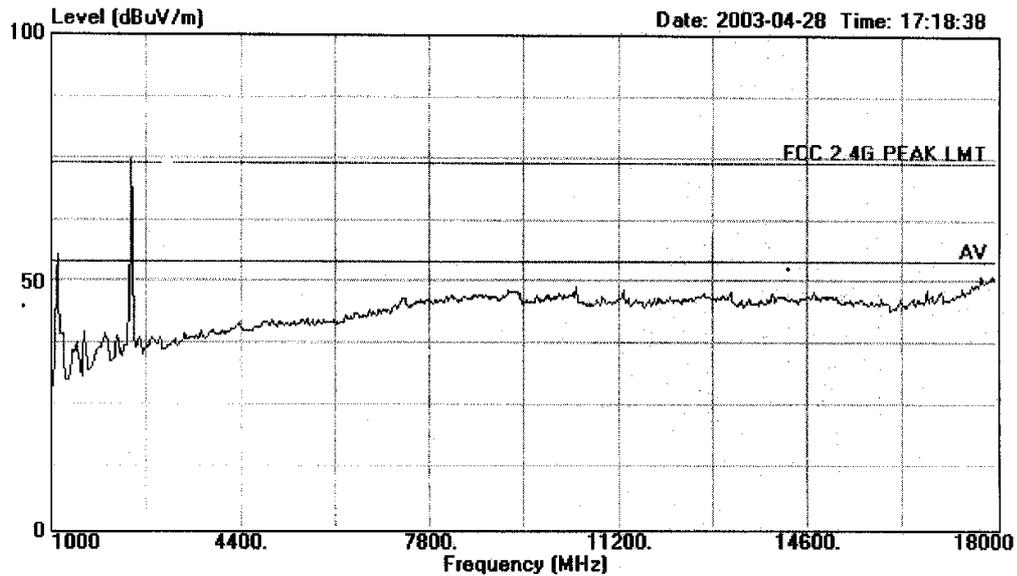


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No. 6, Ke Feng Road, Block 52,
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Nantou, Shenzhen, Guangdong, China
Tel:+86-755-26639496 Fax:+86-755-26632877

Data#: 27 File#: C:\EMI TEST DATA\Vision.EMI



Site : 1# Chamber
Condition : FCC 2.4G PEAK LMT 3m 3115FACTOR VERTICAL
EUT : X-Box 2.4G RF Wireless Controller
M/N : Controller G8090
Power : DC 3V
Test Engineer : Sean Xing
Memo : Running