

## FCC TEST REPORT

**REPORT NO.:** FCI0911022R

**MODEL NO.:** F-172

**RECEIVED:** Nov. 02, 2009

**TESTED:** Nov. 03, 2009 to Nov. 23, 2009

**APPLICANT:** Daza Technology Electronics

**ADDRESS:** Room 1410-1411, Block A, Jiah Bldg, Shennan Mid-road, Futian District, Shenzhen, China

**ISSUED BY:** SHENZHEN SETEK TECHNOLOGY CO., LTD.

**LAB LOCATION:** 2/F,A3 Bldg, East Industry Zone, Overseas Chinese Town, Shenzhen, China

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**SHENZHEN SETEK TECHNOLOGY CO., LTD.**

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Prepared for : Daza Technology Electronics

Address : Room 1410-1411, Block A, Jiah Bldg, Shennan Mid-road, Futian District, Shenzhen, China

Product : FM Modulator

Model No(s). : F-172

Trademark : N/A

Test Standard : FCC Part 15 Paragraph 15.239, Paragraph 15.209

Prepared by : SHENZHEN SETEK TECHNOLOGY CO., LTD.

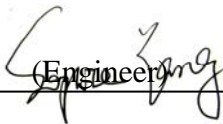
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Test Lab : SEM Test Compliance Service Co., Ltd.

Address : 3/F, Jinbao Commerce Bldg., Xin'an Fanshen Rd., Bao'an District, Shenzhen, P. R. China

FCC R.N. : FCC Registration Number: 994117

Prepared by :

  
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Reviewer by :

  
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(Project Engineer)

Approved by :

  
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(Manager)

Report Number : FCI0911022R

Date of Test : Nov. 03, 2009 to Nov. 23, 2009

Date of Report : Nov. 24, 2009

FCC ID : UK3-F172

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*The device described above is tested by SHENZHEN SETEK TECHNOLOGY CO., LTD. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. This report applies to above tested sample only and shall not be reproduced in part without written approval of SHENZHEN SETEK TECHNOLOGY CO., LTD.*

## 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

Applicant	:	Daza Technology Electronics
Address	:	Room 1410-1411, Block A, Jiah Bldg, Shennan Mid-road, Futian District, Shenzhen, China
Manufacturer	:	Daza Technology Electronics
Address	:	Room 1410-1411, Block A, Jiah Bldg, Shennan Mid-road, Futian District, Shenzhen, China
EUT	:	FM Modulator
Model Number(s)	:	F-172
Description of EUT	:	FM Modulator
Description of Antenna	:	Integral Antenna
Power Supply	:	DC12V
Operation Frequency	:	88.1 MHz ~ 107.9 MHz
Channel Separation	:	0.1MHz
Received	:	Jul 21, 2008
Date of Test	:	Nov. 03, 2009 to Nov. 23, 2009

## 1.2. Description of test

Preliminary tests were performed in different modulation and max rate to find the worst radiated emission. Investigation has been done on all the possible configurations for searching the worst cases. The report shows the results of the worst-case with respect to the specific test item.

### 1.3.Description of Support Device

N/A

### 1.4.Summary of test results

FCC Rules	Description Of Test	Result
15.203	Antenna Requirement	Pass
15.209	General Requirement	Pass
15.239(a)	Emission Bandwidth Testing	Pass
15.239(b)	Radiated Emission	Pass
15.239(c)	Out of Band Emission Testing	Pass

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### 1.5.List of Measuring Equipments Used

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E4408B	MY44210575	May 27,2009	1 Year
2.	Test Receiver	Rohde & Schwarz	ESIB26	100234	May 27,2009	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB9163	142	May 27,2009	1 Year
4.	Loop Antenna	EMCO	6502	00042960	May 27,2009	1 Year
5.	50 Coaxial Switch	Anritsu Corp	MP59B	6100237248	May 27,2009	1 Year
6.	Cable	Schwarzbeck	AK9513(1m)	CR RX2	May 27,2009	1 Year
7.	Cable	Schwarzbeck	AK9513(10m)	AC RX1	May 27,2009	1 Year
8.	Cable	Rosenberger	N/A(6m)	CR RX1	May 27,2009	1 Year
9.	Cable	Rosenberger	N/A(10m)	FP2RX2	May 27,2009	1 Year
9.	DC Power Filter	MPE	23872C	N/A	May 27,2009	1 Year
10.	Single Phase Power Line Filter	MPE	23332C	N/A	May 27,2009	1 Year
11.	3 Phase Power Line Filter	MPE	23333C	N/A	May 27,2009	1 Year
12.	Signal Generator	HP	8648A	3625U00573	May 27,2009	1 Year
13.	Test Receiver	Rohde & Schwarz	ESCS30	100350	May 27,2009	1 Year
14.	L.I.S.N.	Rohde & Schwarz	ESH2-Z5	834549/005	May 27,2009	1 Year
15.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100006	May 27,2009	1 Year
16.	RF Cable	FUJIKURA	RG-55/U	LISN Cable	May 27,2009	1 Year

### 1.6.Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC – Registration No.: 994117

SEM Test Compliance Service Co., Ltd., the EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission.

