APPLICATION FOR CERTIFICATION
On Behalf of
G.Tech Technology. Ltd.
Wireless Dual Channel Multimedia Keyboard

Model : DTK01

Prepared for : G.Tech Technology. Ltd.
7/F, Dongqu Bld., 7, Hai Hong Rd.,
Xiang Zhou, Zhuhai Sze,
Guangdong, China.

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6 Ke Feng Rd., 52 Block,
Shenzhen Science & Industrial Park,
Nantou, Shenzhen, Guangdong, China

Tel: (0755)663-9496

Report Number • ACS-F01003
Date of Test • Jan. 11/15, 2001
Date of Report • Jan. 15, 2001

TABLE OF CONTENTS

TEST REPORT CERTIFICATION

Applicant	•	G.Tech Technology. Ltd.
Manufacturer	•	G.Tech Technology. Ltd.
EUT Description	•	Wireless Dual Channel Multimedia Keyboard
		(A) MODEL NO. : DTK01
		(B) SERIAL NO. : N/A
		(C) POWER SUPPLY : DC 4.5V Battery

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C October 1998 & ANSI C63.4-1992

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 measurement results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these measurements. 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.

Date of Test : Jan. 11/15, 2001

Prepared by : Annie Cheng / Assistant

Reviewer : Alex Deng / Assistant Manager

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

Approved & Authorized Signer : Smart Tsai / Manager

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Wireless Dual Channel Multimedia Keyboard (This report is about transmitter and the receiver FCC DOC report please refer to AUDIX Number F01005.)
Model Number	:	DTK01
Applicant	:	G.Tech Technology. Ltd. 7/F, Dongqu Bld., 7, Hai Hong Rd, Xiang Zhou, Zhuhai Sze, Guangdong, China
Manufacturer	:	G.Tech Technology. Ltd. 7/F, Dongqu Bld., 7, Hai Hong Rd, Xiang Zhou, Zhuhai Sze, Guangdong, China
Date of Test	:	Jan. 11 / 15, 2001

1.2. Tested Supporting System Details

1.2.1. PERSONAL COMPUTER

Model Number	•	P2L97
Serial Number	•	No.1
FCC	•	Doc
Manufacturer	•	Asus Computer International Co.
Switching Power Supply	•	Model FSP300-60GT Sparkle Power Int'l Ltd
Floppy Driver	•	Teac Corp Model FC-235HF
Hard Disk Driver	•	Quantum, Model 7218A2C
Disk Ctrl Card	•	Within Mother Board
Serial/Parallel Card	•	Within Mother Board
Power Cord	•	Nonshielded, Detachable, 1.8m

VGA CARD

Model Number	•	DSV3365
Serial Number	•	E601604161
Manufacturer	•	Dataexpert CO.,LTD
FCC ID	:	LUT-DSV3365

1.2.2. MONITOR

Model Number	• KS-M1421
Serial Number	• 120954
FCC ID	• KVCKS-M1421
Manufacturer	• KSAI Electronics Co., Ltd.
Data	• Shielded, Undetachable,1.2m
Power Cord	• Nonshielded, Undetachable, 1.2m

1.2.3. PRINTER

Model Number	• 2225C+
Serial Number	• 22937S56660
FCC ID	• BS46XU2225C
Manufacturer	• Hewlett Packard
Power Adapter	• Hewlett Packard, Model 82241A
Data Cable	• Shielded, Detachable, 1.5m

1.2.4. MODEM#1

Model Number	• MODEM 1414
Serial Number	• 980013578
FCC ID	• IFAXDM1414
Manufacturer	• Aceex
Data Cable	• Shielded, Detachable, 1.5m
AC Adapter	• M/N: SCP41-91000A

1.2.5. MODEM#2

Model Number	• MODEM 1200AT
Serial Number	• AT 112153
FCC ID	• EF56A5 1200AT
Manufacturer	• Team Technology, Inc.
Data Cable	• Shielded, Detachable, 1.5m
Power Adapter	• Team, Model DV-1215A

1.3. Test Facility

Site Description

3m Anechoic Chamber	:	certificated by FCC, USA Aug. 24, 2000
3m & 10m Open Site	:	certificated by FCC, USA Feb. 13, 1998
EMC Lab.		certificated by VCCI, Japan Oct. 29, 1998
		certificated by DATech, German Feb. 02, 1999
		certificated by NVLAP, USA until Mar. 03, 2000 NVLAP Code: 200372-0
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. Measurement Uncertainty

Conduction Uncertainty	=	±2.66dB
Radiation Uncertainty	=	±4.26dB

2. POWER LINE CONDUCTED EMISSION TEST

According to Paragraph (f) of FCC Part 15 section 15.107, Tests to demonstrate compliance with the conducted limits are not required for device which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

