APPLICATION FOR CERTIFICATION
On Behalf of
Neurosmith, LLC

MUSINI MAGIC BATON

Model Number: 56200

Prepared for : Neurosmith, LLC
1000 North Studebaker Road, Long Beach,
CA 90815-4949 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-F03171
Date of Test	:	Sep.26, 2003
Date of Report	:	Sep.27, 2003

TABLE OF CONTENTS

TEST REPORT DECLARATION

Applicant	:	Neurosmith, LLC
Manufacturer	:	Saitek Electronics (Shenzhen) Ltd.
EUT Description	:	MUSINI MAGIC BATON
		(A) MODEL NO. : 56200
		(B) SERIAL NO. : F2003080601
		(C) Power Supply : DC 4.5V

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Mar. 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 : Jul.29~Aug.02, 2003

Prepared by : Elsa Wu / Assistant
Lake Wang / Supervisor

Reviewer :

AUDIX 信華科技(深圳)有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC部門報告專用章
Stamp only for EMC Dept. Report
Signature:
Alex Deng / Assistant Manager

Approved & Authorized Signer :

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	MUSINI MAGIC BATON
Model Number	:	56200
Applicant	:	Neurosmith, LLC 1000 North Studebaker Road, Long Beach, CA 90815-4949 USA
Manufacturer	:	Saitek Electronics (Shenzhen) Ltd. 139 Da Bao Road, District 33 Bao An, Shenzhen, China
Date of Test	:	Sep.26, 2003

1.2. Test Facility

Site Description

3m Anechoic Chamber	:	Certificated by FCC, USA Aug. 24, 2000
3m & 10m Open Site	:	Certificated by FCC, USA Jan. 29, 2001
		Certificated by VCCI, Japan Jan.01, 2002
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

1.3. Test Uncertainty

Conducted Emission Uncertainty	=	±2.66dB
Radiated Emission Uncertainty	=	±4.26dB

2. RADIATED EMISSION TEST

2.1. Test Equipment

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

2.1.1. For Anechoic Chamber(30MHz-1GHz)

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	834468/011	May.31, 03	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	Aug.02, 03	1/2 Year
8.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.2	Aug.02, 03	1/2 Year
9.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.3	Aug.02, 03	1/2 Year
10.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.4	Aug. 02, 03	1/2 Year
11.	Coaxial Switch	Anritsu	MP59B	M73989	May.29, 03	1/2 Year

2.2. For Anechoic Chamber(1GHz-5GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	Jun 22, 03	1 Y
2.	Amp	HP	8449B	3008A00863	May.31, 03	1 Y
3.	Antenna	EMCO	3115	9607-4877	Dec 02, 02	1.5 Y

