

APPLICATION FOR CERTIFICATION

On Behalf of  
Wildlife Konnections. Inc.

Square

Model Number: WK-128

Prepared for : Wildlife Konnections. Inc.  
5580E, 7th Street Joplin, MO64801, USA

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

Tel: (0755) 26639496

Report Number : ACS-F04138  
Date of Test : May.09~11, 2004  
Date of Report : May.27, 2004

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APPENDIX I

(5 pages)

## TEST REPORT DECLARATION

Applicant : Wildlife Konnections. Inc.  
 Manufacturer : Wildlife Konnections. Inc.  
 EUT Description : Square  
 (A) MODEL NO. : WK-128  
 (B) SERIAL NO. : F2004052701  
 (C) POWER SUPPLY : DC 12V

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C August. 2003.

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 for 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 tests. Also, this report shows that EUT is technically compliant with 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.

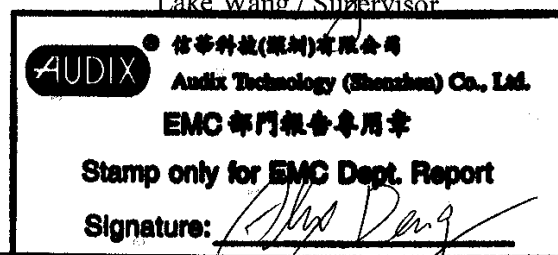
Date of Test : May.09~11, 2004

Prepared by :

*Jane Dai*  
 Jane Dai / Assistant

Reviewer :

*Lake Wang*  
 Lake Wang / Supervisor



Alex Deng / Assistant Manager

Approved & Authorized Signer :

Name of the Representative of the Responsible Party :

Signature :

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

|              |   |                                                                      |
|--------------|---|----------------------------------------------------------------------|
| Description  | : | Square                                                               |
| Model Number | : | WK-128                                                               |
| Applicant    | : | Wildlife Konnections. Inc.<br>5580E, 7th Street Joplin, MO64801, USA |
| Manufacturer | : | Wildlife Konnections. Inc.<br>5580E, 7th Street Joplin, MO64801, USA |
| Date of Test | : | May.09~11, 2004                                                      |

## 1.2. Test Facility

### Site Description

|                           |   |                                                                     |
|---------------------------|---|---------------------------------------------------------------------|
| 3m Anechoic Chamber       | : | Certificated by FCC, USA<br>Aug. 15, 2003                           |
| 3m & 10m Anechoic Chamber | : | Certificated by FCC, USA<br>Mar. 15, 2004                           |
| EMC Lab.                  | : | Certificated by DATech, German<br>Feb. 02, 2004                     |
|                           |   | Certificated by NVLAP, USA<br>NVLAP Code: 200372-0<br>Mar. 31, 2004 |

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

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

## 1.3. Test Uncertainty

|                                |   |                     |
|--------------------------------|---|---------------------|
| Conducted Emission Uncertainty | = | $\pm 2.66\text{dB}$ |
| Radiated Emission Uncertainty  | = | $\pm 4.26\text{dB}$ |

## **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 devices 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 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       | May.31, 03 | 1 Year        |
| 2.   | Test Receiver      | Rohde & Schwarz | ESVS10       | 832699/004       | Apr.25, 04 | 1 Year        |
| 3.   | Amplifier          | HP              | 8447D        | 2944A06252       | Dec.01, 03 | 1/2 Year      |
| 4.   | Biconical Antenna  | Schaffner       | UPA6109      | 1096             | Feb.11, 04 | 1 Year        |
| 5.   | Log-period Antenna | Schaffner       | VBA6106A     | 1311             | Feb.11, 04 | 1 Year        |
| 6.   | PC                 | ASUS            | P4SGX-MX     | N/A              | N/A        | N/A           |
| 7.   | Printer            | HP              | Laserjet1300 | N/A              | N/A        | N/A           |
| 8.   | RF Cable           | MIYAZAKI        | 8D-FB        | 10m Chamber No.1 | Feb.11, 04 | 1/2 Year      |
| 9.   | RF Cable           | MIYAZAKI        | 8D-FB        | 10m Chamber No.2 | Feb.11, 04 | 1/2 Year      |
| 10.  | RF Cable           | MIYAZAKI        | 8D-FB        | 10m Chamber No.3 | Feb.11, 04 | 1/2 Year      |
| 11.  | RF Cable           | MIYAZAKI        | 8D-FB        | 10m Chamber No.4 | Feb.11, 04 | 1/2 Year      |
| 12.  | Coaxial Switch     | Anritsu         | MP59B        | M74389           | Nov.28, 03 | 1/2 Year      |