### 1.7.Measurement Uncertainty

Radiation Uncertainty :  $U_r = \pm 3.84\text{dB}$

Conduction Uncertainty :  $U_c = \pm 2.72\text{dB}$

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## 2. ANTENNA REQUIREMENT

### 2.1. Standard Applicable

Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so

that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

### 2.2. Antenna Connected Construction

The antenna connector is designed with permanent attachment and no consideration of replacement.



### 3. EMISSION BANDWIDTH TESTING

#### 3.1. Test Equipment

See section 1.4.

#### 3.2. Test Procedure

With the EUT's antenna attached, the EUT's 26dB Bandwidth power was received by the test antenna, which was connected to the spectrum analyzer with the START, and STOP frequencies set to the EUT's operation band.

#### 3.3. Record of Test Result/Plots

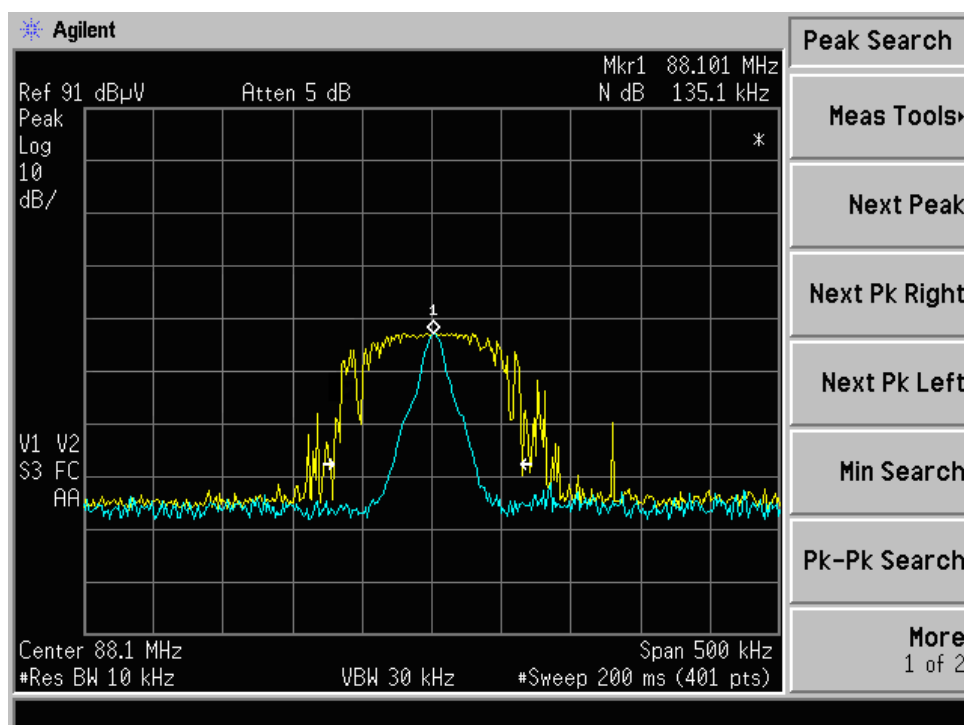
Temperature ( °C ) : 22~23	EUT: FM Modulator
Humidity (%RH) : 50~54	M/N: F-172
Barometric Pressure ( mbar ) : 950~1000	Operation Condition: Tx With Audio Input

Frequency (MHz)	Emission Bandwidth(kHz)	Limited(kHz)
88.1	135.1	200
98.0	148.3	200
107.9	159.7	200

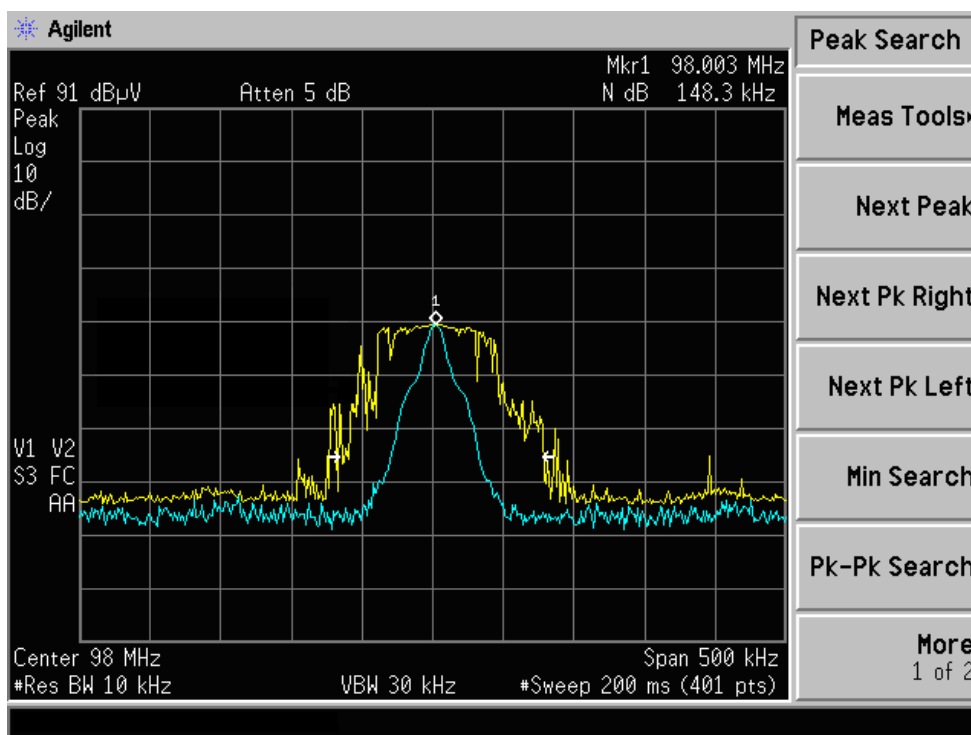
**Test result : Pass**

**Refer to the test data plots.**

Low Channel(88.1MHz)