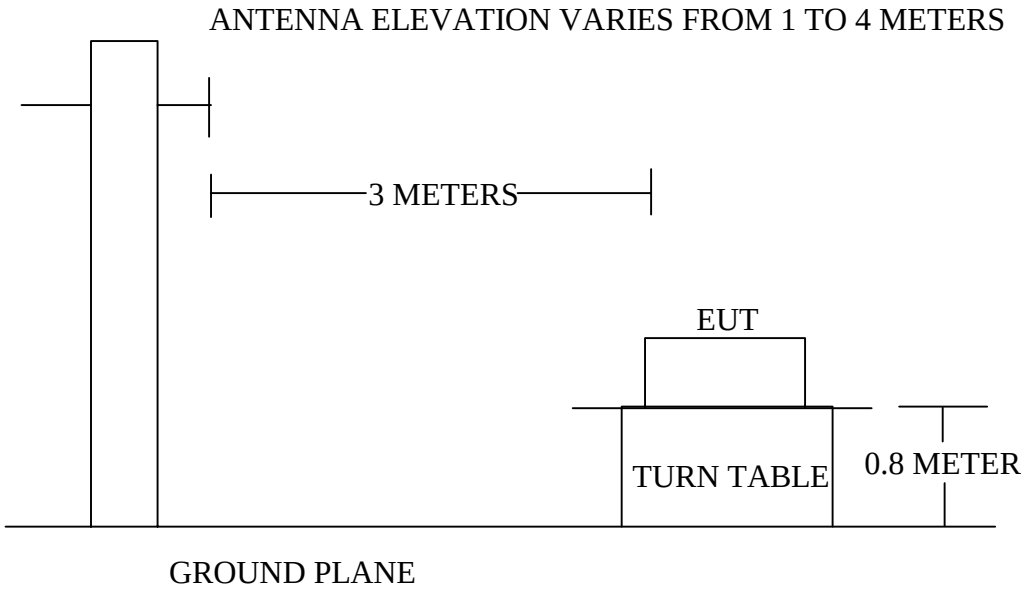
2.3. Block Diagram of Test Setup

2.3.1. Block Diagram of connection between EUT and simulators

(EUT: MUSINI MAGIC BATON)

2.3.2. Anechoic Chamber Setup Diagram

ANTENNA TOWER



GROUND PLANE

2.4. Radiated Emission Limit

2.4.1. Intentional Radiator Emission Limit

The field strength of emissions intentional radiators limit is complied with FCC 15.209.

2.4.2. General emission limit(15.209)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dBμV/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

Remark： (1) Emission level dBμV = 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.

2.5. 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.

2.5.1. MUSINI MAGIC BATON (EUT)

Model Number	:	56200
Serial Number	:	F2003080601
Manufacturer	:	Saitek Electronics (Shenzhen) Ltd.

2.6. Operating Condition of EUT

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

2.6.2. Let the EUT work in test modes (ON) and test it.

2.7. 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 C63.4-1992 on radiated emission Test.

The bandwidth of the EMI test receiver (R&S ESVS20) is set at 120KHz from 30MHz to 1000MHz and EMI spectrum is set at 1MHz from 1GHz to 5GHz.

The frequency range from 30MHz to 5GHz is checked.

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

2.8. Radiated Emission Test Results

PASS.

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

Date of Test	:	Sep.26, 2003	Temperature	:	24℃
EUT	:	MUSINI MAGIC BATON	Humidity	:	53%
Model No.	:	56200	Test Mode	:	ON
Test Engineer:		Tomy			

Frequency	Antenna Factor	Cable Loss	Meter Reading Horizontal	Emission Level Horizontal	Over Limits	Limits	Remark
MHz	dB/m	dB	dBμV	dBμV/m	dBμV/m	dBμV/m	
433.948	16.94	4.89	19.02	40.85	-5.15	46.00	QP
867.897	22.29	7.26	10.17	39.73	-6.27	46.00	QP

Remark: 1. All readings are Quasi-Peak values.
2. Emission Level = Antenna Factor + Meter Reading+Cable Loss

Reviewer: Cake Wang

Date of Test :	Sep.26, 2003	Temperature :	24℃
EUT :	MUSINI MAGIC BATON	Humidity :	53%
Model No. :	56200	Test Mode :	ON
Test Engineer:	Tomy		