#### 3.2. Block Diagram of Test Setup

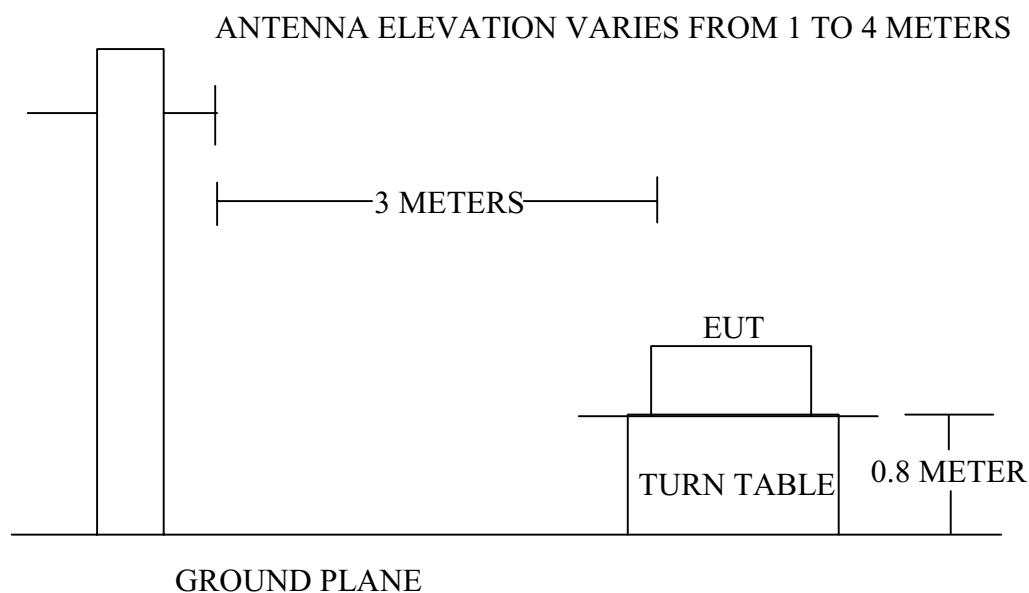
##### 3.2.1. Block Diagram of connection between EUT and simulators

|     |
|-----|
| EUT |
|-----|

(EUT: Square)

### 3.2.2. Anechoic Chamber Setup Diagram

#### ANTENNA TOWER



### 3.3. Radiated Emission Limit (Class C)

| FREQUENCY<br>MHz | DISTANCE<br>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                  | 74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak)<br>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. Square (EUT)

Model Number : WK-128  
 Serial Number : F2004052701  
 Manufacturer : Wildlife Konnections. Inc.

### 3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown in Section 3.2..

3.5.2. Let the EUT work in test modes (Running) and test it.

### 3.6. Test Procedure

The 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. The 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 is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2001 on radiated emission Test.

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

The frequency range from 30MHz to 1000MHz and above 1000MHz are checked.