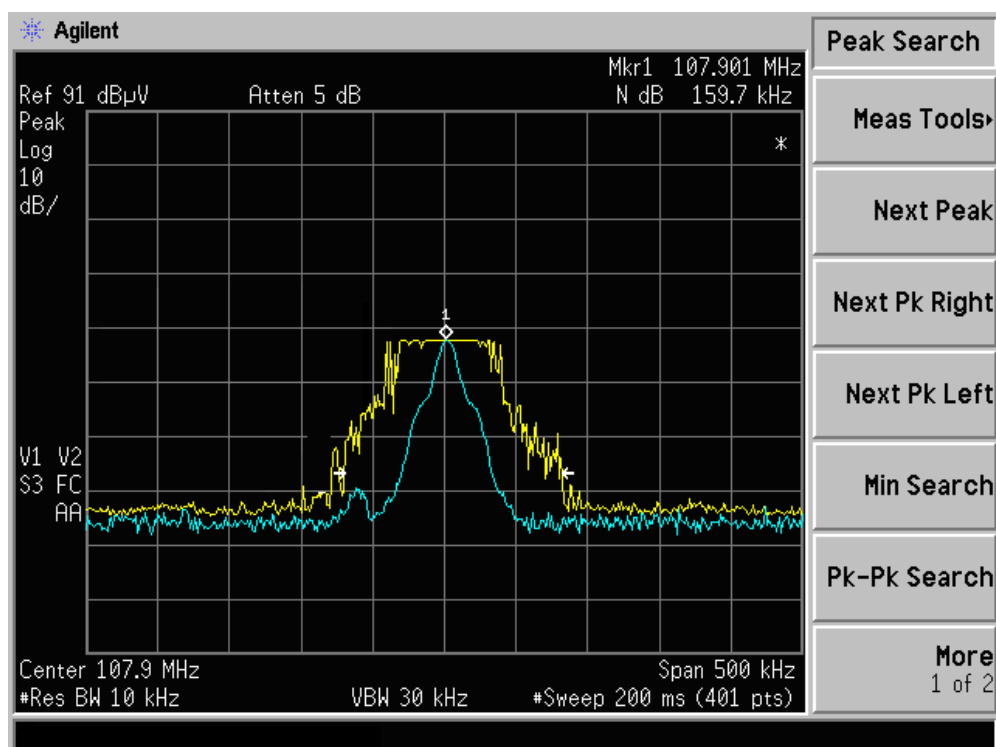


Middle Channel (98.0MHz)



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## High Channel (107.9MHz)



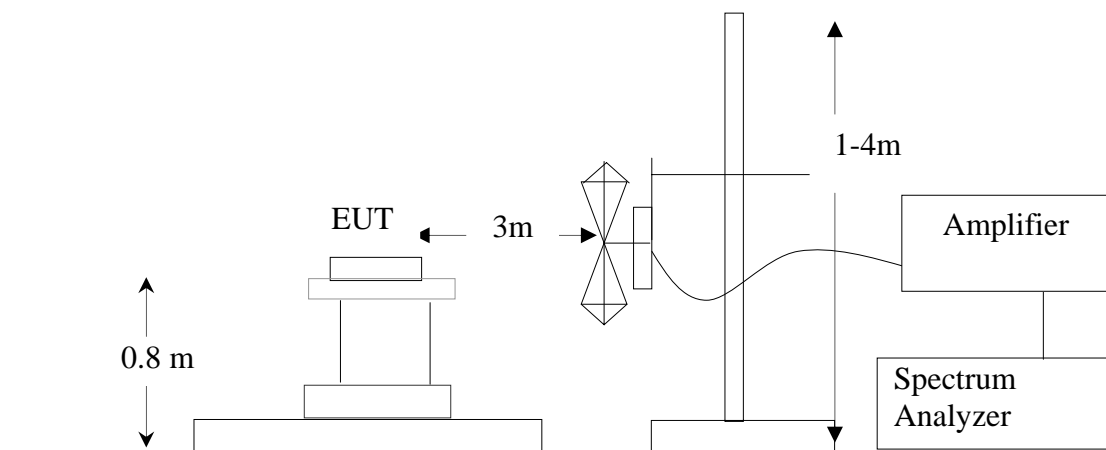
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## 4. RADIATED EMISSION TESTING

### 4.1 Applicable Standard

The field strength of any emissions within the permitted 200 kHz band shall not exceed 250 microvolts/meter at 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in Section 15.35 for limiting peak emissions apply. The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed the general radiated emission limits in §15.209.