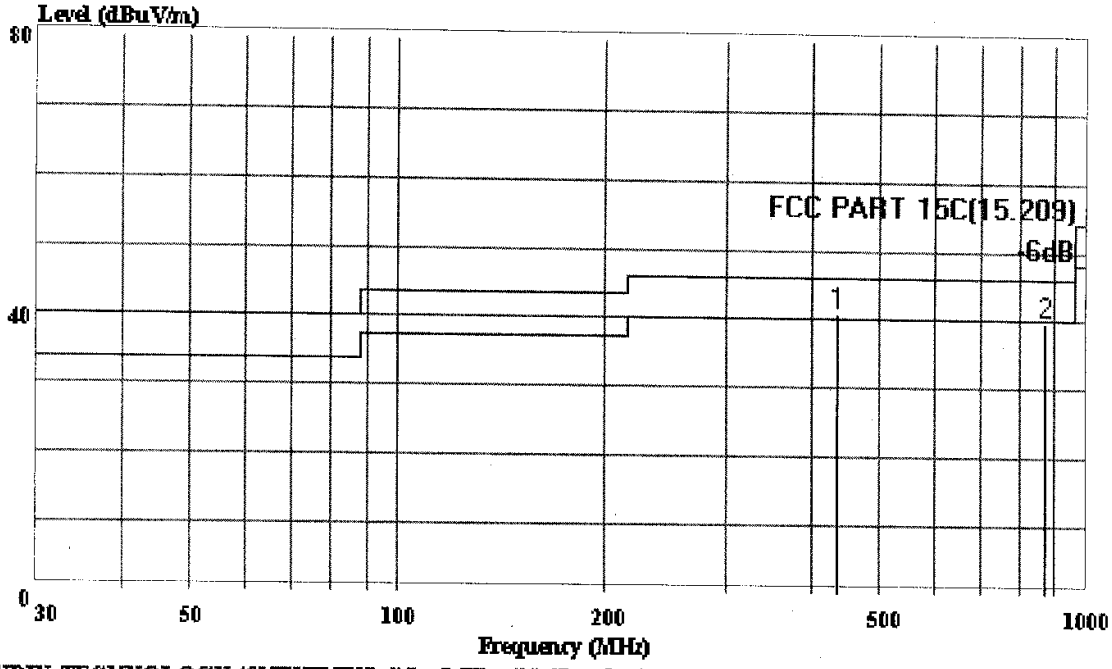
Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Over Limits dBμV/m	Limits dBμV/m	Remark
433.980	16.81	4.89	38.98	35.06	-10.94	46.00	QP
867.890	22.89	7.26	29.19	33.65	-12.35	46.00	QP

Remark: 1. All readings are Quasi-Peak values.
2. Emission Level = Antenna Factor + Meter Reading+Cable Loss

Reviewer: Cake Wang

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Tnd. Park
Tel: 0755-26639495~7
Fax: 0755-26632877

Data#: 1059 File#: Saitek.emi Date: 2003-09-26 Time: 09:55:09



Trace: Ref Trace:

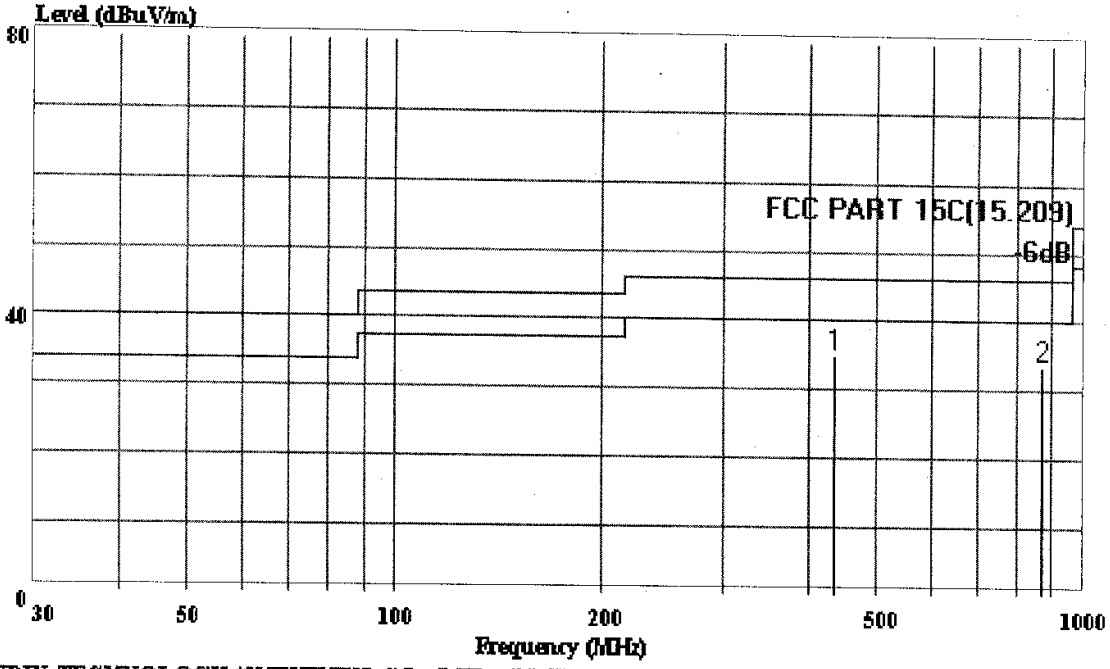
Condition: FCC PART 15C(15.209) 3m 2598FACTOR HORIZONTAL
EUT : MUSINI MAGIC BATON
M/N : 56200
Power : DC 4.5V
Test Engineer: Tomy
Memo : ON
: H:1.88m Deg:320'