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

### 3.7. Radiated Emission Test Results

**PASS.**

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

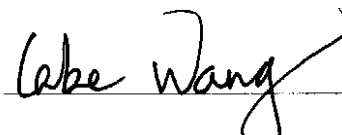
|                |              |               |         |
|----------------|--------------|---------------|---------|
| Date of Test : | May.10, 2004 | Temperature : | 25°C    |
| EUT :          | Square       | Humidity :    | 50%     |
| Model No. :    | WK-128       | Test Mode :   | Running |
| Test Engineer: | Pebble       |               |         |

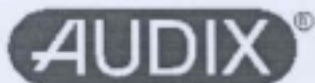
| Frequency<br>MHz | Antenna<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Meter Reading<br>Horizontal<br>dBμV | Emission Level<br>Horizontal<br>dBμV/m | Over Limits<br>dBμV/m | Limits<br>dBμV/m |
|------------------|---------------------------|---------------------|-------------------------------------|----------------------------------------|-----------------------|------------------|
| 315.01           | 13.58                     | 3.52                | 23.60                               | 40.70                                  | -34.90                | 75.60            |

Remark: 1. All readings are Average values.  
2. Emission Level = Antenna Factor + Meter Reading+Cable Loss  
3.The bandwidth of the RBW is set at 120KHz and VBW is set at 300KHz.

| Frequency<br>MHz | Antenna<br>Factor<br>dB/m | Cable<br>Loss<br>dB | Meter Reading<br>Vertical<br>dBμV | Emission Level<br>Vertical<br>dBμV/m | Over Limits<br>dBμV/m | Limits<br>dBμV/m |
|------------------|---------------------------|---------------------|-----------------------------------|--------------------------------------|-----------------------|------------------|
| 315.09           | 13.62                     | 3.52                | 26.46                             | 43.60                                | -32.00                | 75.60            |
| 630.12           | 19.97                     | 4.94                | 8.59                              | 33.50                                | -12.50                | 46.00            |

Remark: 1. All readings are Average and QP values.  
2. Emission Level = Antenna Factor + Meter Reading+Cable Loss  
3.The bandwidth of the RBW is set at 120KHz and VBW is set at 300KHz.

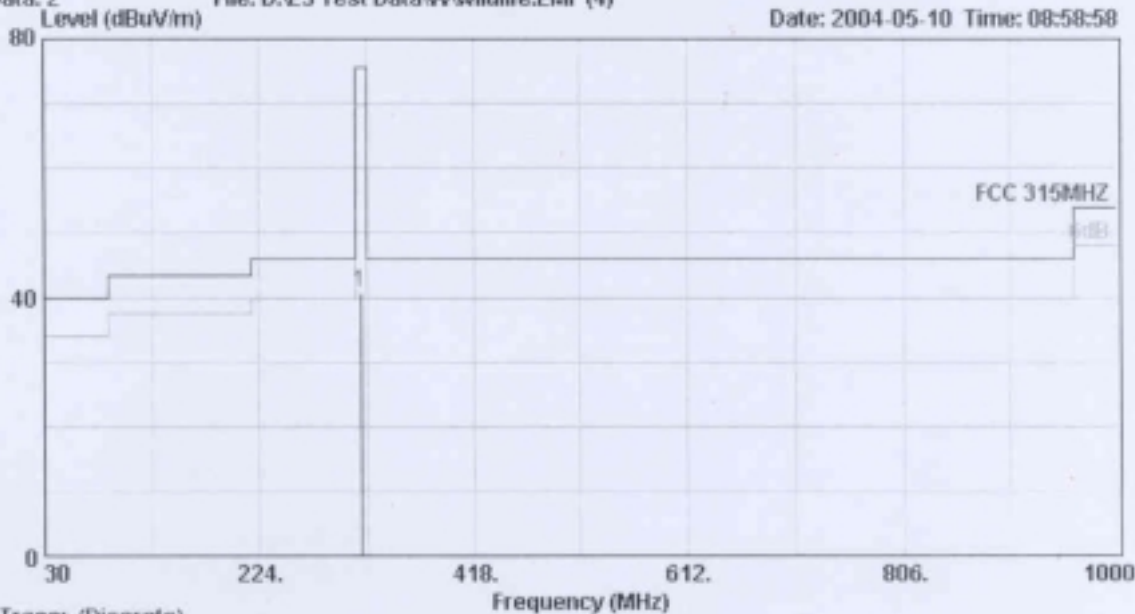
Reviewer : 



