



## *FCC COMPLIANCE TEST REPORT*

Technical Statement of Conformity  
in accordance with 47 CFR Part 15 Subpart C

### **The product**

<b>Equipment Under Test</b>	: ACTIVE RSE MONITOR-10.1 STD
<b>Model Number</b>	: ATM1010AA0
<b>Product Series</b>	: N/A
<b>Report Number</b>	: HA130330-FD
<b>Issue Date</b>	: 08-Jul-2013
<b>Test Result</b>	: Compliance

is produced by

**JET OPTO ELECTRONICS CO., LTD.**

**3F., No.300, Yangguang St., Neihu Dist., Taipei City 11491, Taiwan, R.O.C**



**HongAn TECHNOLOGY CO., LTD.**

NO.15-1, CWEISHUH KENG, CWEIPIN VILLAGE,  
LINKOU, TAIPEI COUNTY,  
TAIWAN, R. O. C.

**TEL:** +886-2-26030362

**FAX:** +886-2-26019259

**E-mail:** hatlab@ms19.hinet.net

**BSMI Registration No.:** SL2-IN-E-0023, SL2-A1-E-0023,  
SL2-IS-E-0023, SL2-R1-E-0023,  
SL2-R2-E-0023, SL2-L1-E-0023

**FCC Designation No.:** TW1071

**TAF Accreditation No.:** 1163


**VCCI Registration No.:** R-2156, C-2329, T-219

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# Test Result Certification

<b>Applicant</b>	: JET OPTO ELECTRONICS CO., LTD.
<b>Address of Applicant</b>	: 3F., No.300, Yangguang St., Neihu Dist., Taipei City 11491, Taiwan, R.O.C
<b>Manufacturer</b>	: 3D Technologies(WuJiang) Co., LTD.
<b>Address of Manufacturer</b>	: No.1518, Yundong Ave. Wujiang Economic Development Zone, Wujiang, Suzhou, Jiangsu Province P.R.C. 215200
<b>Trade Name</b>	:  <b>ATOM</b>
<b>Equipment Under Test</b>	: ACTIVE RSE MONITOR-10.1 STD
<b>Model Number</b>	: ATM1010AA0
<b>Product Series</b>	: N/A
<b>FCC ID</b>	: Z3KATM1010AA0
<b>Filing Type</b>	: Certification
<b>Sample Received Date</b>	: 18-Jun-2013
<b>Test Standard</b>	:

☒ FCC Part 15 Subpart C §15.239

**Deviations from standard test methods & any other specifications : NONE**

**Remark:**

1. This report details the results of the test carried out on one sample.
2. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.203, 15.207, 15.209, 15.239.
3. This report applies to the above sample only and shall not be reproduced in part without written approval of HongAn Technology Co., Ltd.

**Documented by:**  
Kay Wang/ ADM. Dept Staff

2013-05-15

**Tested by:**  
Eason Hsieh/ ENG. Dept. Staff

2013-04-24

**Approved by:**  
Peter Chin / Section Manager**Date:** 2013-05-15



## Summary of Test Result

	Test Item	Applicable Standard	Test Result
1	Antenna Requirement	FCC part 15 subpart C §203	Compliance
2	Conducted limits	FCC part 15 subpart C §207	N/A
3	Radiated emission limits	FCC part 15 subpart C §209	Compliance
4	Emission Band	FCC part 15 subpart C §239(a)	Compliance
5	Field Strength	FCC part 15 subpart C §239(b)	Compliance

# 1 General Description

## 1.1 Description of EUT

<b>Equipment Under Test</b>	:	ACTIVE RSE MONITOR-10.1 STD
<b>Model Number of EUT</b>	:	ATM1010AA0
<b>Product Series</b>	:	N/A
<b>Power Supply</b>	:	DC 13.5V, 2A Max.:13W
<b>Frequency Range</b>	:	88.3~107.7 MHz
<b>Number of Channels</b>	:	98 Channels
<b>Channel Spacing</b>	:	200 kHz
<b>Antenna Specification</b>	:	Wire Antenna/ Gain: 0 dBi
<b>Modulation Technique</b>	:	FM
<b>Specification</b>	:	<p><b>Dimensions</b> : 201 mm (L) X 350 mm (W) X 159 mm (H)</p> <p><b>Weight</b> : 2 KG</p> <p><b>Function</b> : The EUT is a rear seat entertainment system for vehicle use. It has a FM transmitter which would transmit audio signal from the system to radio on the vehicle and broadcast the sound through the loudspeaker on the vehicle. Its frequency range is between 88.3 to 107.7 MHz.</p> <p>※For more detail specification, please refer to the User Manual.</p>



## 1.2 Test Instruments

### 1.2.1. Instruments Used for Measurement

HA1

Instrument Name	Manufacture Mode	Model Number	Serial Number	Last Cal. Date	Next Cal. Date
RF Amplifier	AR	15S1G3	306578	11-AUG-2012	11-AUG-2013
EMI Receiver	R&S	ESCI	100615	03-MAR-2013	03-MAR-2014
Spectrum Analyzer	R&S	FSL6	100323	11-JUN-2013	11-JUN-2014
Spectrum Analyzer	Advantest	R3172	101202158	24-JUN-2013	24-JUN-2014
Preamplifier	WIRELESS	FPA-6592G	060009	09-JUL-2012	09-JUL-2013
Preamplifier	HD	HD17187	004	04-AUG-2012	04-AUG-2013
Bilog Antenna	TESEQ	CBL6111D	25769	03-MAR-2013	03-MAR-2014
Bilog Antenna	Schaffner	CBL6112B	2860	12-AUG-2012	12-AUG-2013
Double-Ridged Waveguide Horn	EMCO	3115	9912-5992	04-MAY-2013	04-MAY-2014
Temp. & Humidity Chamber	Giant Force	GTH-150-20-SP-AR	MMA0907-012	22-JUL-2012	22-JUL-2013

※ The test equipments used are calibrated and can be traced to National ITRI and International Standards.

