

Application for FCC Certification  
On behalf of  
Zhejiang Kangtai Electric Co., Ltd.  
Wireless Door Chime

Model No.: KT6898Y-D

Serial No.: F04091002

FCC ID : SMUKT6898YD

Prepared For : Zhejiang Kangtai Electric Co., Ltd.  
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Report No. : ACI-F04090  
Date of Test : Oct 10-Oct 18, 2004  
Date of Report : Oct 20, 2004

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# TEST REPORT FOR FCC CERTIFICATION

Applicant : Zhejiang Kangtai Electric Co., Ltd.  
 Manufacturer : Zhejiang Kangtai Electric Co., Ltd.  
 EUT Description : Wireless Door Chime  
 (A) Model No. : KT6898Y-D  
 (B) Serial No. : F04091002  
 (C) Power Supply : 12V DC  
 (D) Crystal Frequency : 433.768MHz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART C JULY 2003  
 AND ANSI C63.4:2001*

The device described above is tested by Audix Technology (Shanghai) 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 radiated emission.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (M/N: KT6898Y-D; S/N: F04091002), which was tested in 3m anechoic chamber on Oct 10-Oct 18, 2004 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 Technology (Shanghai) Co., Ltd.

This report contains data that are not covered by the NVLAP accreditation.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Oct 10- Nov 06, 2004

Prepared by : Kathy Wang 2004.11.11 Test Engineer : HARRY ZHANG 2004.11.11  
 KATHY WANG HARRY ZHANG  
 (Assistant) Audix Technology (Shanghai) Co., Ltd.

Reviewer : Sammy Chen Approved Signatory : Byron Kwo  
 SAMMY CHEN Authorized Signatory : BYRON KWO  
 (Supervisor) (Deputy Manager)

# 1 GENERAL INFORMATION

## 1.1 Description of Equipment Under Test

Description : Wireless Door Chime

Type of EUT :  Production  Pre-product  Pro-type

Model No. : KT6898Y-D

Serial No. : F04091002

Applicant : Zhejiang Kangtai Electric Co., Ltd.  
No.5 Kangtai Road Huanghua Industrial District,  
Yueqing, Zhejiang, China

Manufacturer : Zhejiang Kangtai Electric Co., Ltd.  
No.5 Kangtai Road Huanghua Industrial District,  
Yueqing, Zhejiang, China

## 1.2 Description of Test Facility

Site Description (Semi-Anechoic Chamber) : Sept. 17, 1998 file on  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046, USA

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

Site Location : 3F 34Bldg 680 Guiping Rd.,  
Caohejing Hi-Tech Park,  
Shanghai, China 200233

Accredited by NVLAP, Lab Code : 200371-0

## 1.3 Measurement Uncertainty

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

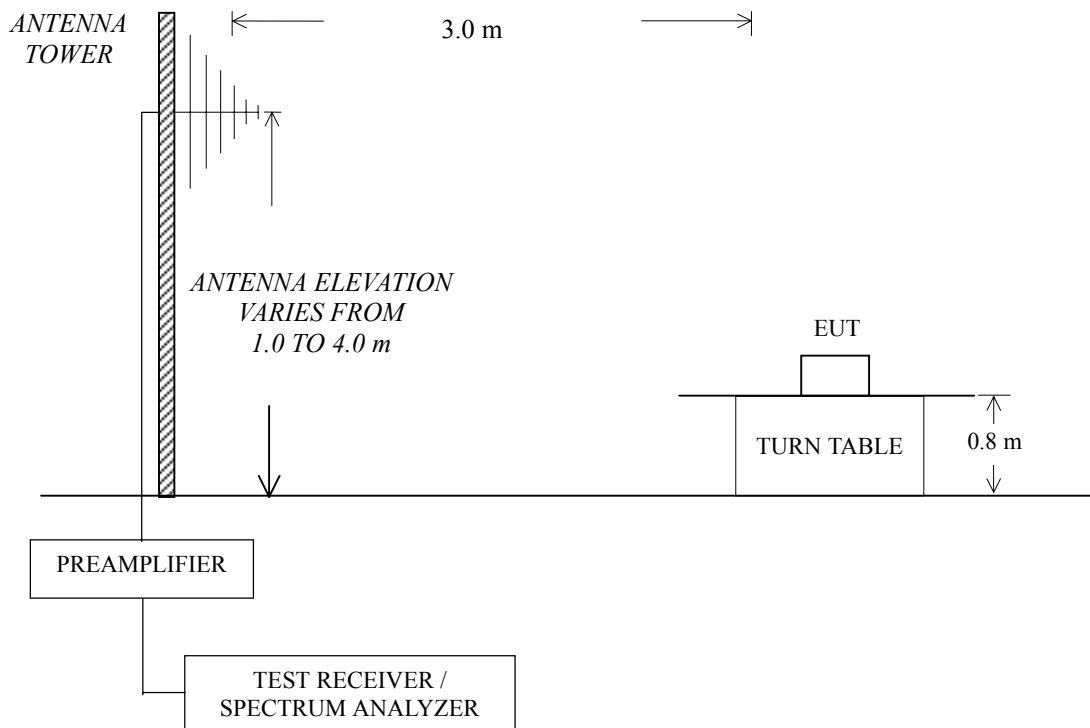
## 2 RADIATED EMISSION TEST

### 2.1 Test Equipment

The following test equipment are used during the radiated emission test in a semi-anechoic chamber:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3628A00167	Apr 22, 2004	1 Year
2.	Bilog Antenna	Chase	CBL6111	1145	Sept 18, 2004	1/2 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	832699/004	May 24, 2004	1 Year
4.	Preamplifier	HP	8447D	2944A06849	Sept 20, 2004	1/2 Year
5.	50Ω Coaxial Switch	Anritsu	MP59B	M73389	Sept 19, 2004	1/2 Year
6.	Software	Audix	E3	SET00200 9912M295-2	-	-