Page: 1

	Freq	Level	Limit Line	Over Limit	Read Level	Probe Factor	Cable Loss
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB
1 !	433.948	40.85	46.00	-5.15	19.02	16.94	4.89
2	867.897	39.73	46.00	-6.27	10.17	22.29	7.26

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Tnd. Park
Tel: 0755-26639495~7
Fax: 0755-26632877

Data#: 1061 File#: Saitek.emi Date: 2003-09-26 Time: 10:03:59



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

Trace: Ref Trace:

Condition: FCC PART 15C(15.209) 3m 2598FACTOR VERTICAL
EUT : MUSTNI MAGIC BATON
M/N : 56200
Power : DC 4.5V
Test Engineer: Tomy
Memo : ON
: H:1m Deg:60'

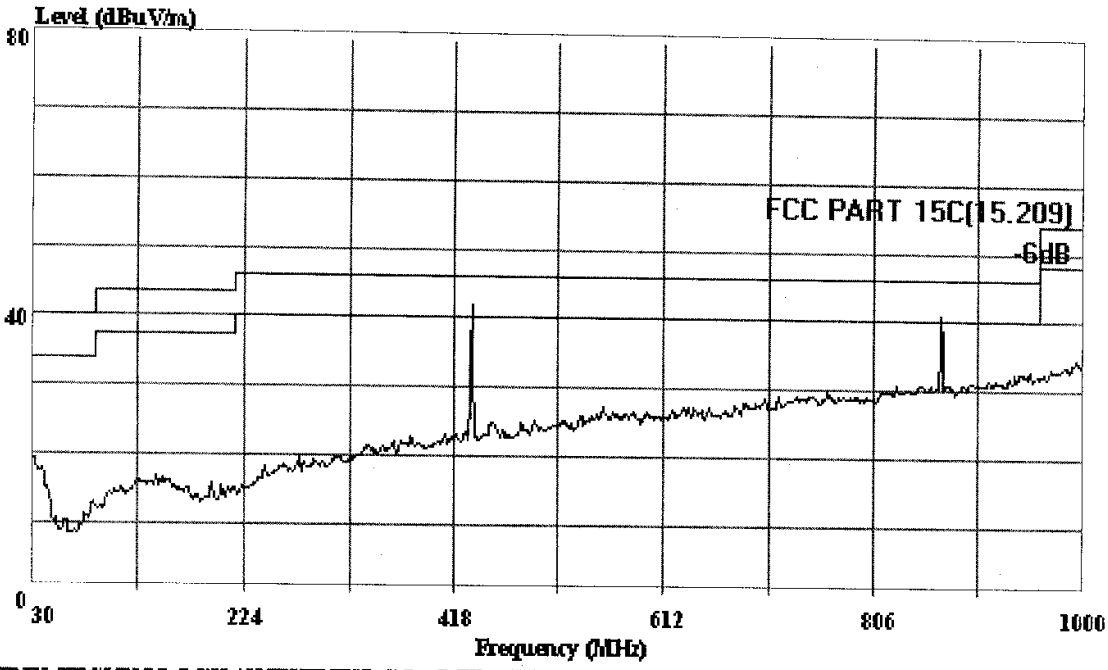
Page: 1

	Freq	Level	Limit Line	Over Limit	Read Level	Probe Factor	Cable Loss
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB
1	433.980	35.06	46.00	-10.94	38.98	16.81	4.89
2	867.890	33.65	46.00	-12.35	29.19	22.89	7.26