### 4.2 EUT Setup



### 4.3 Test Equipment List and Details

See section 1.4.

### 4.4 Test Procedure

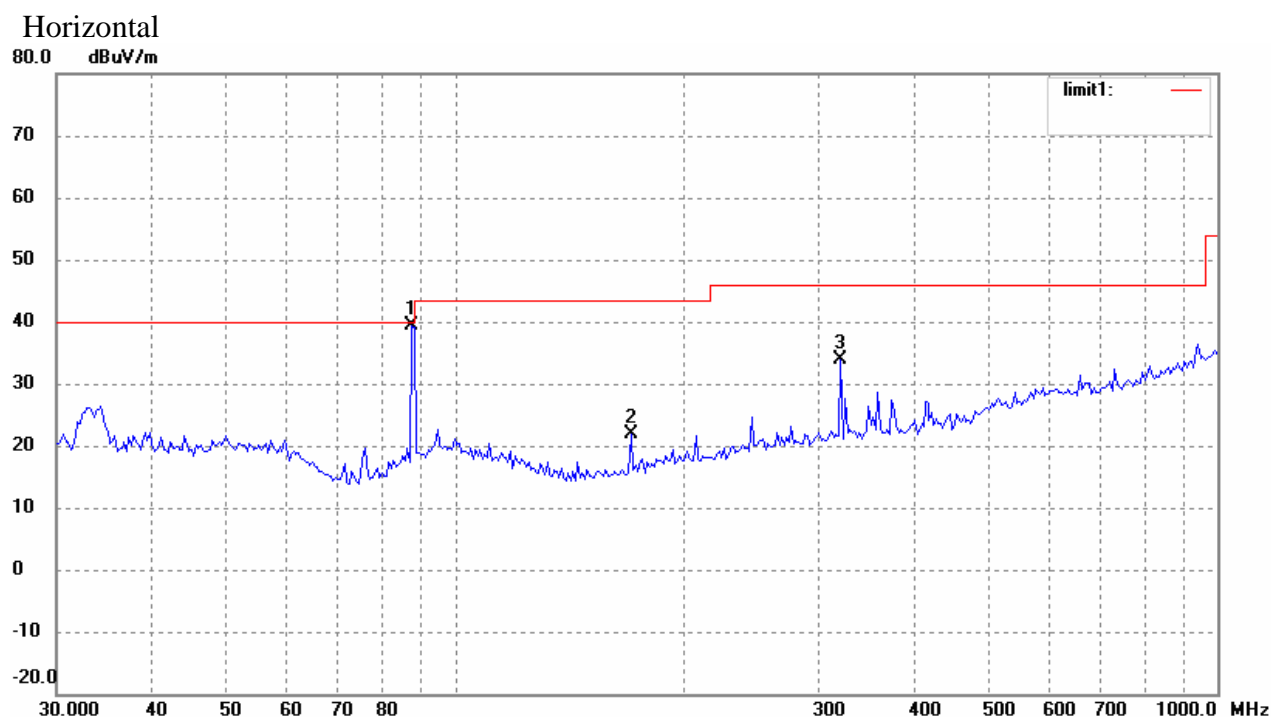
The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.239(b), 15.239(c) and FCC Part 15.209 Limit.

### 4.5 Record of Test Result

Temperature ( °C ) : 22~23	EUT: FM Modulator
Humidity (%RH) : 50~54	M/N: F-172
Barometric Pressure ( mbar ) : 950~1000	Operation Condition: Tx With Audio Input

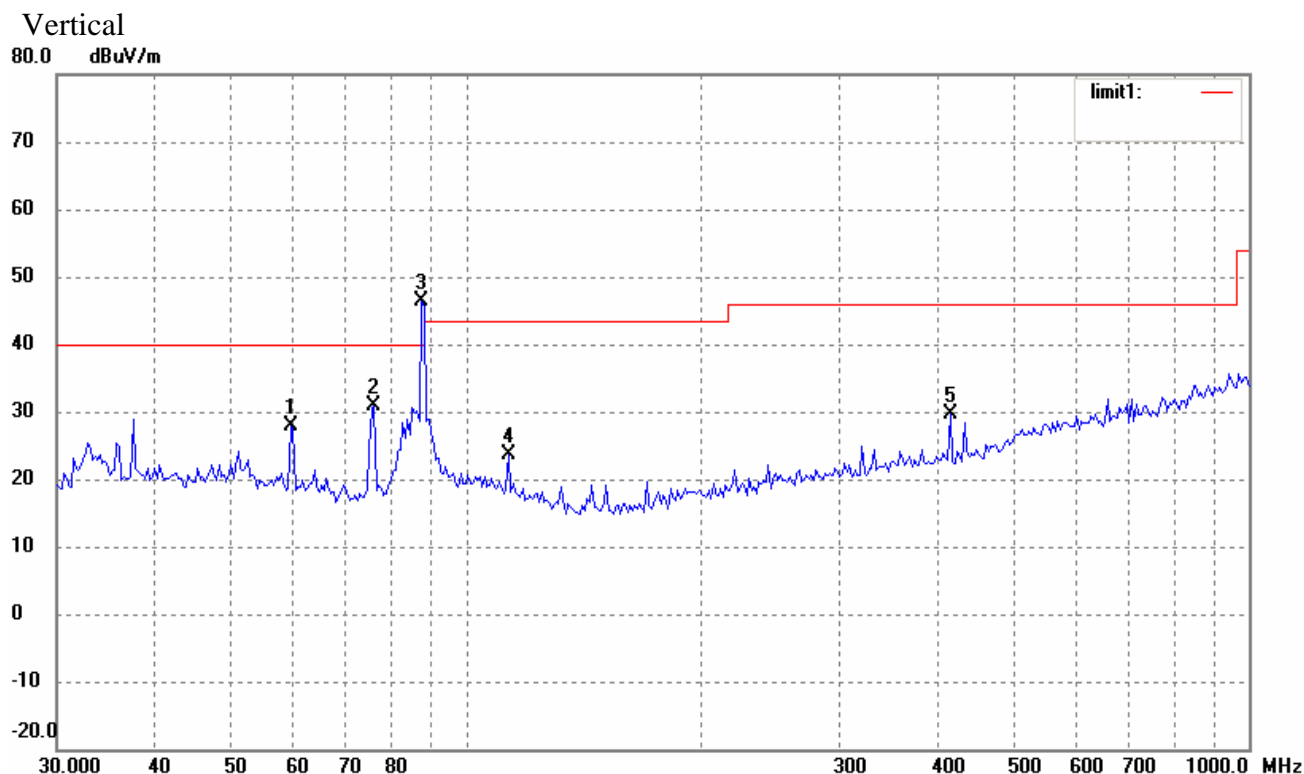
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## Low Channel :