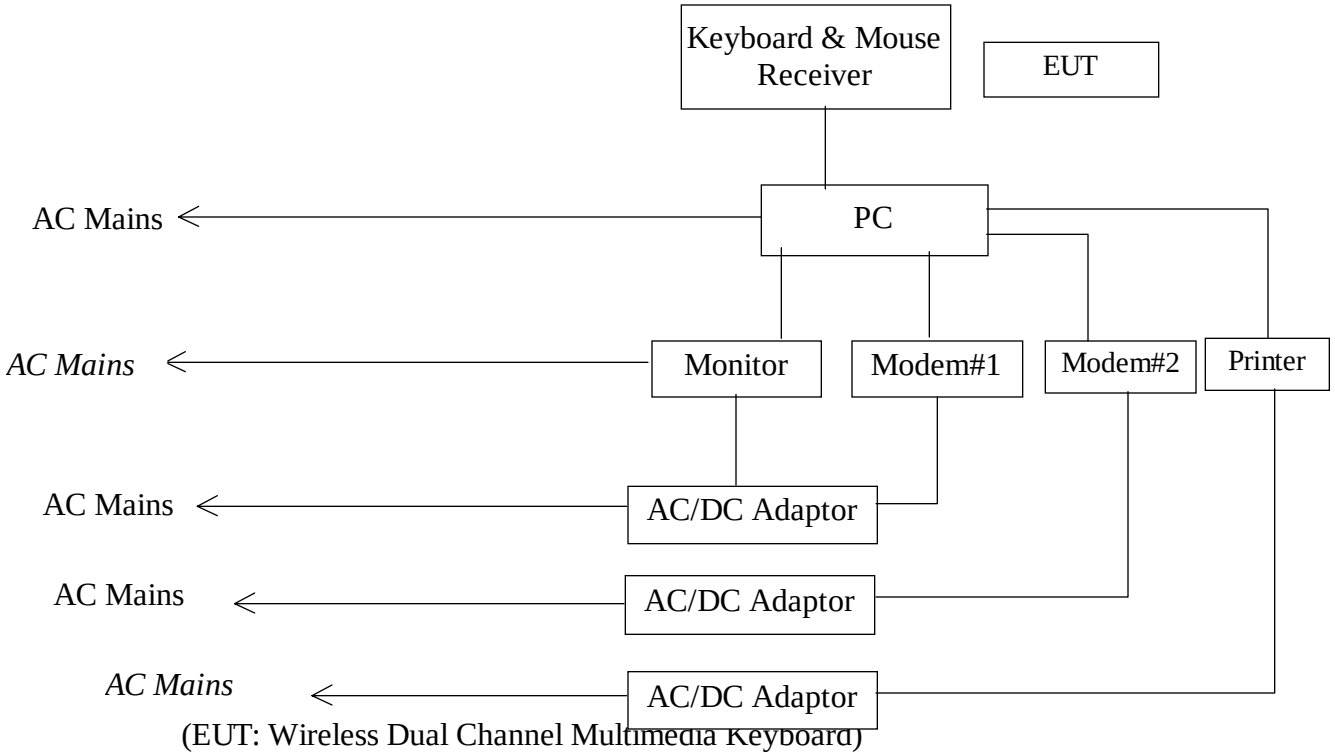
The following test equipments are used during the radiated emission measurement:

3.1.1. For Chamber #3

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	HP	85422E	3625A00181	Jun. 05, 00	1 Year
2.	Test Receiver	Rohde & Schwarz	ESVS20	830350/005	Jun. 05, 00	1 Year
3.	Amplifier	HP	8447D	2944A07794	Dec. 04, 00	1/2 Year
4.	Bilog Antenna	Chase	CBL6112A	2176	Sep. 25, 00	1 Year
5.	Computer	N/A	N/A	N/A	N/A	N/A
6.	Printer	NEC	P3800	568101448	N/A	N/A
7.	FR Cable	MIYAZAKI	5D-2W	3# Chamber No.1	Sep. 09, 00	1/2 Year
8.	FR Cable	MIYAZAKI	5D-2W	3# Chamber No.2	Sep. 09, 00	1/2 Year
9.	FR Cable	FUJIKURA	RG-55/U	3# Chamber No.3	Sep. 09, 00	1/2 Year
10.	FR Cable	FUJIKURA	RG-55/U	3# Chamber No.4	Sep. 09, 00	1/2 Year
11.	Coaxial Switch	Anritsu	MP59B	M74389	Dec. 04, 00	1/2 Year