### 2.2 Block Diagram of Test Setup



## 2.3 Radiated Emission Limit

Frequency (MHz)	Distance (m)	Field strength limits ( $\mu\text{V}/\text{m}$ )	
		( $\mu\text{V}/\text{m}$ )	$\text{dB}(\mu\text{V}/\text{m})$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

NOTE 1 - Emission Level  $\text{dB}(\mu\text{V}/\text{m}) = 20 \log$  Emission Level ( $\mu\text{V}/\text{m}$ )  
 NOTE 2 - The tighter limit applies at the band edges.  
 NOTE 3 - Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

## 2.4 Test Configuration

The EUT was installed as show on Sec. 2.2 in radiated emission test to meet FCC requirement and operating in a manner which tend to maximize emission level in a normal application.

## 2.5 Operating Condition of EUT

- 2.5.1 Setup the EUT as shown in Sec. 2.2.
- 2.5.2 Turn on the power of all equipments and the EUT.
- 2.5.3 Set the EUT on the test modes, and then test.

## 2.6 Test Procedures

The EUT was placed on a turntable, which is 0.8 meter above the ground. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (Calibrated Bilog Antenna) was used as a receiving antenna. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated.

The bandwidth setting on Test Receiver ESVS10 is 120 kHz below 1000 MHz.  
 The bandwidth setting on Spectrum analyzer 8593EM is 1 MHz above 1000 MHz

The frequency range from 30 MHz to 1G Hz was checked.

The test modes (lying, side, stand) were done on radiated disturbance test. Please refer to Sec.2.7.

## 2.7 Test Results

### <PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

The worst test mode is for Stand. The worst emission at horizontal polarization was detected at 698.330 MHz with corrected signal level of 32.37 dB( $\mu$ V/m) (limit is 46.00 dB( $\mu$ V/m)), when the antenna was 1.10m height and the turn table was at 25°. The worst emission at vertical polarization was detected at 710.940 MHz with corrected signal level of 32.56 dB( $\mu$ V/m) (limit is 46.00 dB( $\mu$ V/m)), when the antenna was 1.00m height and the turn table was at 310°.

0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

NOTE 1 – Probe Factor means Antenna Factor.

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

NOTE 3 – Factor = Cable Loss + Probe Factor.

NOTE 4 – Correction factor is derived from duty cycle.

NOTE 5 – All readings are Quasi-Peak values.

NOTE 6 – The Test Receiver was used in measuring Quasi-Peak values when the frequency range is from 30MHz to 1000MHz.

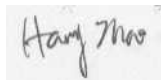
EUT : Wireless Door Chime Temperature : 25.7°C

Model No. : KT6898Y-D Humidity : 40%

Serial No. : F04091002

Test Mode : Lying Date of Test : Oct 08, 2004

Polarization	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Emission Level dB( $\mu$ V/m)	Limits dB( $\mu$ V/m)	Margin (dB)
Horizontal	31.940	30.49	14.72	0.75	27.76	18.20	40.00	21.80
	74.620	30.08	7.16	1.25	27.27	11.22	40.00	28.78
	141.550	29.99	11.38	1.74	27.11	16.00	43.50	27.50
	218.180	32.05	10.65	2.19	26.51	18.38	46.00	27.62
	415.090	30.53	18.72	3.16	26.68	25.73	46.00	20.27
	<b>680.870</b>	<b>31.24</b>	<b>23.67</b>	<b>4.18</b>	<b>26.97</b>	<b>32.12</b>	<b>46.00</b>	<b>13.88</b>
Vertical	36.790	28.80	14.44	0.81	27.75	16.30	40.00	23.70
	99.840	33.13	10.91	1.42	27.45	18.01	43.50	25.49
	230.790	29.98	11.15	2.31	26.46	16.98	46.00	29.02
	410.240	31.05	18.67	3.14	26.74	26.12	46.00	19.88
	613.940	30.22	21.73	3.99	27.19	28.75	46.00	17.25
	<b>756.530</b>	<b>30.06</b>	<b>23.24</b>	<b>4.55</b>	<b>26.69</b>	<b>31.16</b>	<b>46.00</b>	<b>14.84</b>

TEST ENGINEER:   
(HARRY ZHAO)