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Postcode: 518057

Data: 2 File: D:\E3 Test Data\W\wildlife.EMI (4)

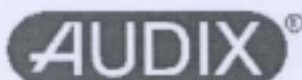
Date: 2004-05-10 Time: 08:58:58



Trace: (Discrete)

Site : 10m Chamber  
Condition : FCC 315MHZ 3m 2768 FACTOR(3H) HORIZONTAL  
EUT : Square Emitter  
M/N : WK-128  
POWER : DC 12V  
Test Mode : Running  
Test Engineer : Pebble  
Memo : Temp: 25°C Humi: 50%  
: H: 1.6m Deg: 305°

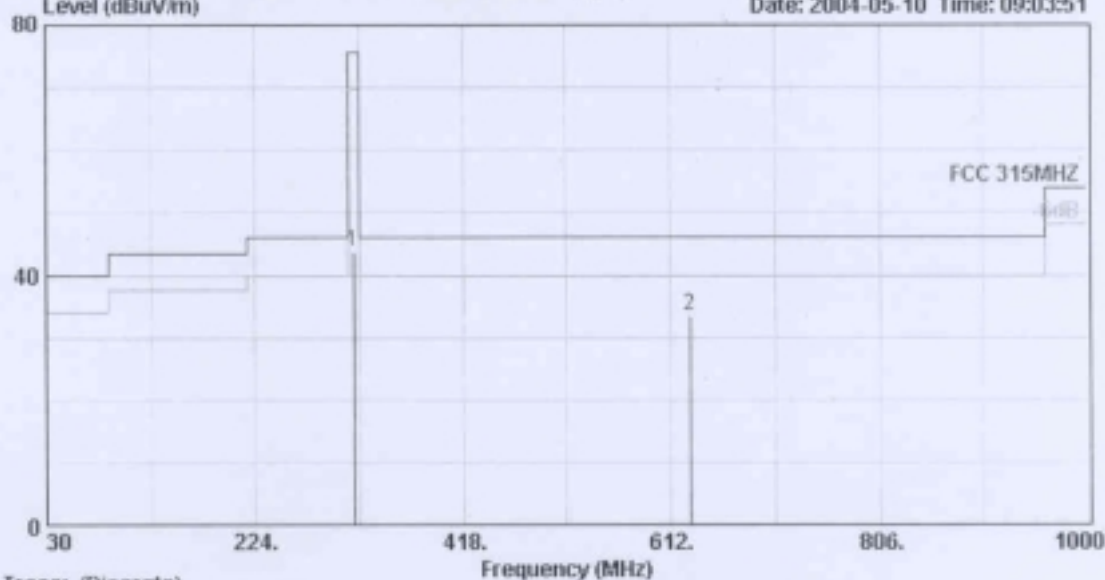
|   | Limit  | Read   | Over   | Cable | Antenna | Loss | Factor | Remark  |
|---|--------|--------|--------|-------|---------|------|--------|---------|
|   | Freq   | Line   | Level  | Level | Limit   | dB   | dB/m   |         |
|   | MHz    | dBuV/m | dBuV/m | dBuV  | dB      | dB   | dB/m   |         |
| 1 | 315.01 | 75.60  | 40.70  | 23.60 | -34.90  | 3.52 | 13.58  | Average |



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Data: 4 File: D:\E3 Test Data\W\wildlife.EMI (4)

Date: 2004-05-10 Time: 09:03:51



Trace: (Discrete)