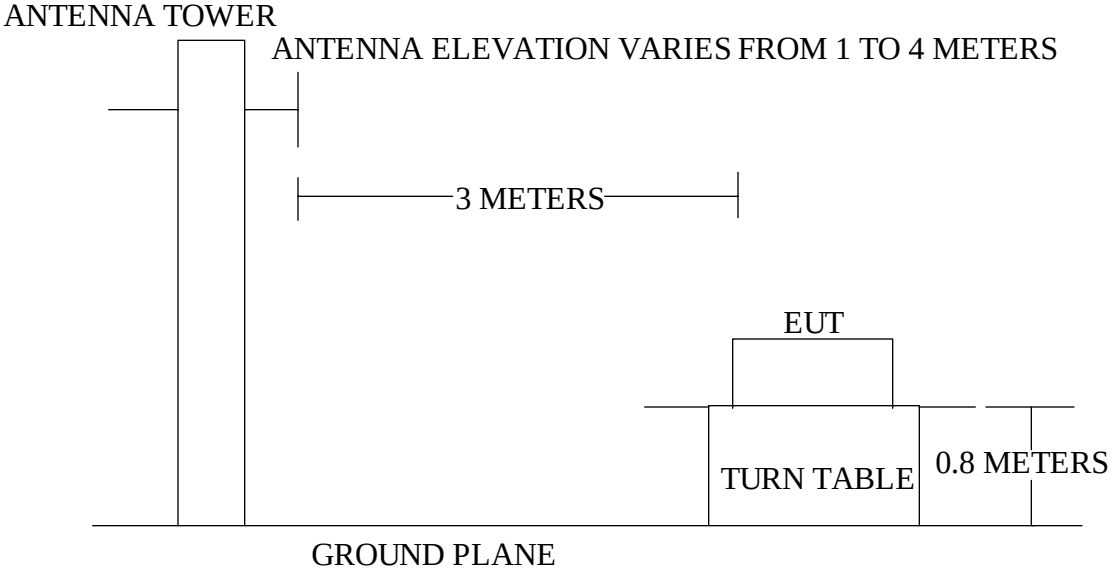
3.2. Block Diagram of Test Setup

3.2.1. diagram of connection between the EUT and simulators



(EUT: Wireless Dual Channel Multimedia Keyboard)

3.2.2. Chamber # 3 Test Setup Diagram



3.3. Radiated Emission Limit (Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
Fundamental Frequency	3	50×10^3	94.0
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

Remark • (1) Emission level (dB)μV = 20 log Emission level μV/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 Measurement

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

3.4.1. Wireless Dual Channel Multimedia Keyboard (EUT)

Model Number	:	DTK01
Serial Number	:	N/A
Manufacturer	:	G.Tech Technology. 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 the EUT work in test mode (CH1, CH2 Running) and measure 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. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 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 measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-1992 on radiated emission measurement.

The bandwidth of the EMI test receiver (R&S ESVS20) is set at 120KHz in the 25-1000MHz and 1MHz had been set in above 1000MHz Range.

The frequency range from 25MHz to 1000MHz is checked.

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

3.7. Radiated Emission Noise Measurement Result

PASS.

The frequency range from 25MHz to 1000MHz is investigated. Please see the following pages.

Date of Test :	Jan. 15, 2001	Temperature :	26•
EUT :	Wireless Dual Channel Multimedia Keyboard	Humidity :	60•
Model No. :	DTK01	Test Mode :	CH 1 Running
Test Engineer:	Rees Zeng		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Over Limits dB	Limits dBμV/m
27.035	21.51	0.79	28.89	50.40	-29.60	80.00
124.123	16.24	2.95	11.86	28.10	-15.40	43.50
150.275	13.94	3.24	17.36	31.30	-12.20	43.50
164.830	13.75	3.37	24.35	38.10	-5.40	43.50
358.830	19.98	4.55	14.52	34.50	-11.50	46.00

Remark: 1. 25MHz to 30MHz is Average values. 30MHz to 1000MHz are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading

Date of Test :	Jan. 15, 2001	Temperature :	26•
EUT :	Wireless Dual Channel Multimedia Keyboard	Humidity :	60•
Model No. :	DTK01	Test Mode :	CH 1 Running
Test Engineer:	Rees Zeng		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Over Limits DB	Limits dBμV/m
27.035	21.23	0.79	37.17	58.40	-21.60	80.00
38.735	12.08	1.20	15.37	27.45	-12.55	40.00
130.867	15.28	3.03	14.12	29.40	-14.10	43.50
164.825	13.78	3.37	15.42	29.20	-14.30	43.50
193.930	11.39	3.62	20.71	32.10	-11.40	43.50
395.690	19.75	4.70	14.25	34.00	-12.00	46.00