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (° )	Height (cm)	Remark
1	88.100	33.01	5.87	38.88	48.00	-9.12	12	100	Ave
	88.100	33.45	5.87	39.32	68.00	-28.68	14	100	Peak
2	170.1888	17.89	4.07	21.96	43.50	-21.54	13	10	Peak
3	320.3306	24.94	8.83	33.77	46.00	-12.23	360	100	Peak

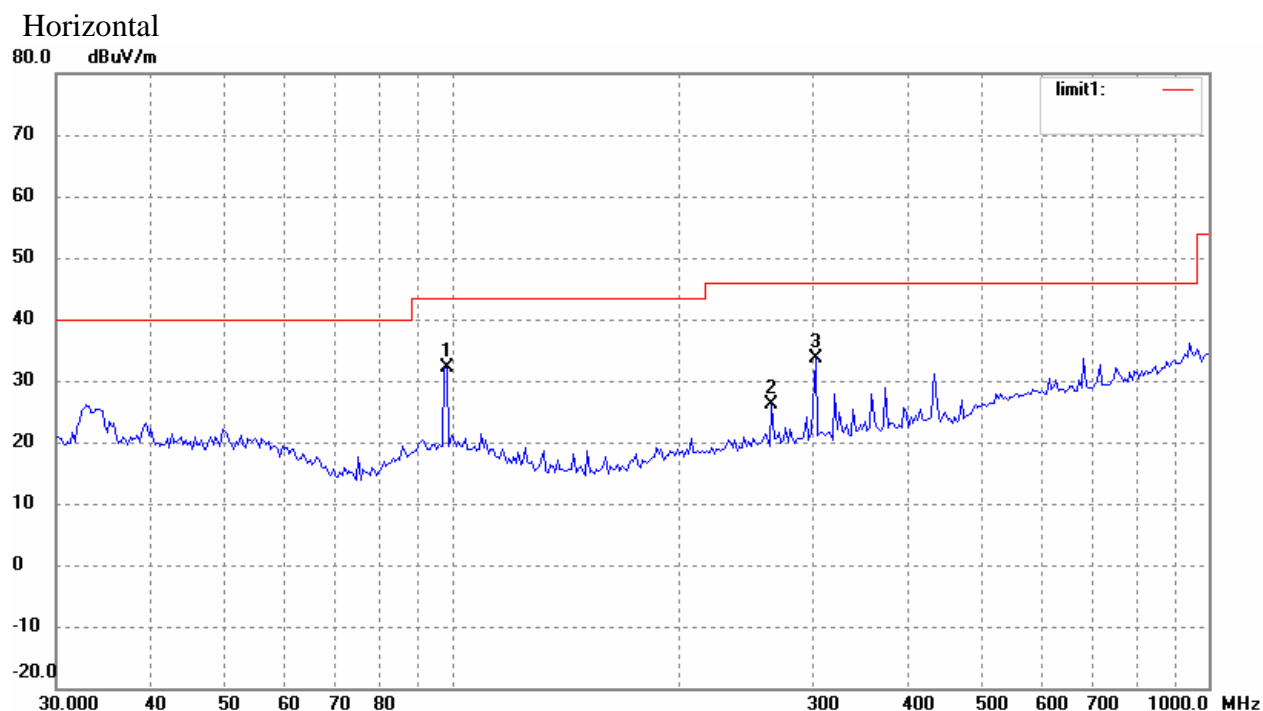
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (° )	Height (cm)	Remark
1	59.7315	20.69	7.21	27.90	40.00	-12.10	36	100	Peak
2	76.3869	28.15	2.61	30.76	40.00	-9.24	15	100	Peak
3	88.100	40.34	5.87	46.21	48.00	-1.79	12	100	Ave
	88.100	40.55	5.87	46.42	68.00	-21.58	16	100	Peak
4	113.2200	17.15	6.40	23.55	43.50	-19.95	360	100	Peak
5	415.4486	19.66	10.02	29.68	46.00	-16.32	21	100	Peak