APPENDIX I

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Tnd. Park
Tel: 0755-26639495~7
Fax: 0755-26632877

Data#: 1058 File#: Saitek.emi Date: 2003-09-26 Time: 09:51:36



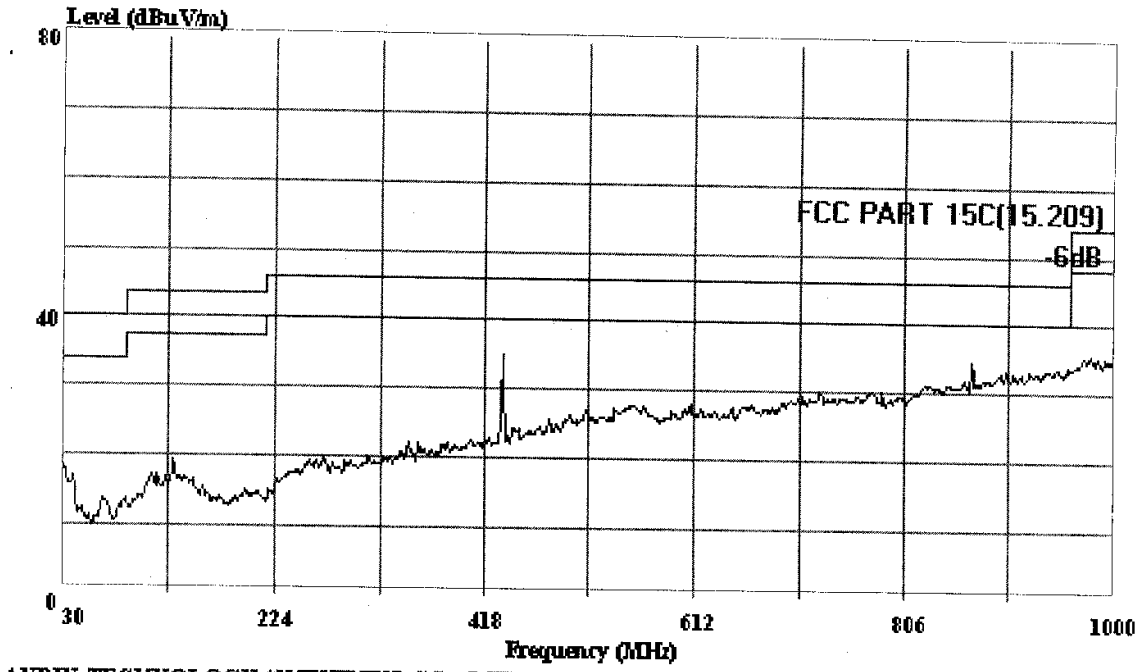
AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. (3# Chamber)

Trace: Ref Trace:

Condition: FCC PART 15C(15.209) 3m 2598FACTOR HORIZONTAL
EUT : MUSTNI MAGIC BATON
M/N : 56200
Power : DC 4.5V
Test Engineer: Tomy
Memo : ON

AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.
Shenzhen Science & Tnd. Park
Tel: 0755-26639495~7
Fax: 0755-26632877