Remark: 1. 25MHz to 30MHz is Average values. 30MHz to 1000MHz are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading

Date of Test	:	Jan. 11, 2001	Temperature	:	26•
EUT	:	Wireless Dual Channel Multimedia Keyboard	Humidity	:	60•
Model No.	:	DTK01	Test Mode	:	CH 2 Running
Test Engineer:		Rees Zeng			

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBµV	Emission Level Horizontal dBµV/m	Over Limits dB	Limits dBµV/m
27.187	21.42	0.79	31.30	52.72	-27.28	80.00
38.725	14.88	1.20	11.32	26.20	-13.80	40.00
137.670	15.29	3.11	9.71	25.00	-18.50	43.50
152.220	13.94	3.25	15.16	29.10	-14.40	43.50
164.830	13.75	3.37	19.15	32.90	-10.60	43.50

Remark: 1. 25MHz to 30MHz is Average values. 30MHz to 1000MHz are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading

Date of Test	:	Jan. 11, 2001	Temperature	:	26•
EUT	:	Wireless Dual Channel Multimedia Keyboard	Humidity	:	60•
Model No.	:	DTK01	Test Mode	:	CH 2 Running
Test Engineer:		Rees Zeng			

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBµV	Emission Level Vertical dBµV/m	Over Limits DB	Limits dBµV/m
27.188	21.17	0.79	38.00	59.17	-20.83	80.00
41.636	10.50	1.31	13.90	24.40	-15.60	40.00
47.465	7.65	1.50	15.25	22.90	-17.10	40.00
150.280	15.04	3.24	5.76	20.80	-22.70	43.50
164.830	13.78	3.37	8.92	22.70	-2.80	43.50

Remark: 1. 25MHz to 30MHz is Average values. 30MHz to 1000MHz are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading

APPENDIX I

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Ind. Park.
Tel: 0755-6639495-7
Fax:0755-6632877

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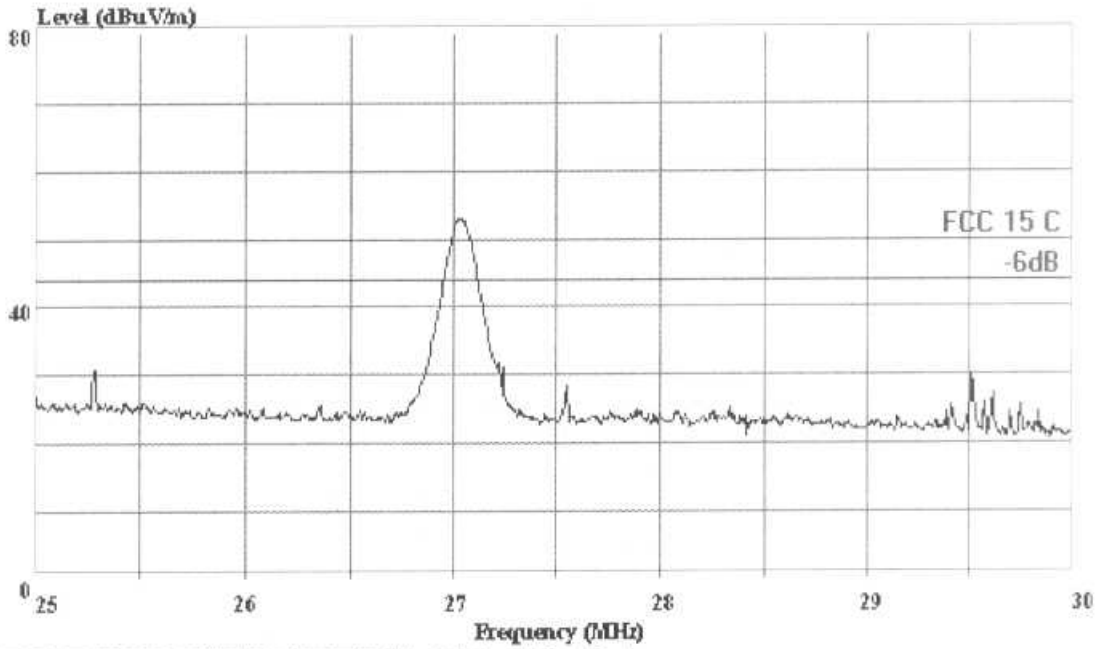

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (#3 Chamber)

Trace: Ref Trace:

Condition: FCC 15 C 3m 25-30/2176H HORIZONTAL
EUT: : Wireless Dual Channel Multimedia Keyboar
: -d M/N:DTK01
Memo: : Ch.1 Running
Power:: DC 4.5V Battery

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Ind. Park.
Tel: 0755-6639495~7
Fax:0755-6632877

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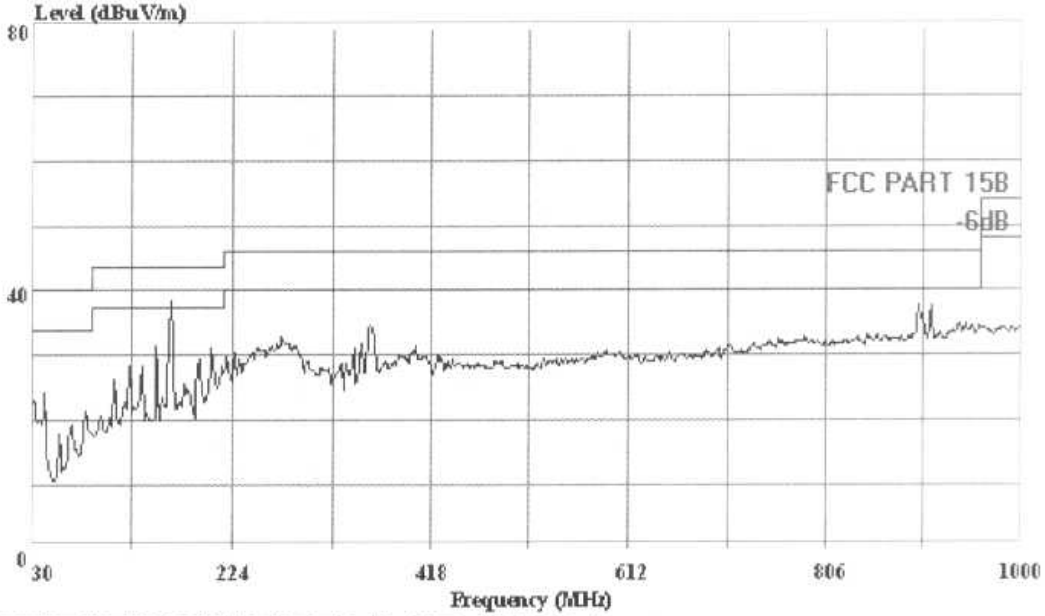

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (#3 Chamber)

Trace: Ref Trace:

Condition: FCC PART 15B 3m 2176FACTOR HORIZONTAL
Eut: : Wireless Dual Channel Multimedia Keyboar
: -d M/N:DTK01
Memo: : Ch.1 Running
Power:: DC 4.5V Battery

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Ind. Park.
Tel: 0755-6639495-7
Fax:0755-6632877

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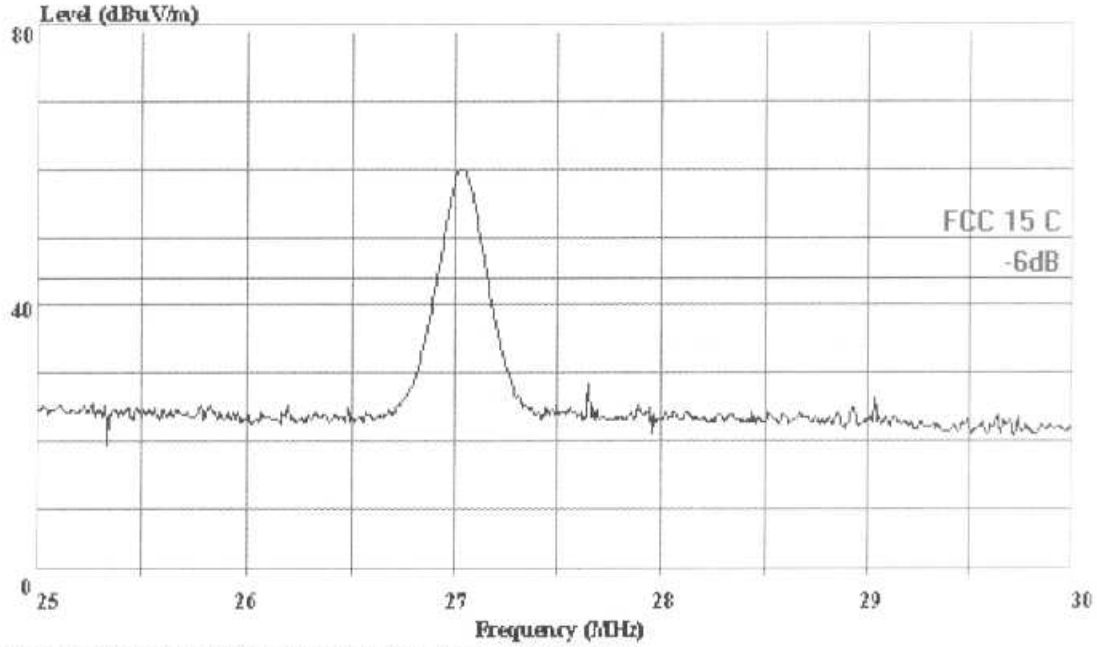