Site : 10m Chamber  
Condition : FCC 315MHZ 3m 2768 FACTOR(3M) VERTICAL  
EUT : Square Emitter  
M/N : WK-120  
POWER : DC 12V  
Test Mode : Running  
Test Engineer: Pebble  
Memo : Temp: 25 °C Humd: 50%  
: R: 1m Deg: 65°

|     | Freq   | Limit  |        | Read Level | Over Limit | CableAntenna |        | Remark  |
|-----|--------|--------|--------|------------|------------|--------------|--------|---------|
|     |        | Line   | Level  |            |            | Loss         | Factor |         |
|     | MHz    | dBuV/m | dBuV/m | dBuV       | dB         | dB           | dB/m   |         |
| 1   | 315.09 | 75.60  | 43.60  | 26.46      | -32.00     | 3.52         | 13.62  | Average |
| 2 @ | 630.12 | 46.00  | 33.50  | 8.59       | -12.50     | 4.94         | 19.97  | QP      |

## 4. BANDWIDTH TEST

### 4.1. Test Equipment

The following test equipments are used during the bandwidth test:

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal.  | Cal. Interval |
|------|-----------|--------------|-----------|------------|------------|---------------|
| 1.   | Spectrum  | Agilent      | E4407B    | MY41440292 | Jun 22, 03 | 1 Y           |
| 2.   | Antenna   | EMCO         | 3115      | 9607-4877  | Dec 02, 02 | 1.5 Y         |

### 4.2. Test Standard

The test completeness FCC 15C (235).

### 4.3. Bandwidth Limit

The minimum 26dB bandwidth shall be at least 10KHz.

### 4.4. Test Procedure

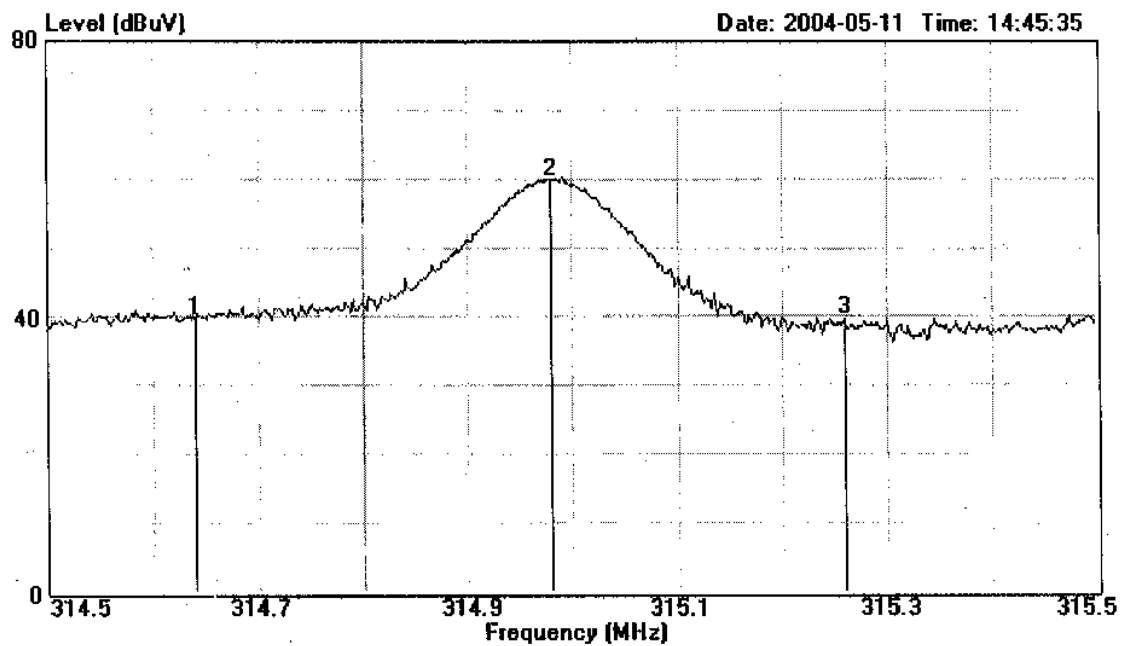


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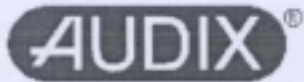
Data#: 4 File#: C:\EMI TEST DATA\W\wildlife.EMI