EUT : Wireless Door Chime Temperature : 25.7°C

Model No. : KT6898Y-D Humidity : 40%

Serial No. : F04091002

Test Mode : Side Date of Test : Oct 08, 2004

Polarization	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Emission Level dB( $\mu$ V/m)	Limits dB( $\mu$ V/m)	Margin (dB)
Horizontal	35.820	29.89	14.93	0.79	27.75	17.86	40.00	22.14
	99.840	34.60	10.91	1.42	27.45	19.48	43.50	24.02
	279.290	32.51	13.74	2.55	26.25	22.55	46.00	23.45
	387.930	30.99	18.16	3.04	26.76	25.43	46.00	20.57
	507.240	31.37	19.74	3.55	27.42	27.24	46.00	18.76
	<b>766.230</b>	<b>31.45</b>	<b>23.06</b>	<b>4.50</b>	<b>26.92</b>	<b>32.09</b>	<b>46.00</b>	<b>13.91</b>
Vertical	35.820	28.25	14.93	0.79	27.75	16.22	40.00	23.78
	101.780	29.78	11.03	1.44	27.38	14.87	43.50	28.63
	213.330	33.11	10.43	2.16	26.53	19.17	43.50	24.33
	327.790	32.05	16.08	2.76	26.40	24.49	46.00	21.51
	526.640	33.37	20.09	3.65	27.08	30.03	46.00	15.97
	<b>766.230</b>	<b>31.41</b>	<b>23.06</b>	<b>4.50</b>	<b>26.92</b>	<b>32.05</b>	<b>46.00</b>	<b>13.95</b>

TEST ENGINEER: Harry Zhao  
(HARRY ZHAO)

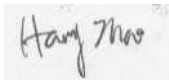
EUT : Wireless Door Chime Temperature : 25.7°C

Model No. : KT6898Y-D Humidity : 40%

Serial No. : F04091002

Test Mode : Stand Date of Test : Oct 08, 2004

Polarization	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Emission Level dB( $\mu$ V/m)	Limits dB( $\mu$ V/m)	Margin (dB)
Horizontal	34.850	29.89	15.39	0.77	27.74	18.31	40.00	21.69
	99.840	35.29	10.91	1.42	27.45	20.17	43.50	23.33
	220.120	30.66	10.71	2.21	26.40	17.18	46.00	28.82
	356.890	30.62	17.12	2.90	26.41	24.23	46.00	21.77
	470.380	30.70	19.32	3.43	27.13	26.32	46.00	19.68
	<b>698.330</b>	<b>30.91</b>	<b>24.20</b>	<b>4.24</b>	<b>26.98</b>	<b>32.37</b>	<b>46.00</b>	<b>13.63</b>
Vertical	38.730	29.25	13.38	0.85	27.73	15.75	40.00	24.25
	62.980	29.59	7.50	1.14	27.63	10.60	40.00	29.40
	158.040	41.57	10.70	1.84	26.76	27.35	43.50	16.15
	279.290	38.24	13.74	2.55	26.25	28.28	46.00	17.72
	526.640	34.00	20.09	3.65	27.08	30.66	46.00	15.34
	<b>710.940</b>	<b>31.03</b>	<b>23.98</b>	<b>4.29</b>	<b>26.74</b>	<b>32.56</b>	<b>46.00</b>	<b>13.44</b>

TEST ENGINEER:   
(HARRY ZHAO)

### 3 FUNDAMENTAL AND SPURIOUS EMISSIONS TEST

#### 3.1 Test Equipment

The following test equipment are used during the fundamental and spurious emission test in a semi-anechoic chamber:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Preamplifier	HP	8447D	2944A06849	Sep 20, 2004	1/2 Year
2.	Bilog Antenna	Chase	CBL6111	1145	Sep 18, 2004	1/2 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	832699/004	May 24, 2004	1 Year
4.	Amplifier	HP	8449B	3008A00864	Apr 20, 2004	1 Year
5.	Spectrum Analyzer	HP	8593EM	3628A00167	Apr 22, 2004	1 Year
6.	Horn Antenna	EMCO	3115	9607-4878	Apr 20, 2004	1 Year
7.	Oscilloscope	HP	54602B	US36181094	Sep 19, 2004	1/2 Year

#### 3.2 Block Diagram of Test Setup

Same as Sec 2.2 except the frequency range which is above 1GHz and the antenna is fixed in 1 m high.

#### 3.3 Fundamental and Spurious Emission Limit

Frequency (MHz)	Distance (m)	Field strength limits of fundamental	Field strength limits of spurious emissions
		( $\mu\text{V/m}$ )	( $\mu\text{V/m}$ )
260 ~ 470	3	3750-12500*	375-1250*
NOTE 1 - Emission Level $\text{dB}(\mu\text{V/m}) = 20 \log \text{Emission Level } (\mu\text{V/m})$ NOTE 2 - The tighter limit applies at the band edges. NOTE 3 - Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system. NOTE 4 - "*" means linear interpolation. NOTE 5- The fundamental frequency of the EUT is 433.768MHz, Emission Level $\text{dB}(\mu\text{V/m}) = 20 \log(41.6667 * 433.7 - 7083.3333) = 80.55 \text{ dB } (\mu\text{V/m})$ and the limit of the Harmonic is $60.55 \mu\text{V/m}$ .			

### 3.4 Test Configuration

The EUT was installed as show on Sec. 3.2 in fundamental and spurious emission test to meet FCC requirement and operating in a manner which tend to maximize emission level in a normal application.