### 1.3 Auxiliary Equipments

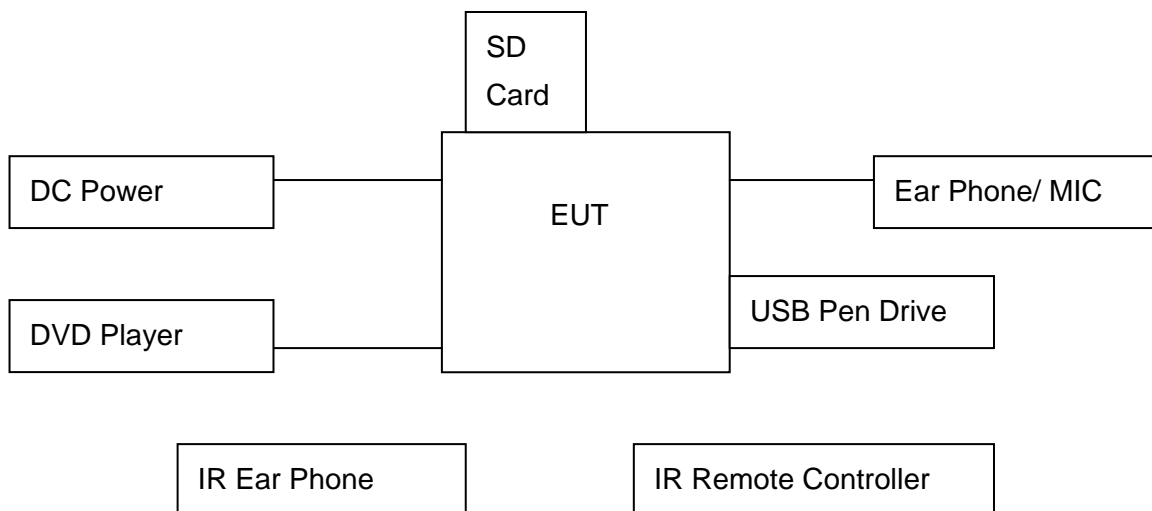
1.3.1. Provided by HongAn Technology Co., Ltd. for Emission Test.

No.	Equipment	Model No.	Serial No.	EMC Approved	Brand	Power Cord
1.	Pen Drive No.37	V210W	PC0106-000850 .200	CE FCC BSMI	HP	USB 2.0
2.	SD Card No. 1	SD-MO1G	0614TK5331T	CE	TOSHIBA	N/A
3.	DVD Player No. 1	DV-400V-S	GHKD008484LS	BSMI	PIONEER	N/A
4.	Microphone, Earphone No. 12	EK-Y672CS	N/A	N/A	SAMPO	Audio cable, Un-detachable, 2m
5.	HDMI Cable	N/A	N/A	N/A	N/A	Shielded, Detachable 1.8, w/o Core

1.3.2. Provided by the Manufacturer

N/A

### 1.4 EUT SETUP



Note: Main Test Sample: EC30616

### 1.5 Identifying the Final Test Mode

1. AV mode 1: AV input from Built-in DVD Player.
2. AV mode 2: AV input from SD card.
3. AV mode 3: AV input from USB Pen Drive.
4. AV mode 4: AV input from DVD player through AV cable.
5. AV mode 5: AV input from DVD player through HDMI cable, Resolution set at 720P.
6. FM mode 6: AV input from Built-in DVD Player. FM transmitter set at 88.3 MHz.
7. FM mode 7: AV input from Built-in DVD Player. FM transmitter set at 97.9 MHz.
8. FM mode 8: AV input from Built-in DVD Player. FM transmitter set at 107.3 MHz.

**Note:**

1. After pre-test, we identified that the AV mode 1 (the worst case) was most likely to cause maximum unwanted disturbance. Therefore, the Final Assessment was performed for the worst case. All pre-test data show at appendix.
2. Channel Low (88.3 MHz), Mid (97.9 MHz) and High (107.7 MHz) were chosen for full testing.
3. According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.207, 15.209 and 15.239 under the FCC Rules Part 15 Subpart C.

**1.6 Final Test Mode**

1. Radiated Emission (30~960MHz): AV mode 1.
2. Field Strength (Fundamental & Harmonics ): FM Mode 6, 7, 8
3. Conducted Emission: N/A. The EUT is designed to use DC input from a vehicle.

**1.7 Condition of Power Supply**

DC 13.5 V (battery)

**1.8 EUT Configuration**

1. Setup the EUT as shown in Sec.1.4 Block Diagram.
2. Turn on the power of all equipments.
3. Activate the selected Final Test Mode.

**1.9 Test Methodology**

The tests documented in this report were performed in accordance with ANSI C63.4 (2009) and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.203, 15.207, 15.209 and 15.239.

**1.10 General Test Procedures****Conducted Emissions**

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.3 of ANSI C63.4 (2009) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

**Radiated Emissions**

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. The EUT was designed to be mounted on back of vehicle seat, according to the requirements in Section 13.4 of ANSI C 63.4 (2009), only one axe of the EUT has to be measured.

**1.11 Modification**

N/A



## 1.12 FCC Part 15.205 restricted bands of operations

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37635-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

<sup>2</sup> Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

## 1.13 Qualification of Test Facility

**BSMI Certificate No.** : SL2-IS-E-0023, SL2-IN-E-0023, SL2-R1-E-0023, SL2-R2-E-0023, SL2-A1-E-0023, SL2-L1-E-0023.

**FCC Designation No.** : TW1071

**TAF Accreditation No.** : 1163

**VCCI Certificate No.** : R-2156, C-2329, T-219



## 2 Power line Conducted Emission Measurement

### 2.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

### 2.2 Test Arrangement and Procedure

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

### 2.3 Limit (§ 15.207)

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency (MHz)	Limits (dBuV)	
	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5.0	56	46
5.0 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### 2.4 Test Result

N/A.