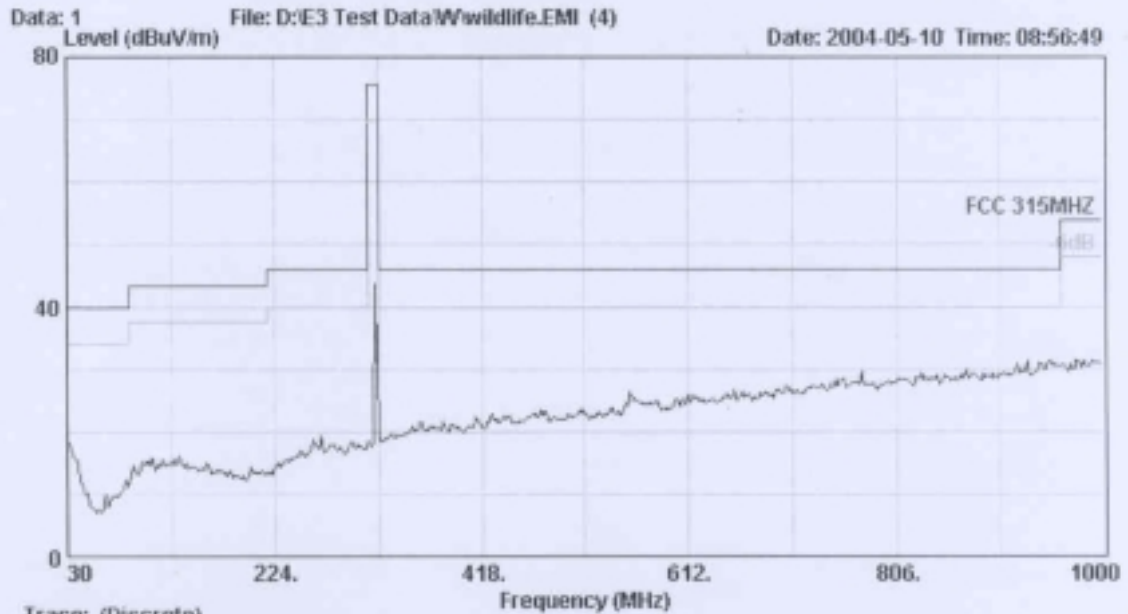
Site : 1# Chamber  
Condition :  
EUT : Square Emitter  
M/N : WK-128  
Power : DC 12V  
Test Engineer : Pebble  
Test Mode : Running  
Memo : Temp:25'C Humi:50%

|      |         |       | Over  | Limit | Read  |
|------|---------|-------|-------|-------|-------|
| Freq | Level   | Limit | Line  | Level |       |
|      | MHz     | dBuV  | dB    | dBuV  | dBuV  |
| 1    | 314.640 | 39.78 | ----- | ----- | 39.78 |
| 2    | 314.960 | 59.81 | ----- | ----- | 59.81 |
| 3    | 315.260 | 39.80 | ----- | ----- | 39.80 |