### 3.5 Operating Condition of EUT

- 3.5.1 Setup the EUT as shown in Sec. 3.2.
- 3.5.2 Turn on the power of all equipments and the EUT.
- 3.5.3 Set the EUT on the test mode, and then test.

### 3.6 Test Procedures

The EUT was placed on a table which is 0.8 meter above ground. The turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. Broadband antenna (Calibrated antenna) were used as receiving antenna below 1000MHz. Horn antenna were used as receiving antenna above 1000MHz. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to FCC PART 15 Subpart C and ANSI C63.4:2001 requirements during fundamental and spurious emission test.

The bandwidth setting on Test Receiver ESVS10 is 120 kHz below 1000 MHz.  
The bandwidth setting on Spectrum analyzer 8593EM is 1 MHz above 1000 MHz.

The frequency range from 30 MHz to 4337.67 MHz (the tenth harmonic) was checked. The EUT rotated through three orthogonal axes to determine which attitude and configuration produces the highest emission.

### 3.7 Test Results

**<PASS>**

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

NOTE 1 – All readings are Peak Values.

NOTE 2 – Emission Level = Meter Reading + Antenna Factor + Cable Loss  
– Preamp Factor - Correction Factor

NOTE 3 – Correction factor is calculated by averaging the sum of the pulse train.

Correction factor is measured as follows:

Turn on the EUT and set the spectrum to the fundamental frequency and set the scan width to 0 Hz. Then connect a storage oscilloscope to the video output of the spectrum that is used to detect the pulse train. Adjust the oscilloscope settings to observe the pulse train and determine the number and width of the pulses, as well as the period of the train.

$$\begin{aligned}\text{Correction Factor} &= |20\log((1.05*11+0.33*22)/56.4)| \\ &= |-9.54 \text{ dB}| = 9.54 \text{ dB}\end{aligned}$$

(See Appendix I)

EUT : Wireless Door Chime Temperature : 20.7°C

Model No. : KT6898Y-D Humidity : 53%

Serial No. : F04091002

Test Mode : Lying Date of Test : Oct 18, 2004

Polarization	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Correction factor (dB)	Emission Level dB( $\mu$ V/m)	Limits dB( $\mu$ V/m)	Margin (dB)
Horizontal	433.768	78.56	18.94	3.44	26.92	9.54	64.48	80.55	16.07
	867.536	54.60	22.46	4.83	27.20	9.54	45.15	60.55	15.40
	1301.280	63.21	25.40	6.07	36.74	9.54	48.40	60.55	12.15
	1735.925	55.88	26.81	7.71	35.90	9.54	44.96	60.55	15.59
	2169.830	41.24	28.13	7.90	35.31	9.54	32.42	60.55	28.13
	2603.850	45.54	29.53	8.61	34.91	9.54	39.23	60.55	23.14
	3037.950	51.74	30.69	9.23	34.56	9.54	47.56	60.55	12.99
	3471.820	50.76	31.62	10.43	34.09	9.54	49.18	60.55	11.37
	3905.780	45.66	34.43	9.45	33.68	9.54	46.41	60.55	14.14
	4337.670	43.79	32.93	12.35	33.97	9.54	45.56	60.55	14.99
Vertical	433.768	73.57	18.94	3.44	26.92	9.54	59.49	80.55	21.06
	867.536	45.30	22.46	4.83	27.20	9.54	35.85	60.55	24.70
	1301.280	59.74	25.40	6.07	36.74	9.54	44.93	60.55	15.62
	1735.925	48.74	26.81	7.71	35.90	9.54	37.85	60.55	22.73
	2169.830	45.10	28.13	7.90	35.31	9.54	36.28	60.55	24.27
	2603.850	43.25	29.53	8.61	34.91	9.54	36.94	60.55	23.61
	3037.950	52.25	30.69	9.23	34.56	9.54	48.07	60.55	12.48
	3471.820	49.15	31.62	10.43	34.09	9.54	47.57	60.55	12.98
	3905.780	46.25	34.43	9.45	33.68	9.54	46.91	60.55	13.64
	4337.670	44.15	32.93	12.35	33.97	9.54	45.92	60.55	14.63

TEST ENGINEER:

  
 (HARRY ZHAO)