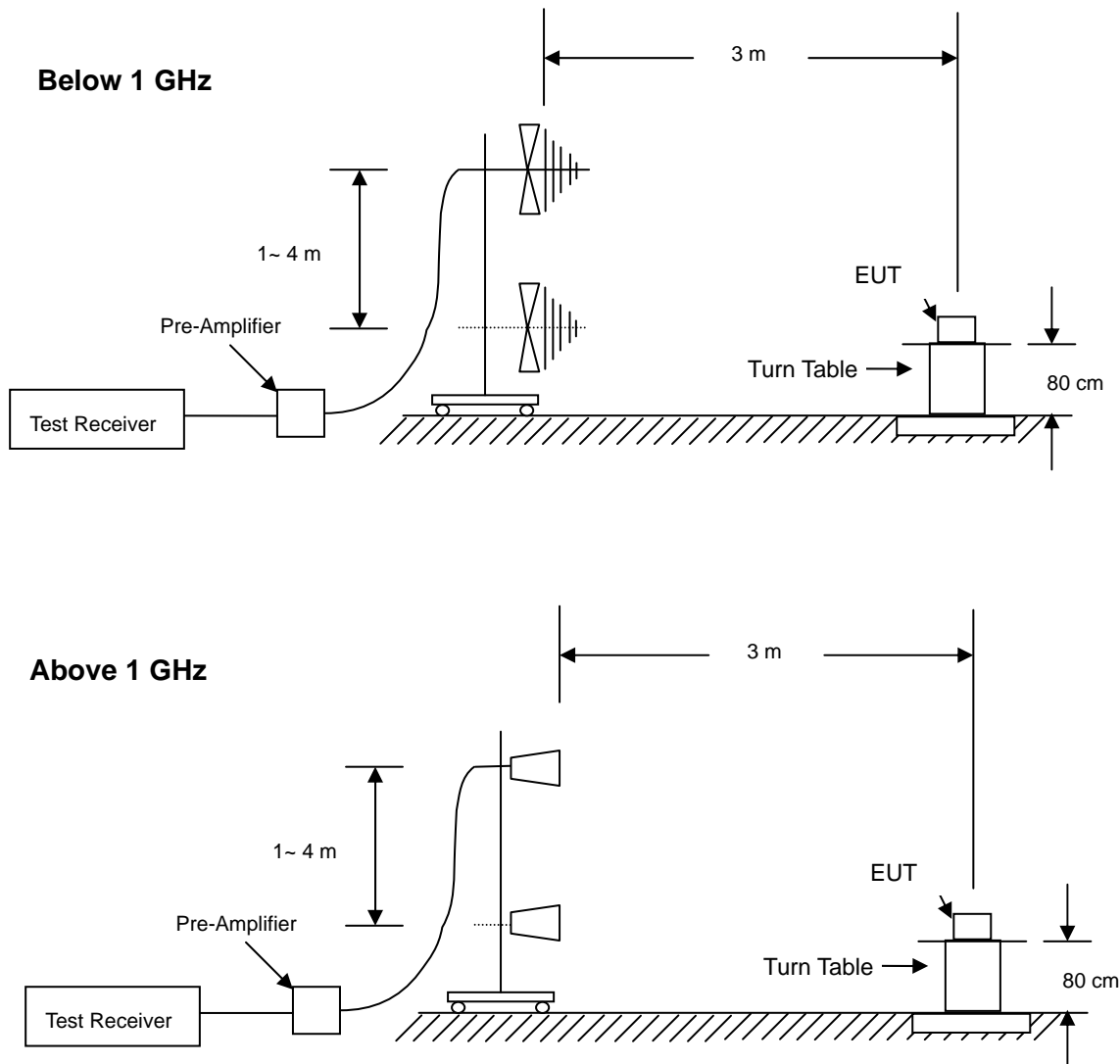
The EUT applied DC input from a vehicle; therefore, no conducted emission measurement is required.

### 3 Radiated Emission Test

#### 3.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

#### 3.2 Test Arrangement and Procedure



1. The EUT is placed on a turntable, which is 0.8 m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
4. Maxium procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
  - (a) Below 1 GHz: RBW =100 kHz/ VBW = 1 MHz/ Sweep = AUTO.
  - (b) Above 1 GHz: Peak: RBW = VBW = 1MHz/ Sweep = AUTO; Average: RBW = 1MHz/ VBW =

10Hz/ Sweep = AUTO.

7. Repeat above procedures until the measurements for all frequencies are complete.

### 3.3 Limit of Field Strength of Fundamental (§ 15.239)

The field strength of emissions from intentional radiators operated under these frequency bands shall not exceed with the following:

Fundamental Frequency (MHz)	Field strength of fundamental (microvolts/ meter)	
	Peak	Average
88-108	2500 (67.96 dBuV)	250 (47.96 dBuV)

Note:

1. Field strength limits are specified at a distance of 3 meters.
2. For frequencies above 1000 MHz, the field strength limits in above table are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

### 3.4 Limit of Spurious Emission (§ 15.209)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is lesser attenuation.

Frequency (MHz)	Field strength (microvolts/ meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

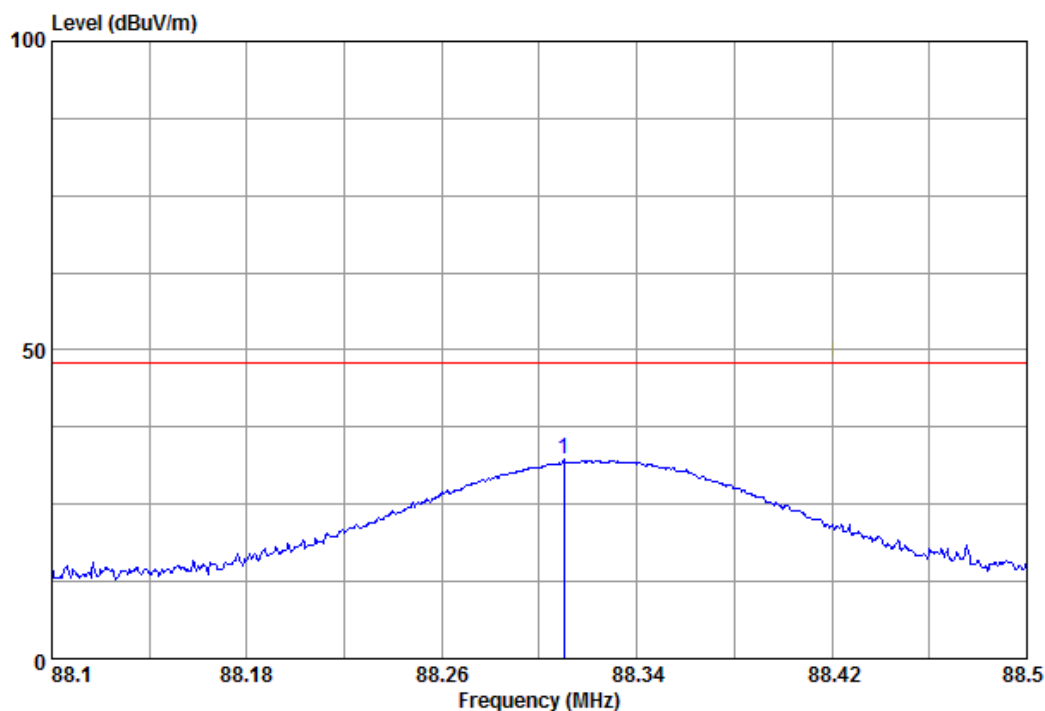
### 3.5 Test Result

#### Compliance

The final test data are shown on the following page(s).

## Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: CH LOW (88.3 MHz)
Test Mode	: FM Mode 6		



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 @ 88.310	56.08	-23.88	32.20	47.96	-15.76	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain  
Result = Reading + C.F ; Margin = Result - Limit

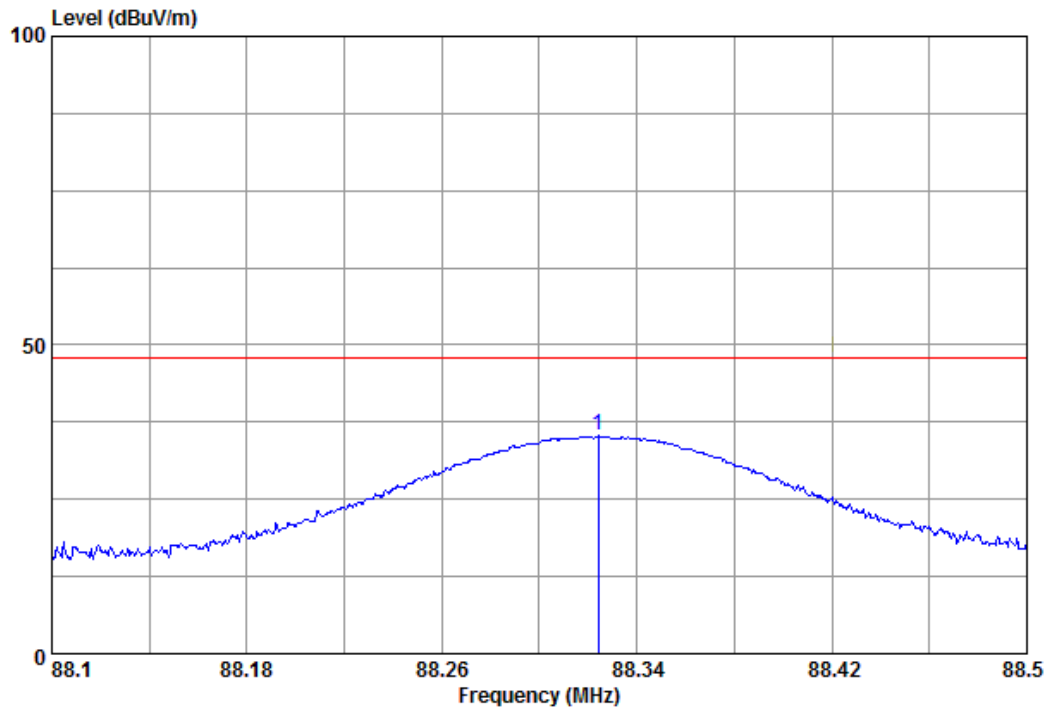
@ :Maximum Data    x :Over Limit

### Remark :

1. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
2. Spectrum setting: Peak Setting, RBW = 100kHz, VBW = 300kHz

**Radiated Emission Test Data (Field Strength of Fundamental)**

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: CH LOW (88.3 MHz)
Test Mode	: FM Mode 6		



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 @ 88.324	59.14	-23.88	35.26	47.96	-12.70	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain  
Result = Reading + C.F ; Margin = Result - Limit

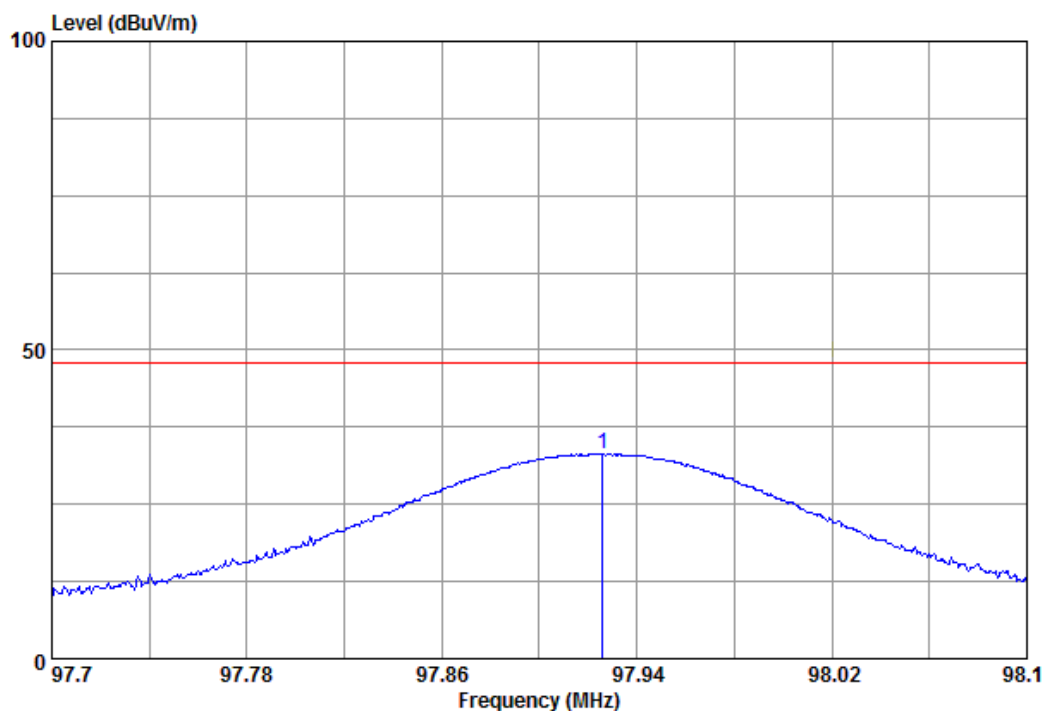
@ : Maximum Data    x : Over Limit

**Remark :**

1. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
2. Spectrum setting: Peak Setting. RBW = 100kHz, VBW = 300kHz

## Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: CH MID ( 97.9 MHz)
Test Mode	: FM Mode 7		



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 @ 97.926	55.93	-22.68	33.25	47.96	-14.71	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain  
 Result = Reading + C.F ; Margin = Result - Limit