# **APPENDIX I**



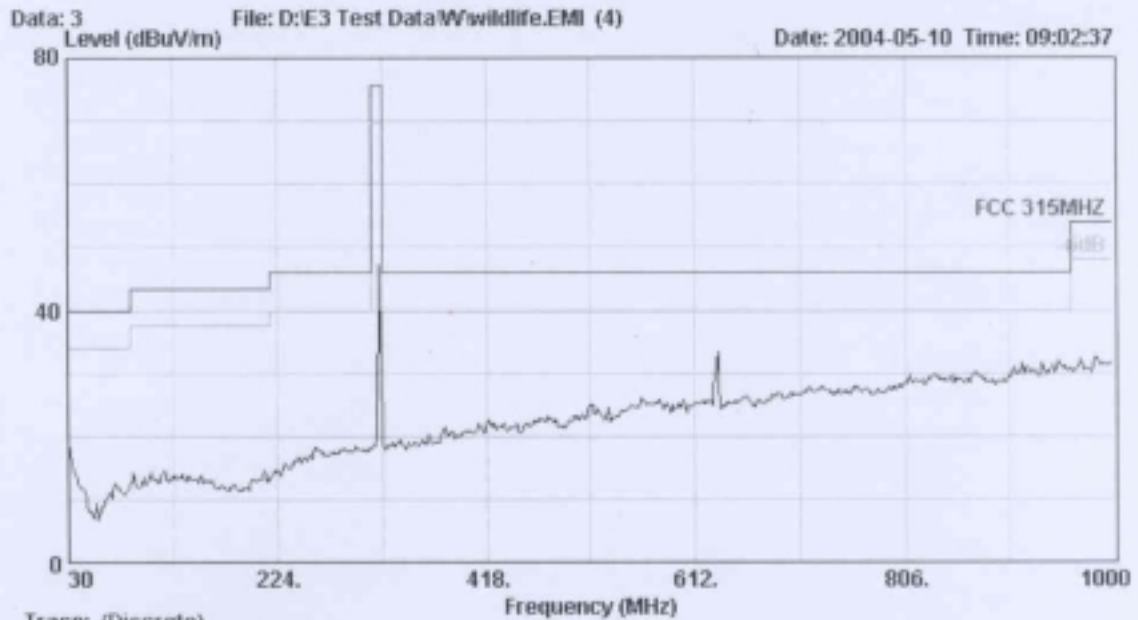
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Postcode: 518057



Site : 10m Chamber  
Condition : FCC 315MHZ 3m 2768 FACTOR(3M) HORIZONTAL  
EUT : Square Emitter  
M/N : WK-128  
POWER : DC 12V  
Test Mode : Running  
Test Engineer: Pebble  
Memo : Temp: 25°C Humi: 50%

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Postcode: 518057



Trace: (Discrete)