EUT : Wireless Door Chime Temperature : 20.7°C

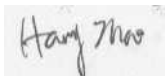
Model No. : KT6898Y-D Humidity : 53%

Serial No. : F04091002

Test Mode : Side Date of Test : Oct 18, 2004

Polarization	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Correction factor (dB)	Emission Level dB( $\mu$ V/m)	Limits dB( $\mu$ V/m)	Margin (dB)
Horizontal	433.768	78.73	18.94	3.44	26.92	9.54	64.65	80.55	15.90
	867.536	55.80	22.46	4.83	27.20	9.54	46.35	60.55	14.20
	1301.280	62.21	25.40	6.07	36.74	9.54	47.40	60.55	13.15
	1735.925	55.88	26.81	7.71	35.90	9.54	44.96	60.55	15.59
	2169.830	41.24	28.13	7.90	35.31	9.54	32.42	60.55	28.13
	2603.850	45.44	29.53	8.61	34.91	9.54	39.13	60.55	21.42
	3037.950	51.74	30.69	9.23	34.56	9.54	47.56	60.55	12.99
	3471.820	50.77	31.62	10.43	34.09	9.54	49.19	60.55	11.36
	3905.780	46.15	34.43	9.45	33.68	9.54	46.81	60.55	13.74
4337.670	44.76	32.93	12.35	33.97	9.54	46.53	60.55	14.02	
Vertical	433.768	73.57	18.94	3.44	26.92	9.54	59.49	80.55	21.06
	867.536	45.30	22.46	4.83	27.20	9.54	35.85	60.55	24.70
	1301.280	59.74	25.40	6.07	36.74	9.54	44.93	60.55	15.62
	1735.925	48.74	26.81	7.71	35.90	9.54	37.82	60.55	22.73
	2169.830	45.10	28.13	7.90	35.31	9.54	36.28	60.55	24.27
	2603.850	43.25	29.53	8.61	34.91	9.54	36.94	60.55	23.61
	3037.950	54.25	30.69	9.23	34.56	9.54	50.07	60.55	10.48
	3471.820	49.75	31.62	10.43	34.09	9.54	48.17	60.55	12.38
	3905.780	47.23	34.43	9.45	33.68	9.54	47.89	60.55	12.66
4337.670	45.26	32.93	12.35	33.97	9.54	47.03	60.55	13.52	

TEST ENGINEER:



(HARRY ZHAO)


EUT : Wireless Door Chime Temperature : 20.7°C

Model No. : KT6898Y-D Humidity : 53%

Serial No. : F04091002

Test Mode : Stand Date of Test : Oct 18, 2004

Polarization	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Correction factor (dB)	Emission Level dB( $\mu$ V/m)	Limits dB( $\mu$ V/m)	Margin (dB)
Horizontal	433.768	80.57	18.94	3.44	26.92	9.54	66.49	80.55	14.06
	867.536	48.30	22.46	4.83	27.20	9.54	38.85	60.55	21.70
	1301.280	60.58	25.40	6.07	36.74	9.54	45.77	60.55	14.78
	1735.925	57.32	26.81	7.71	35.90	9.54	46.40	60.55	14.15
	2169.830	44.25	28.13	7.90	35.31	9.54	35.43	60.55	25.12
	2603.850	47.15	29.53	8.61	34.91	9.54	40.84	60.55	19.71
	3037.950	51.78	30.69	9.23	34.56	9.54	47.60	60.55	12.95
	3471.820	50.96	31.62	10.43	34.09	9.54	49.38	60.55	11.17
	3905.780	44.77	34.43	9.45	33.68	9.54	45.43	60.55	15.12
	4337.670	40.18	32.93	12.35	33.97	9.54	41.95	60.55	18.60
Vertical	433.768	75.02	18.94	3.44	26.92	9.54	60.94	80.55	19.61
	867.536	49.20	22.46	4.83	27.20	9.54	39.75	60.55	20.80
	1301.280	62.17	25.40	6.07	36.74	9.54	47.36	60.55	13.19
	1735.925	57.32	26.81	7.71	35.90	9.54	46.40	60.55	14.15
	2169.830	46.38	28.13	7.90	35.31	9.54	37.56	60.55	22.99
	2603.850	47.15	29.53	8.61	34.91	9.54	40.84	60.55	19.71
	3037.950	49.19	30.69	9.23	34.56	9.54	45.01	60.55	15.54
	3471.820	48.21	31.62	10.43	34.09	9.54	46.63	60.55	13.92
	3905.780	48.18	34.43	9.45	33.68	9.54	48.84	60.55	11.71
	4337.670	46.76	32.93	12.35	33.97	9.54	48.53	60.55	12.02

TEST ENGINEER:   
(HARRY ZHAO)



## 4 BANDWIDTH MEASUREMENT

### 4.1 Test Equipment

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3628A00167	Apr 22, 2004	1 Year
2.	Bilog Antenna	Chase	CBL6111	1145	Sep 18, 2004	1/2 Year
3.	Preamplifier	HP	8447D	2944A06849	Sep 20, 2004	1/2 Year
4	Software	Audix	E3	SET00200 9912M295-2	-	-

### 4.2 Bandwidth Limit

The bandwidth of the emission shall be no wider than 0.25% of the center frequency. Bandwidth is determined at the points 20dB down from the modulated carrier. Bandwidth Limit is:

$$\text{Limit} = 0.25\% \times 433.751(\text{MHz}) = 1.0844(\text{MHz}) \quad (\text{Polarization: Horizontal})$$

$$\text{Limit} = 0.25\% \times 433.912(\text{MHz}) = 1.0844(\text{MHz}) \quad (\text{Polarization: Vertical})$$

The bandwidth of Spectrum Analyzer (M/N: 8593EM) is 120KHz in the test.