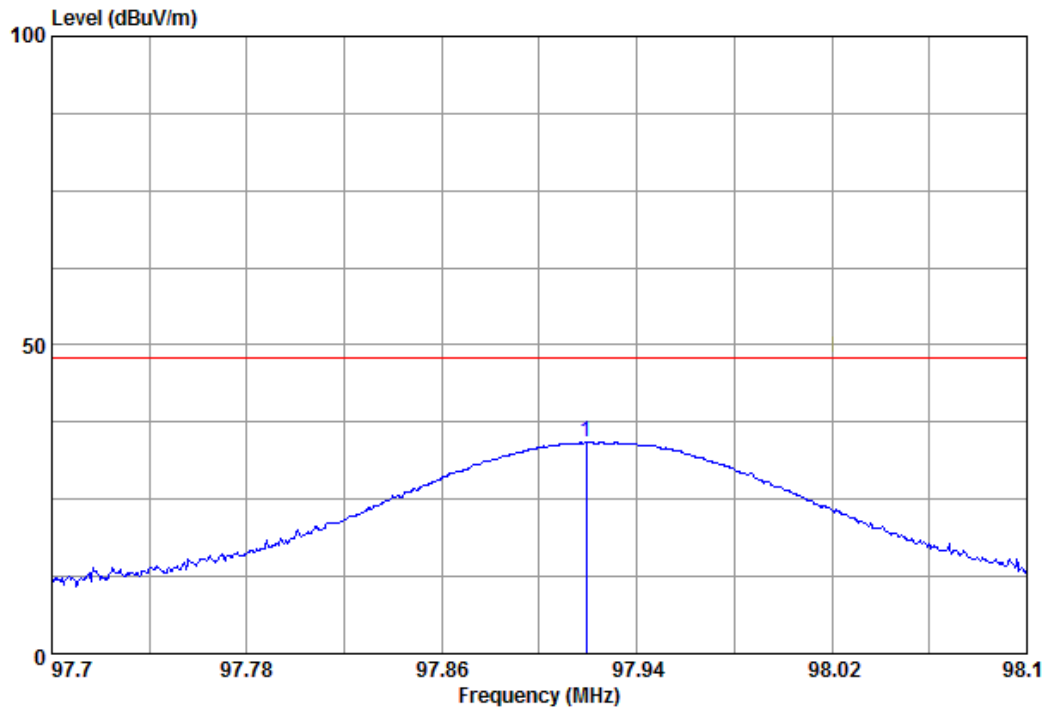
@ :Maximum Data    x :Over Limit

### Remark :

1. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
2. Spectrum setting: Peak Setting, RBW = 100kHz, VBW = 300kHz

**Radiated Emission Test Data (Field Strength of Fundamental)**

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: CH MID (97.9 MHz)
Test Mode	: FM Mode 7		



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 @ 97.919	56.92	-22.68	34.24	47.96	-13.72	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain  
Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data    x :Over Limit

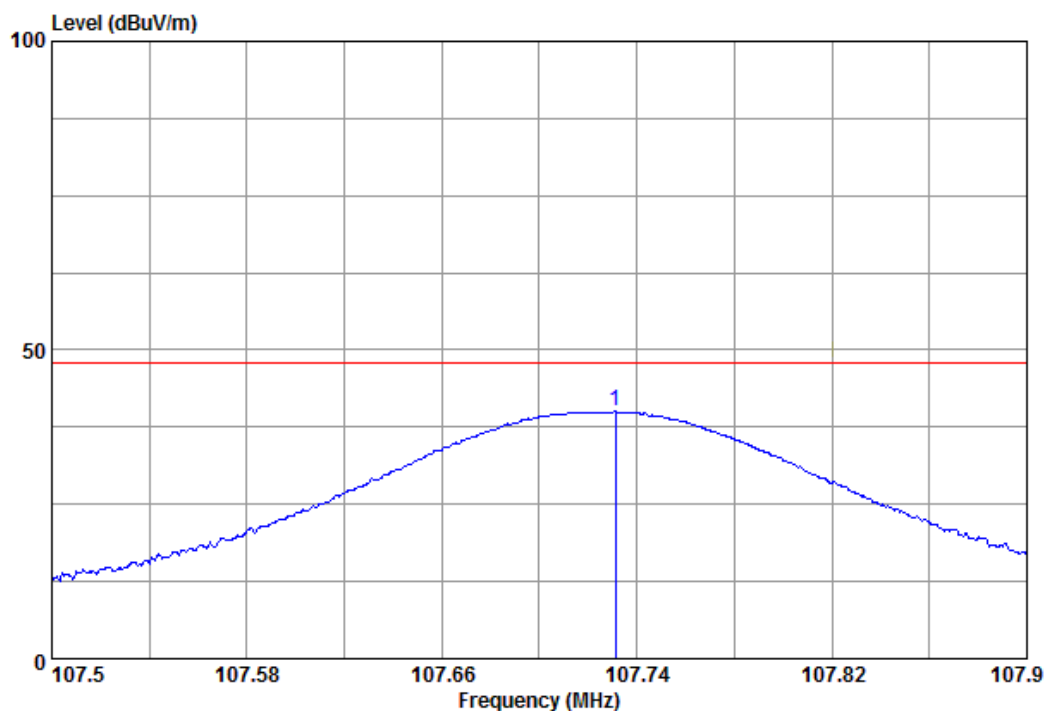
**Remark :**

1. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
2. Spectrum setting: Peak Setting, RBW = 100kHz, VBW = 300kHz



## Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: CH HIGH ( 107.7 MHz)
Test Mode	: FM Mode 8		



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 @ 107.731	64.23	-24.20	40.03	47.96	-7.93	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain  
 Result = Reading + C.F ; Margin = Result - Limit