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (#3 Chamber)

Trace: Ref Trace:

Condition: FCC 15 C 3m 25-30/2176V VERTICAL
EUT: : Wireless Dual Channel Multimedia Keyboar
: -d M/N:DTK01
Memo: : Ch.1 Running
Power:: DC 4.5V Battery

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Ind. Park.
Tel: 0755-6639495~7
Fax:0755-6632877

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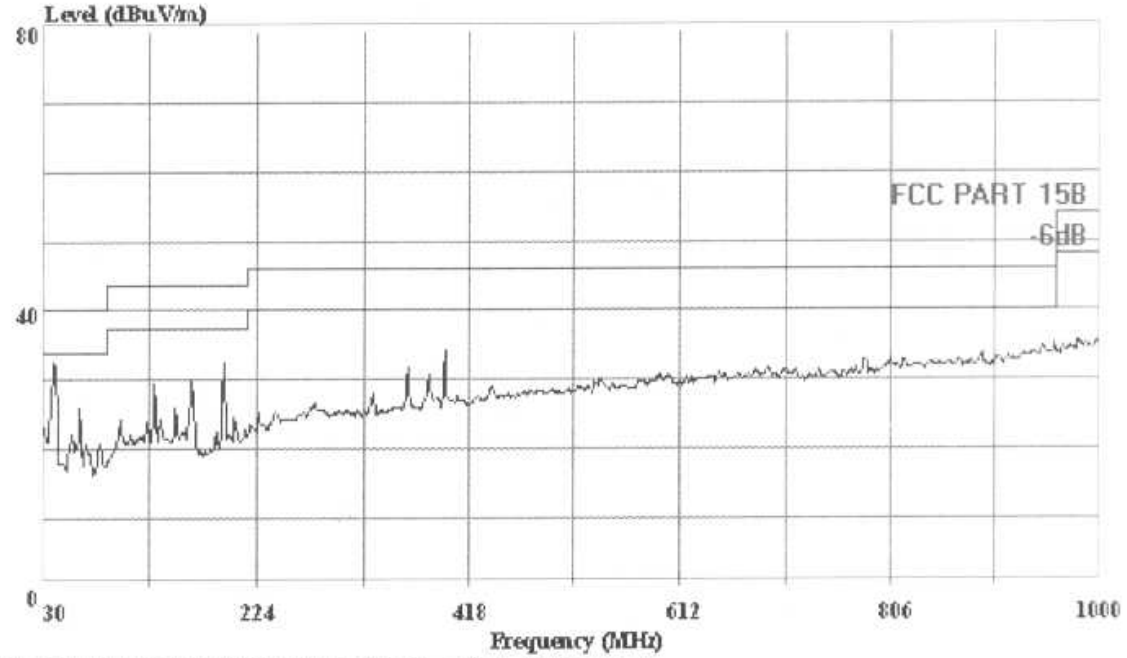

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (#3 Chamber)

Trace: Ref Trace:

Condition: FCC PART 15B 3m 2176FACTOR VERTICAL
Eut: : Wireless Dual Channel Multimedia Keyboar
: -d M/N:DTK01
Memo: : Ch.1 Running
Power:: DC 4.5V Battery