### 4.3 Test Results

<PASS>

The bandwidth of the Fundament emission is:

$$\text{B.W.} = 433.919 - 433.496 = 0.423\text{MHz} \quad (\text{Polarization: Horizontal})$$

$$\text{B.W.} = 433.912 - 433.494 = 0.418\text{MHz} \quad (\text{Polarization: Vertical})$$

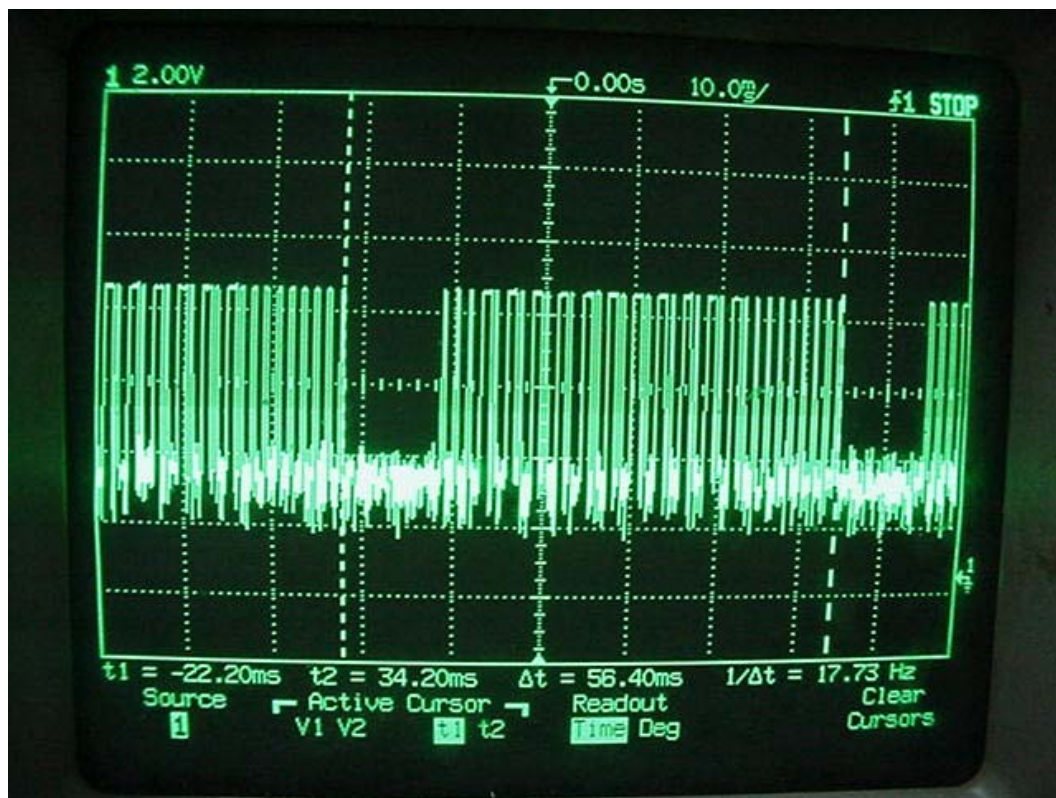
(See Appendix II)

## 5 OPERATION DESCRIPTION

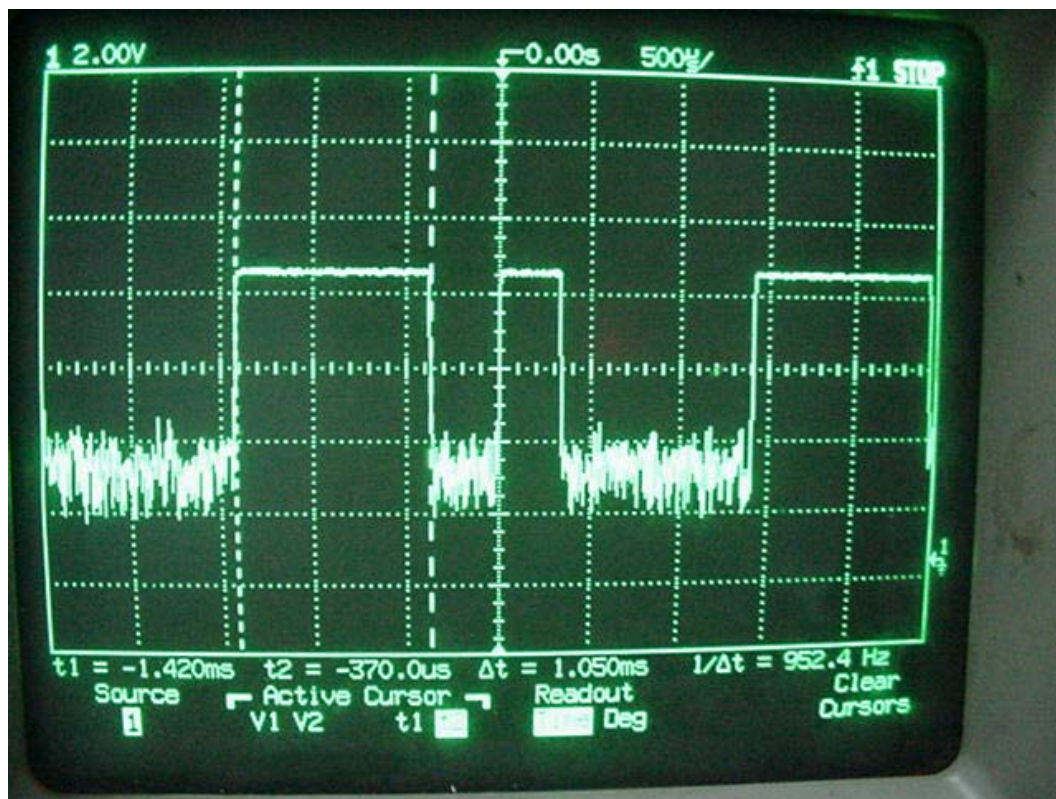
Wireless Door Chime (M/N: KT6898Y-D) employ a switch that will automatically deactivate the Controller within not more than 5 seconds of being released.