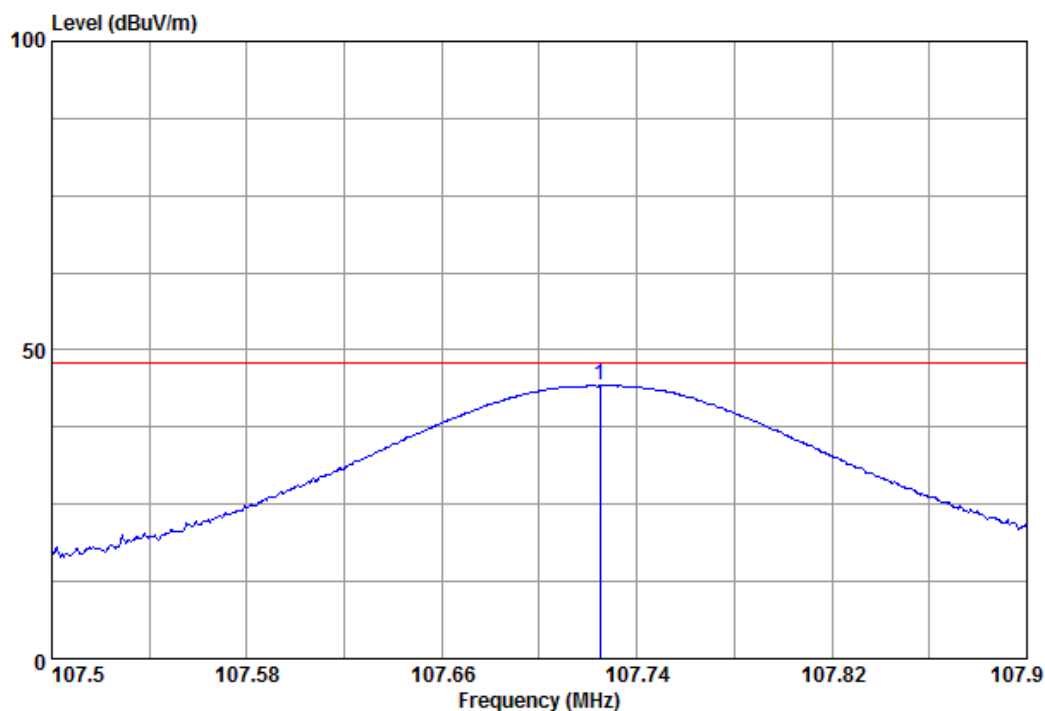
@ :Maximum Data    x :Over Limit

### Remark :

1. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
2. Spectrum setting: Peak Setting, RBW = 100kHz, VBW = 300kHz

## Radiated Emission Test Data (Field Strength of Fundamental)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: CH HIGH (107.7 MHz)
Test Mode	: FM Mode 8		



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 @ 107.725	68.43	-24.20	44.23	47.96	-3.73	---	---	

C.F = Antenna Factor + Cable Loss - Preamp gain  
 Result = Reading + C.F ; Margin = Result - Limit

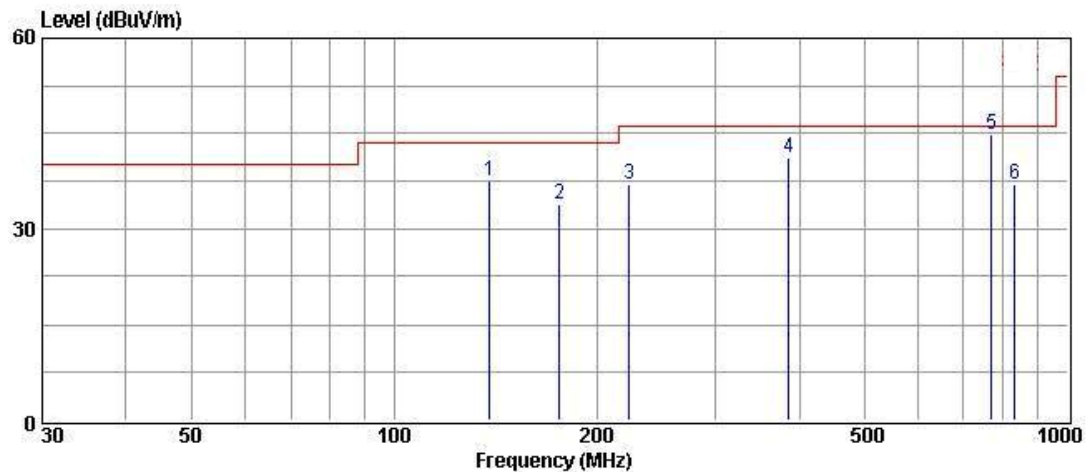
@ :Maximum Data    x :Over Limit

### Remark :

- All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting: Peak Setting, RBW = 100kHz, VBW = 300kHz

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: N/A
Test Mode	: AV Mode 1		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.63	56.88	-19.35	37.53	43.50	-5.97			HORIZONTAL	QP
2	175.82	51.74	-18.05	33.69	43.50	-9.81			HORIZONTAL	QP
3	223.77	53.22	-16.40	36.82	46.00	-9.18			HORIZONTAL	QP
4	384.75	52.77	-11.74	41.03	46.00	-4.97			HORIZONTAL	QP
5	769.60	50.91	-6.12	44.79	46.00	-1.21			HORIZONTAL	QP
6	833.92	42.85	-5.81	37.04	46.00	-8.96			HORIZONTAL	QP

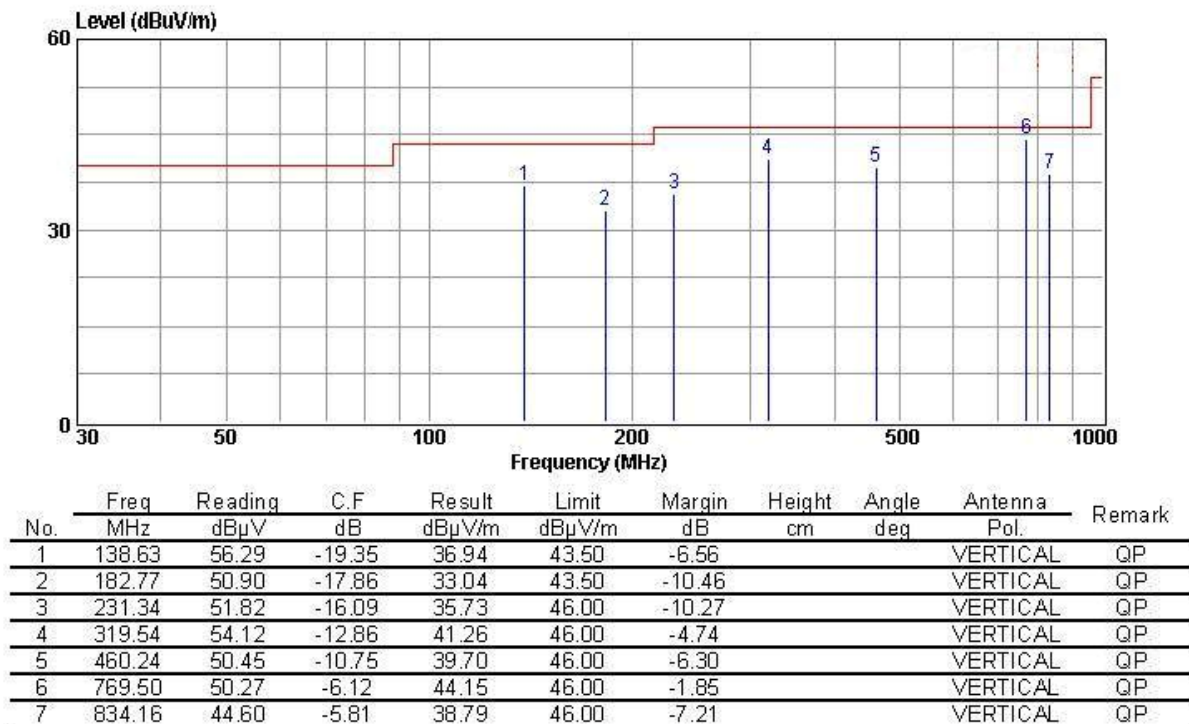
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
2. Margin = Result - Limit ; Result = Reading + C.F .