Site : 10m Chamber

Condition : FCC 315MHZ 3m 2768 FACTOR(3M) VERTICAL

EUT : Square Emitter

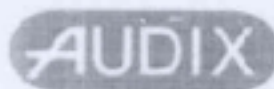
M/N : WK-128

POWER : DC 12V

Test Mode : Running

Test Engineer: Pebble

Humi : Temp: 25 °C Humi: 50%

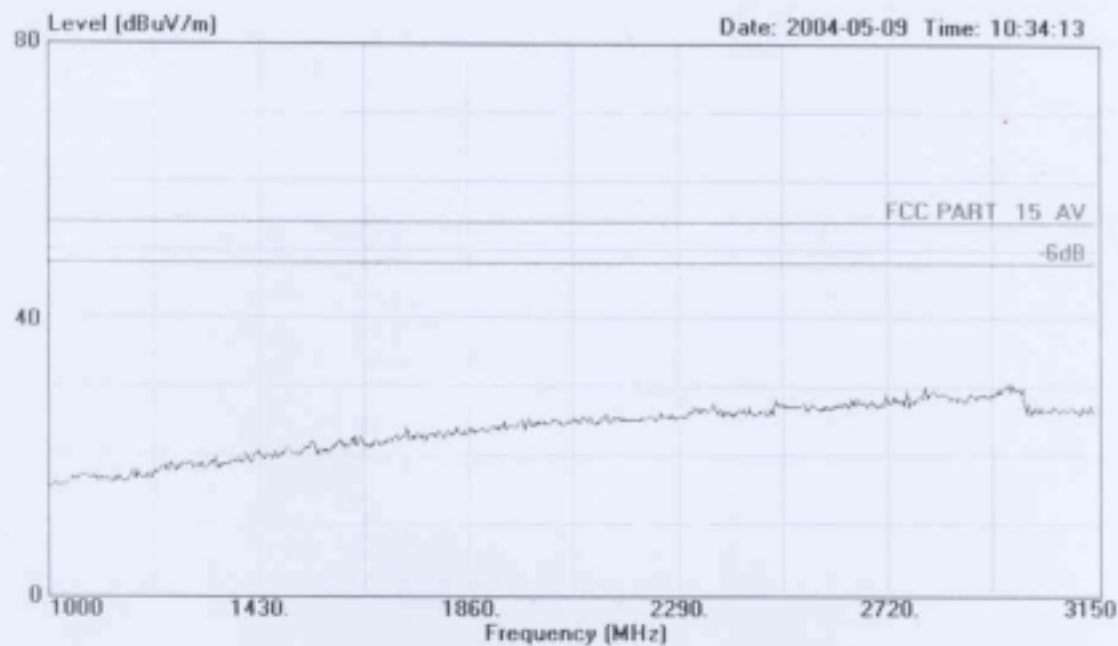


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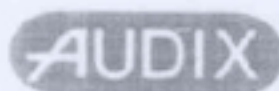
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Data#: 2 File#: C:\EMI TEST DATA\W\wildlife.EMI



Site : 1# Chamber  
Condition : FCC PART 15 AV 3m 3115FACTOR HORIZONTAL  
EUT : Square Emitter  
M/N : WK-128  
Power : DC 12V  
Test Engineer : Pebble  
Test Mode : Running  
Memo : Temp:25'C Humi:50%

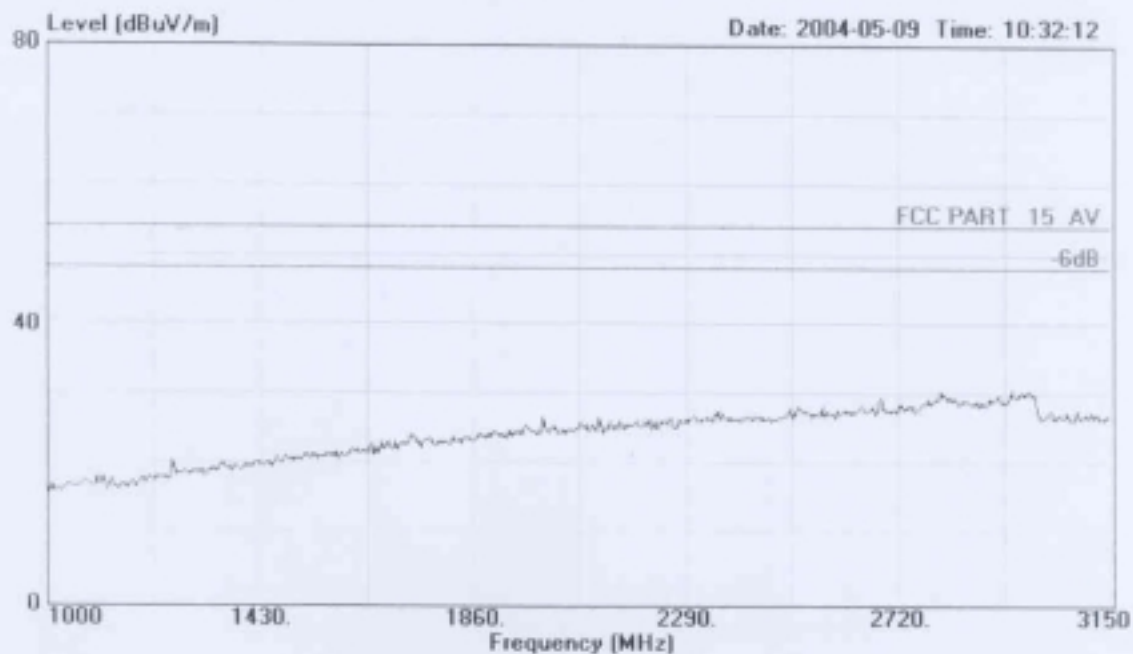


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Data#: 1 File#: C:\EMI TEST DATA\W\wildlife.EMI



Site : 1# Chamber  
Condition : FCC PART 15 AV 3m 3115FACTOR VERTICAL  
EUT : Square Emitter  
M/N : UK-128  
Power : DC 12V  
Test Engineer : Pebble  
Test Mode : Running  
Memo : Temp:25'C Humi:50%