# **APPENDIX I**

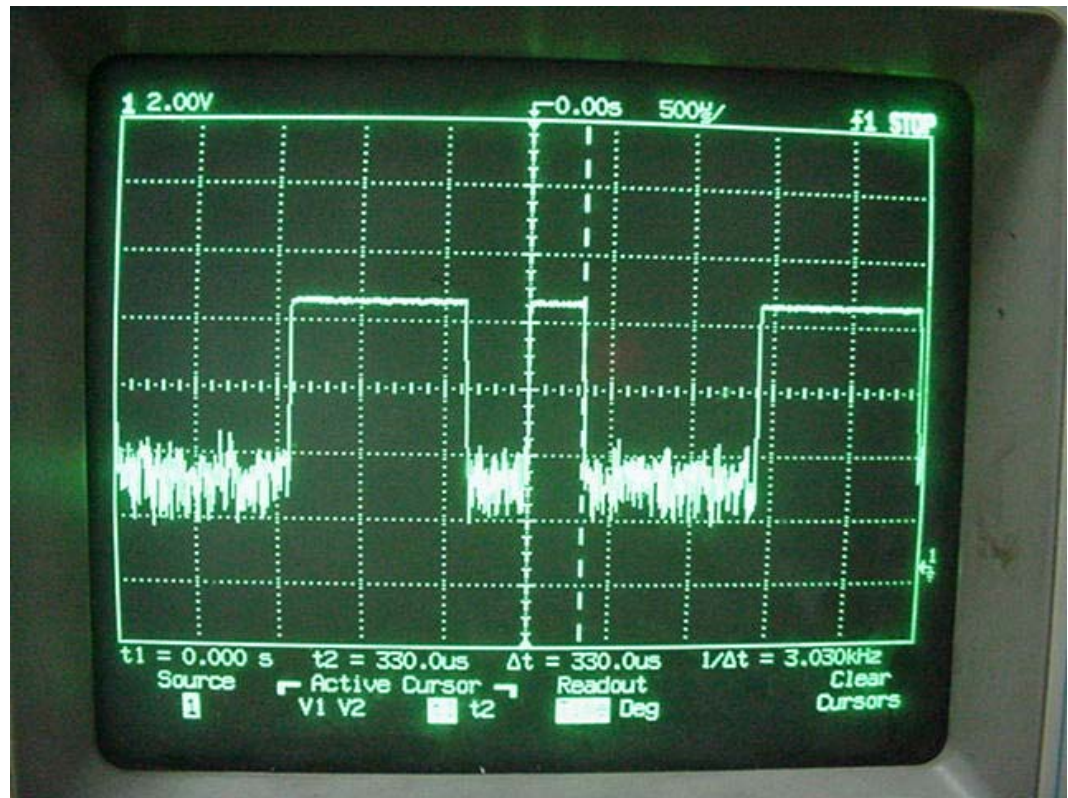
## Plot of the Pulse Train



T=56.4 ms



T1=1.05 ms



T2=0.33 ms

# **APPENDIX II**

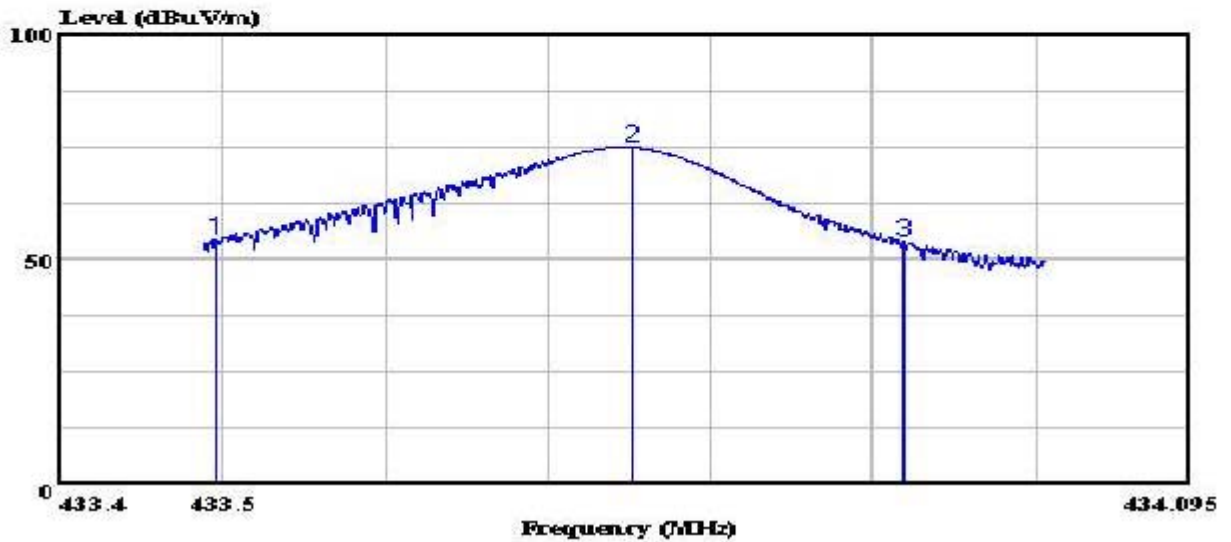
## Plot of the Occupied Bandwidth



Audix Technology (Shanghai) Co., Ltd.  
 3F #34Bldg. No.680 GuiPing Rd.,  
 CaoHeJing Hi-Tech Park,  
 Shanghai, China 200233  
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 audixaci@8848.net

Data#: 85 File#: D:\Test-Data\K\kangtai.EMI

Date: 2004-10-10 Time: 08:35:56



Site : Chamber 3  
 Condition : 3m HORIZONTAL  
 Project No. : AOE-000757  
 Applicant : Zhejiang kangtai Electric Co.,Ltd.  
 EUT : Wireless Door Chime  
 M/N : KT6898Y-D  
 S/N : F04091002  
 Power Supply : DC 12V  
 Ambient : 23.8°C, 53%RH  
 Test Mode : Standing  
 Test Engineer: *Hang Zhuo*

Page: 1

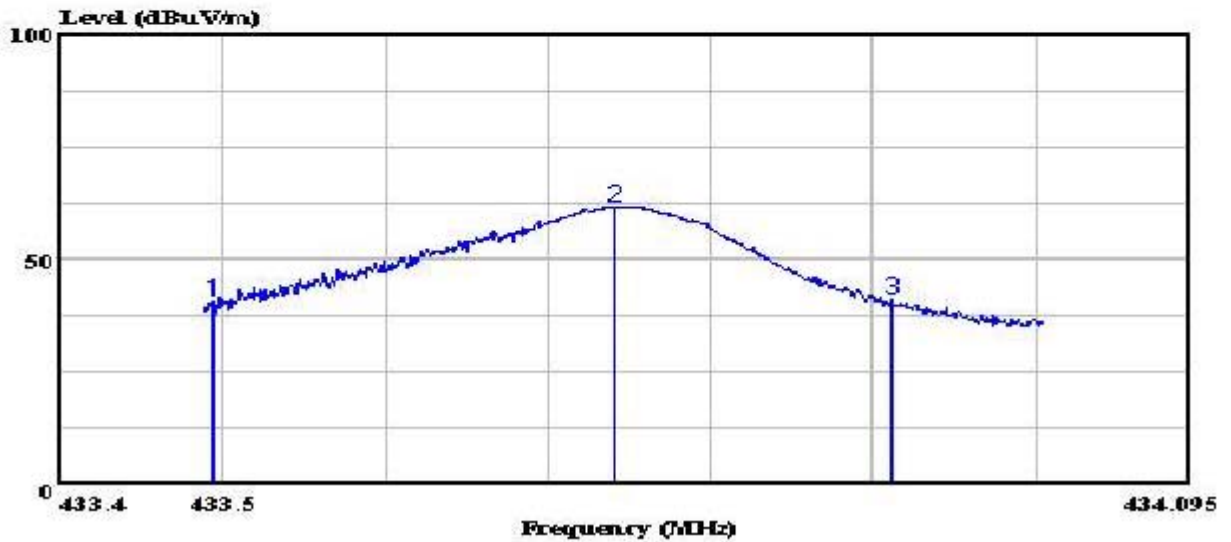
	Freq	Level	Limit	Over	Read	Probe	Cable	Preamp
	MHz	dBuV/m	Line	Limit	Level	Factor	Loss	Factor