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: N/A
Test Mode	: AV Mode 1		



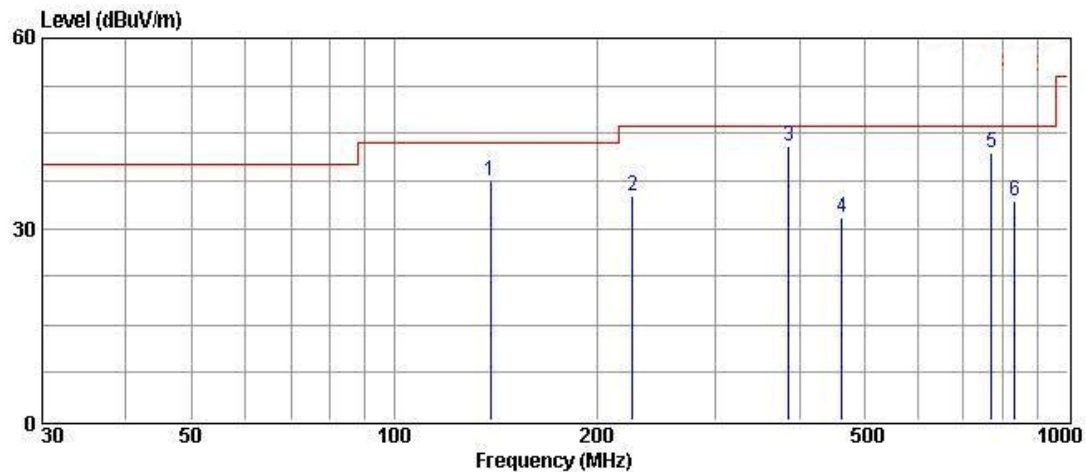
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain .  
 2. Margin = Result - Limit ; Result = Reading + C.F .

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: N/A
Test Mode	: AV Mode 2		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.81	56.89	-19.34	37.55	43.50	-5.95			HORIZONTAL	QP
2	226.00	51.35	-16.31	35.04	46.00	-10.96			HORIZONTAL	QP
3	384.76	54.83	-11.74	43.09	46.00	-2.91			HORIZONTAL	QP
4	461.60	42.32	-10.72	31.60	46.00	-14.40			HORIZONTAL	QP
5	769.60	48.05	-6.12	41.93	46.00	-4.07			HORIZONTAL	QP
6	833.52	40.03	-5.81	34.22	46.00	-11.78			HORIZONTAL	QP

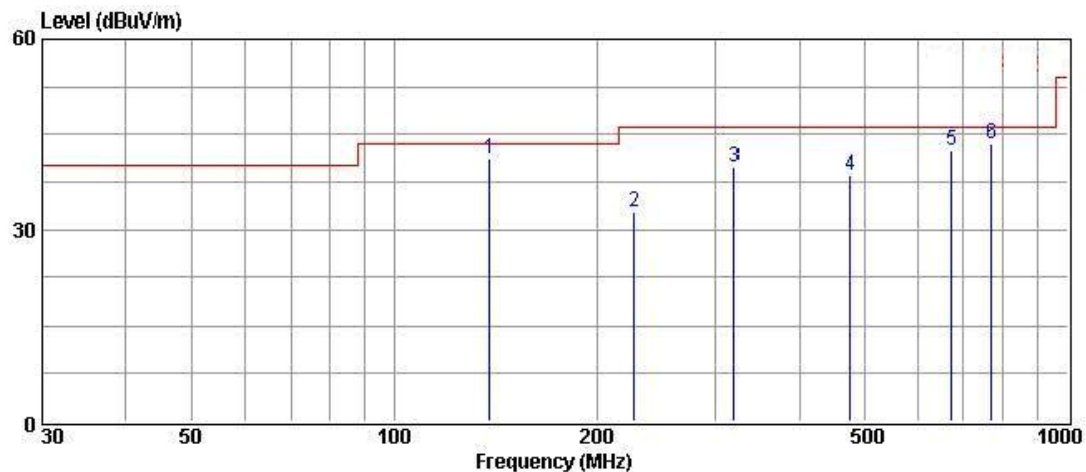
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain.  
 2. Margin = Result - Limit; Result = Reading + C.F.