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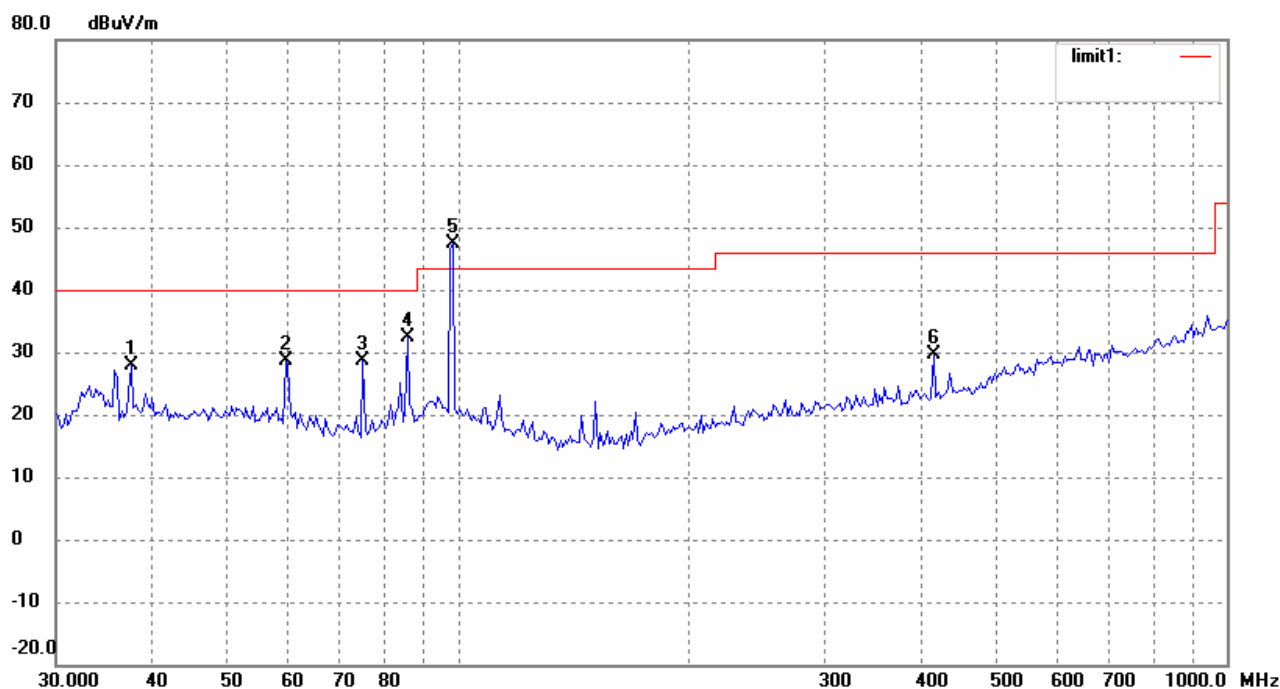
# Middle Channel:



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(° )	(cm)	
1	98.000	24.38	7.70	32.08	48.00	-15.92	16	100	Ave
	98.000	24.48	7.70	32.18	68.00	-35.82	12	100	Peak
2	264.9709	17.99	8.06	26.05	46.00	-19.95	15	100	Peak
3	302.8193	24.95	8.68	33.63	46.00	-12.37	12	100	Peak

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# Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (° )	Height (cm)	Remark
1	37.5648	20.52	7.29	27.81	40.00	-12.19	12	100	Peak
2	59.7315	21.36	7.21	28.57	40.00	-11.43	14	100	Peak
3	75.3208	26.24	2.45	28.69	40.00	-11.31	13	10	Peak
4	86.0796	27.17	5.29	32.46	40.00	-7.54	360	100	Peak
5	98.000	38.60	7.70	46.30	48.00	-1.70	24	100	Ave
	98.000	39.20	7.70	46.90	68.00	-21.1	19	100	Peak
6	415.4486	19.64	10.02	29.66	46.00	-16.34	360	100	Peak