			dBuV/m	dB	dBuV	dB	dB	dB
1	433.496	54.20	-----	-----	59.63	-5.43	18.94	27.62
2	433.751	74.90	-----	-----	80.32	-5.42	18.94	27.61
3	433.919	53.66	-----	-----	59.08	-5.42	18.94	27.61



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 audixaci@8848.net

Data#: 84 File#: D:\Test-Data\K\kangtai.EMI

Date: 2004-10-10 Time: 08:35:12



Site : Chamber 3  
 Condition : 3m VERTICAL  
 Project No. : AOE-000757  
 Applicant : Zhejiang kangtai Electric Co.,Ltd.  
 EUT : Wireless Door Chime  
 M/N : KT6898Y-D  
 S/N : F04091002  
 Power Supply : DC 12V  
 Ambient : 23.8°C, 53%RH  
 Test Mode : Standing  
 Test Engineer: *Hang Zhuo*

Page: 1

	Freq	Level	Limit	Over	Read	Probe	Cable	Preamp
	MHz	dBuV/m	Line	Limit	Level	Factor	Loss	Factor
			dBuV/m	dB	dBuV	dB	dB	dB
1	433.494	40.79	-----	-----	46.22	-5.43	18.94	27.62
2	433.741	61.62	-----	-----	67.04	-5.42	18.94	27.61
3	433.912	41.10	-----	-----	46.52	-5.42	18.94	27.61