Data#: 1060 File#: Saitek.emi Date: 2003-09-26 Time: 09:59:39

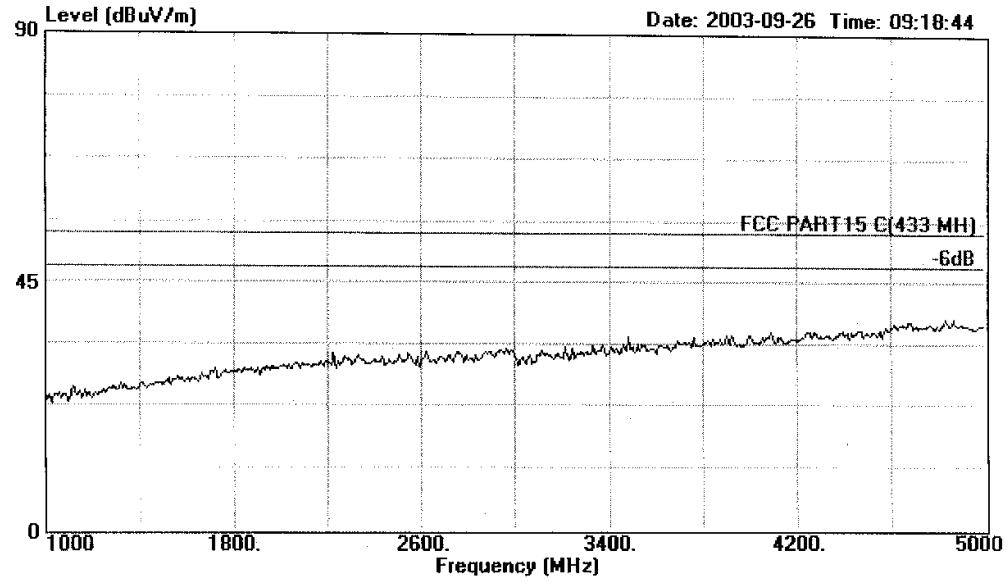


Trace: Ref Trace:

Condition: FCC PART 15C(15.209) 3m 2598FACTOR VERTICAL
EUT : MUSTNI MAGIC BATON
M/N : 56200
Power : DC 4.5V
Test Engineer: Tomy
Memo : ON

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#: 305 File#: C:\EMI TEST DATA\S\Saitek.EMI

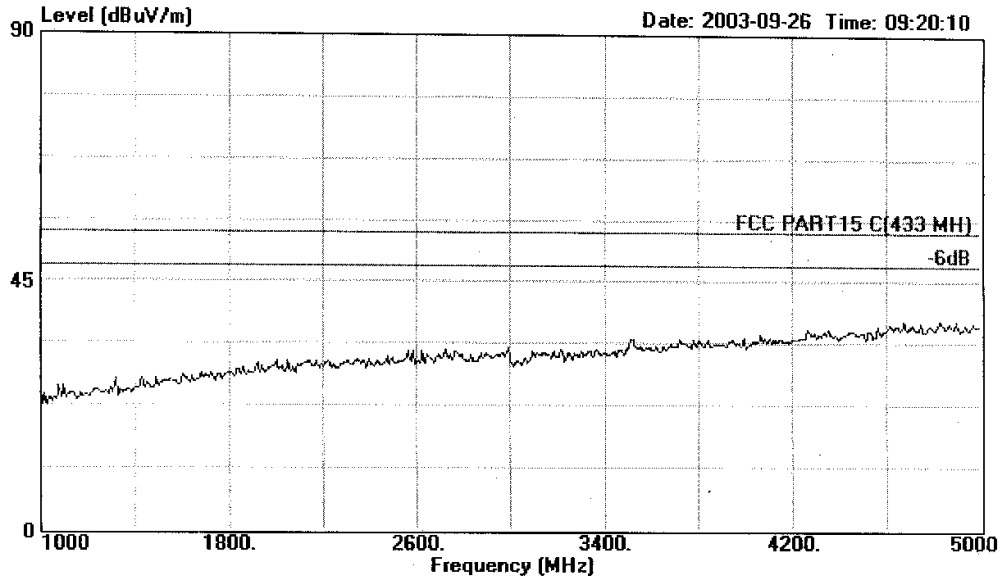


Site : 1# Chamber
Condition : FCC PART15 C(433 MH) 3m 3115FACTOR HORIZONTAL
EUT : MUSINI MAGIC BATON
M/N : 56200
Power : DC 4.5V
Test Engineer : Tomy
Memo : ON

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#: 306 File#: C:\EMI TEST DATA\S\Saitek.EMI



Site : 1# Chamber
Condition : FCC PART15 C(433 MH) 3m 3115FACTOR VERTICAL
EUT : MUSINI MAGIC BATON
M/N : 56200
Power : DC 4.5V
Test Engineer : Tomy
Memo : ON