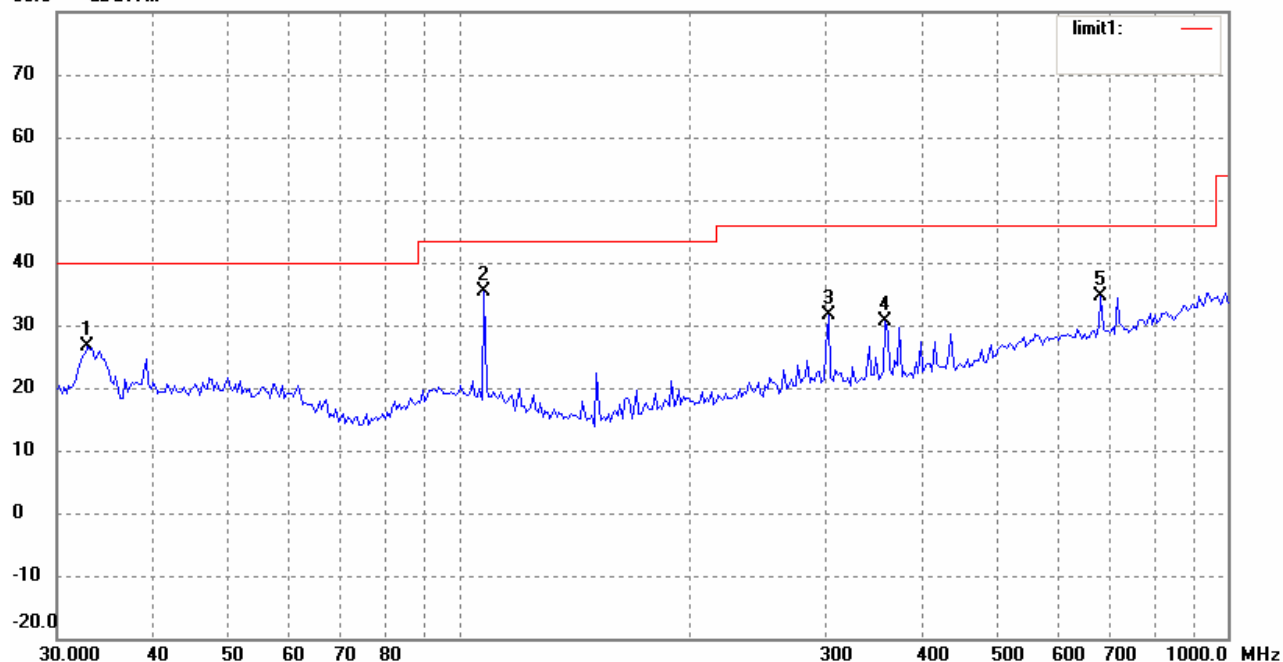
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# High Channel:

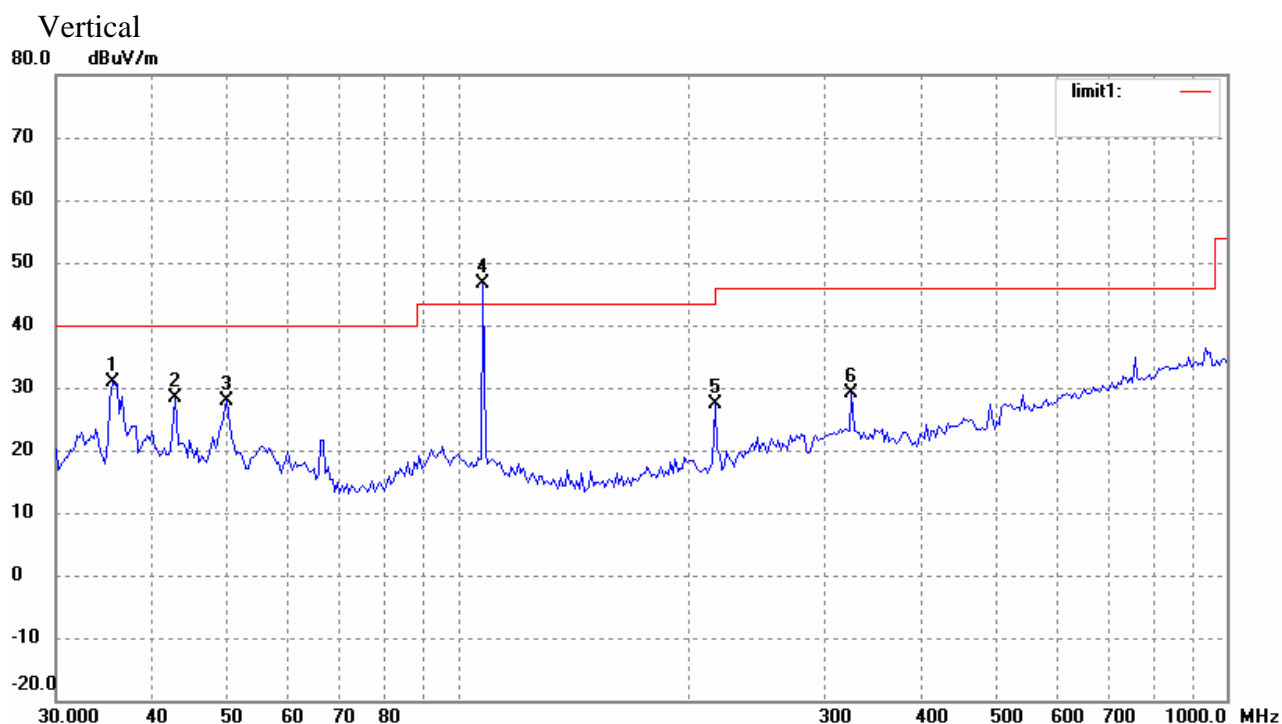
Horizontal

80.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (° )	Height (cm)	Remark
1	32.8697	20.02	6.61	26.63	40.00	-13.37	15	100	Peak
2	107.900	28.28	7.13	35.41	48.00	-12.59	12	100	Ave
	107.900	28.88	7.13	36.01	68.00	-31.99	12	100	Peak
3	302.8193	22.96	8.68	31.64	46.00	-14.36	13	100	Peak
4	358.4497	20.89	9.62	30.51	46.00	-15.49	36	100	Peak
5	684.2259	18.93	15.59	34.52	46.00	-11.48	360	100	Peak