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
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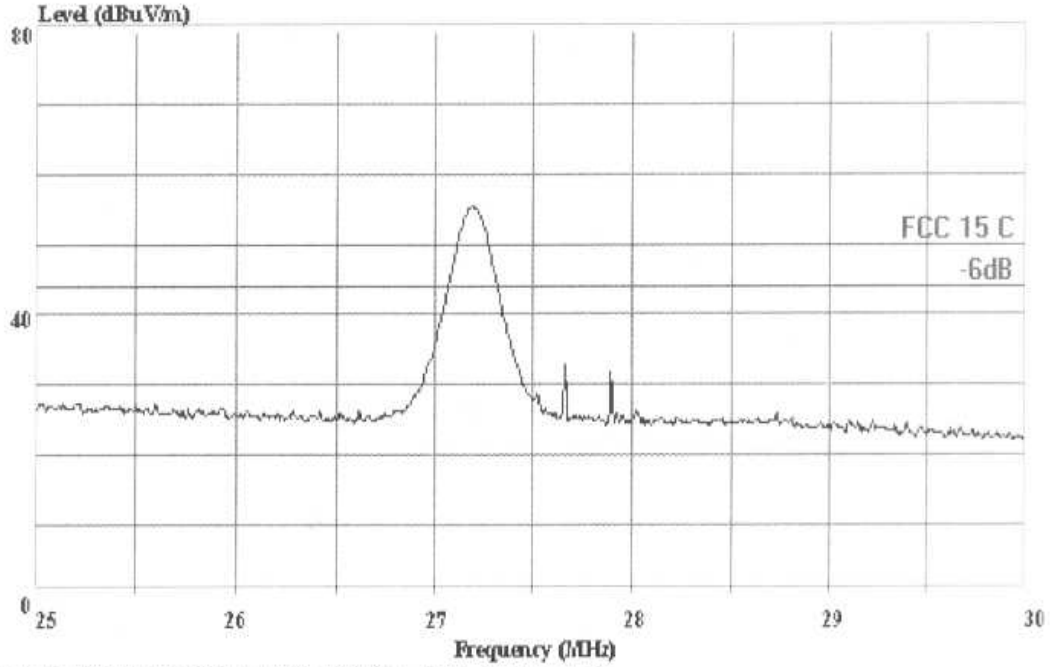

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (#3 Chamber)

Trace: Ref Trace:

Condition: FCC 15 C 3m 25-30/2176H HORIZONTAL
EUT: : Wireless Dual Channel Multimedia Keyboar
: -d M/N:DTK01
Memo: : Ch.2 Running
Power:: DC 4.5V Battery

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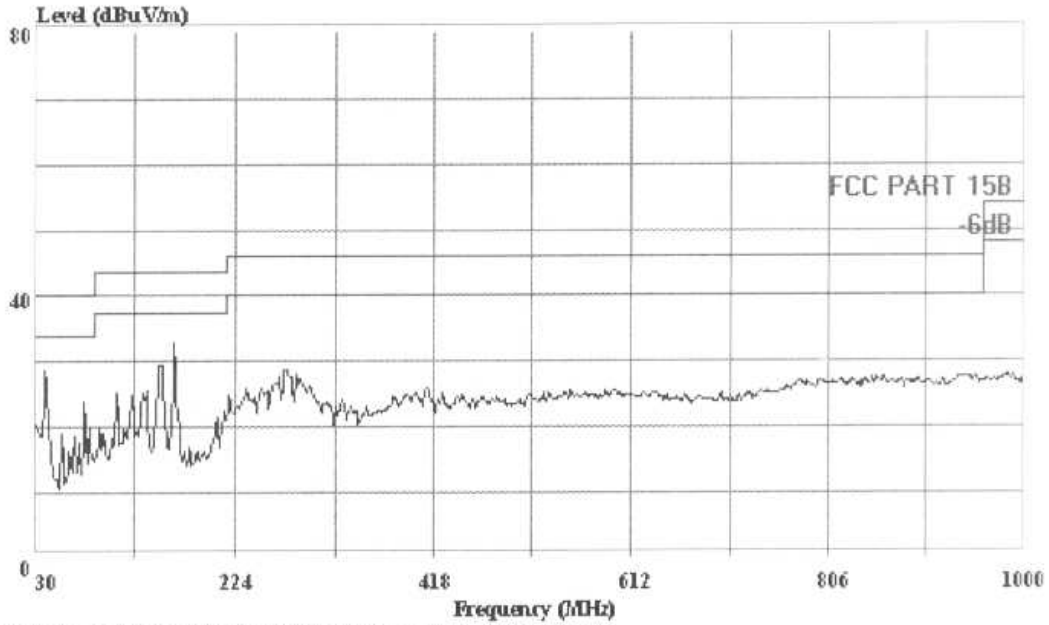

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (#3 Chamber)

Trace: Ref Trace:

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EUT: : Wireless Dual Channel Multimedia Keyboar
: -d M/N:DTK01
Memo: : Ch.2 Running
Power:: DC 4.5V Battery

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Ind. Park.
Tel: 0755-6639495~7
Fax:0755-6632877