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No.	Frequency (MHz)	Reading (dBuV/m)	Correct Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (° )	Height (cm)	Remark
1	35.5112	24.19	6.74	30.93	40.00	-9.07	23	100	Peak
2	42.9305	20.35	7.97	28.32	40.00	-11.68	25	100	Peak
3	50.1080	20.23	7.68	27.91	40.00	-12.09	25	100	Peak
4	107.900	39.31	7.13	46.44	48.00	-1.56	32	100	Ave
	107.900	39.95	7.13	47.08	68.00	-20.92	32	100	Peak
5	216.1197	21.20	6.21	27.41	46.00	-18.59	21	100	Peak
6	324.8645	20.21	8.92	29.13	46.00	-16.87	360	100	Peak

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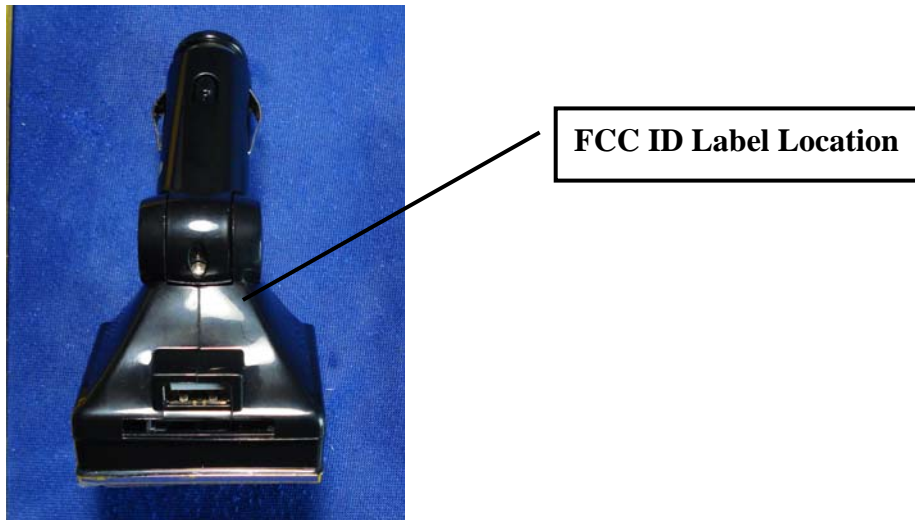
## 5. FCC ID LABEL

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The above of FCC statement only put into the user manual, haven't onto the device.

The Label must not be a stick-on paper. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

### Mark Location:



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## 6. PHOTOGRAPH

### 6.1 Photo of Radiated Measurement



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# APPENDIX (Photos of EUT)

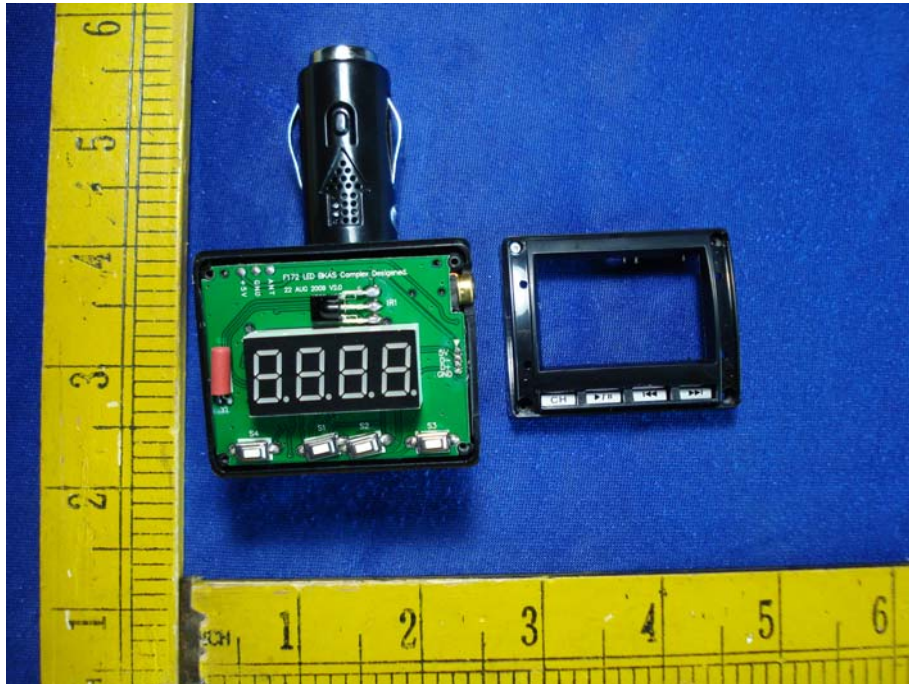
## Outside View



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## Interior View



**THE END**

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