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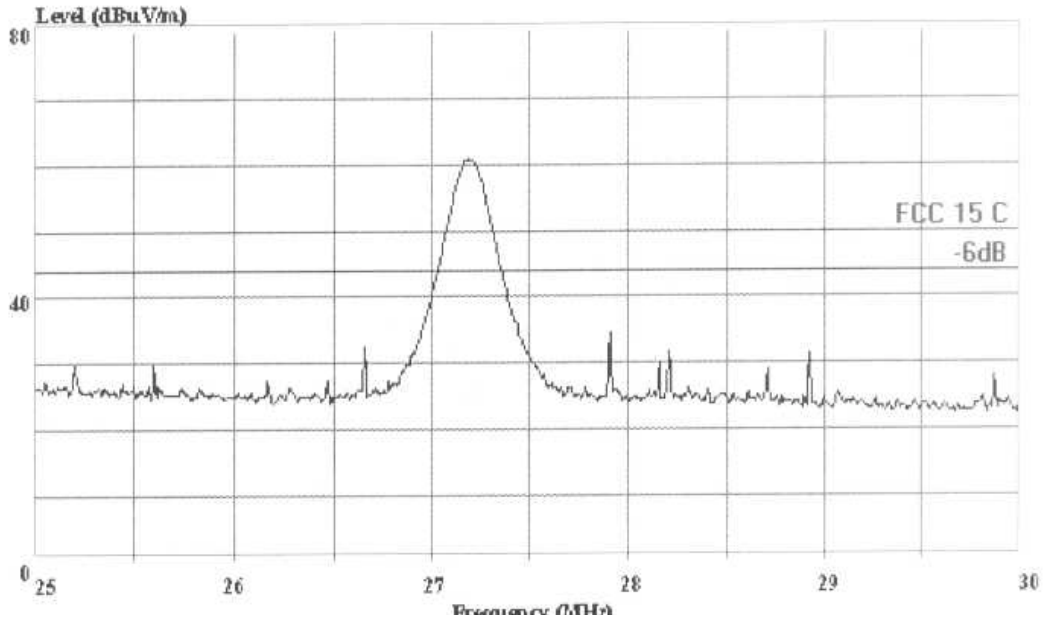

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Shenzhen Science & Ind. Park.
Tel: 0755-6639495~7
Fax:0755-6632877

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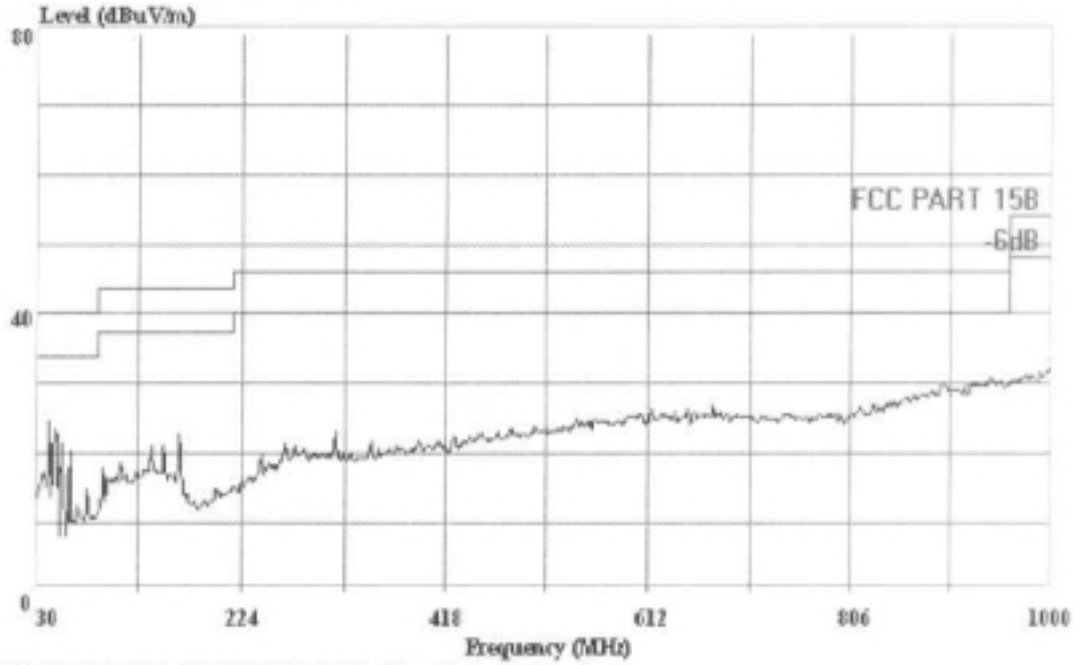

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (#3 Chamber)

Trace: Ref Trace:

Condition: FCC PART 15B 3m 2176NFACTOR VERTICAL
EUT: : Wireless Dual Channel Multimedia Keyboar
: -d M/N:DTK01
Memo: : Ch.2 Running
Power:: DC 4.5V Battery