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: N/A
Test Mode	: AV Mode 2		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.62	60.52	-19.35	41.17	43.50	-2.33			VERTICAL	QP
2	227.60	48.98	-16.25	32.73	46.00	-13.27			VERTICAL	QP
3	320.40	52.71	-12.86	39.85	46.00	-6.15			VERTICAL	QP
4	474.40	49.08	-10.45	38.63	46.00	-7.37			VERTICAL	QP
5	671.25	49.21	-6.75	42.46	46.00	-3.54			VERTICAL	QP
6	769.65	49.66	-6.12	43.54	46.00	-2.46			VERTICAL	QP

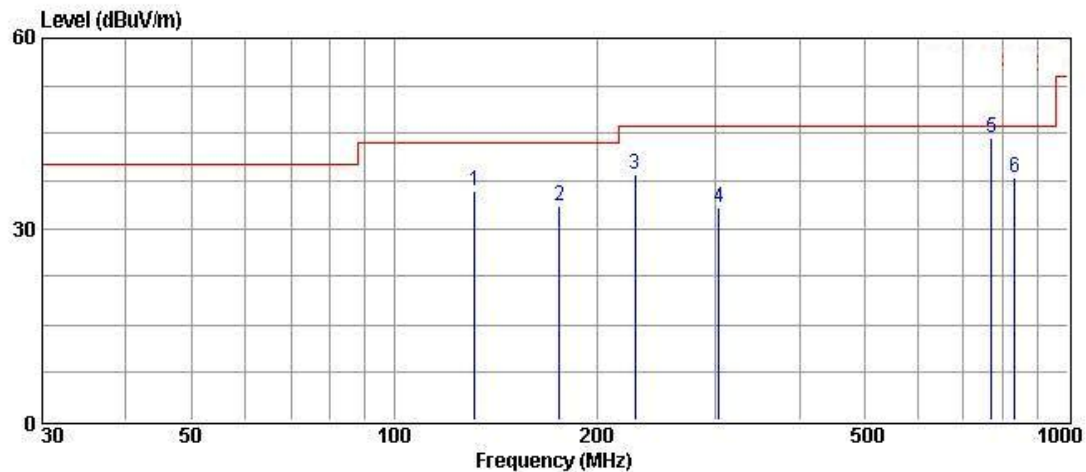
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
 2. Margin = Result - Limit ; Result = Reading + C.F .

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: N/A
Test Mode	: AV Mode 3		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	131.37	55.53	-19.56	35.97	43.50	-7.53			HORIZONTAL	QP
2	175.82	51.53	-18.05	33.48	43.50	-10.02			HORIZONTAL	QP
3	227.84	54.76	-16.25	38.51	46.00	-7.49			HORIZONTAL	QP
4	304.40	46.64	-13.30	33.34	46.00	-12.66			HORIZONTAL	QP
5	769.60	50.39	-6.12	44.27	46.00	-1.73			HORIZONTAL	QP
6	834.00	43.75	-5.81	37.94	46.00	-8.06			HORIZONTAL	QP

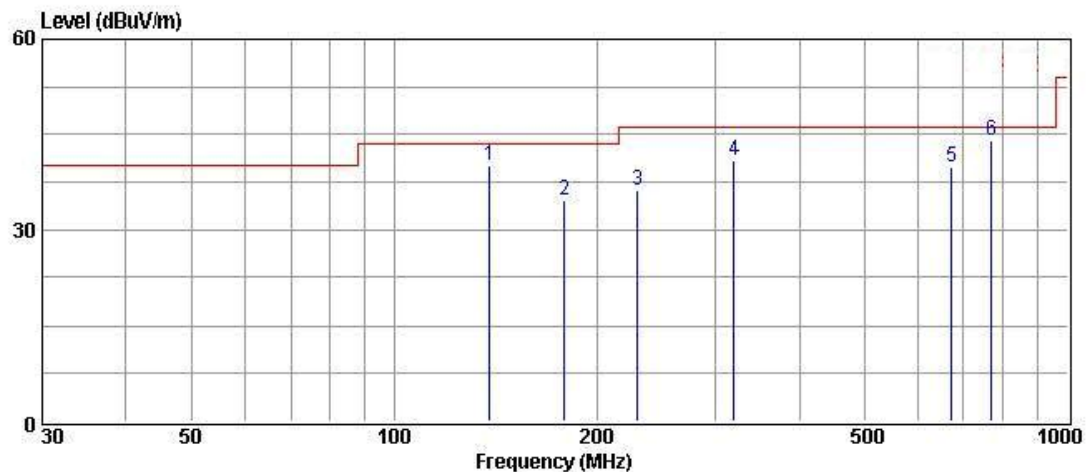
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain.  
2. Margin = Result - Limit; Result = Reading + C.F.

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: N/A
Test Mode	: AV Mode 3		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.62	59.43	-19.35	40.08	43.50	-3.42			VERTICAL	QP
2	178.80	52.45	-17.99	34.46	43.50	-9.04			VERTICAL	QP
3	230.00	52.39	-16.15	36.24	46.00	-9.76			VERTICAL	QP
4	320.40	53.83	-12.86	40.97	46.00	-5.03			VERTICAL	QP
5	671.25	46.65	-6.75	39.90	46.00	-6.10			VERTICAL	QP
6	769.65	50.10	-6.12	43.98	46.00	-2.02			VERTICAL	QP

Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
2. Margin = Result - Limit ; Result = Reading + C.F .

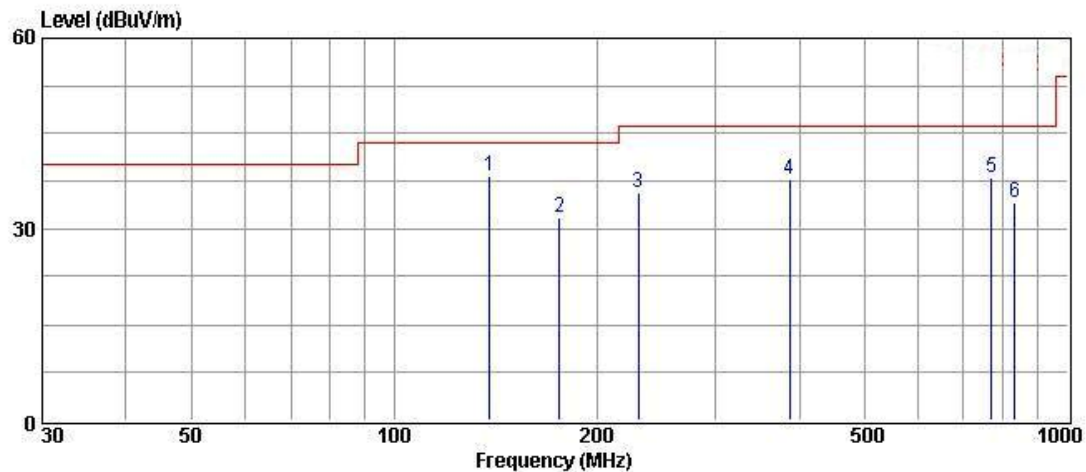
#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.



### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: N/A
Test Mode	: AV Mode 4		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.62	57.68	-19.35	38.33	43.50	-5.17			HORIZONTAL	QP
2	175.82	49.63	-18.05	31.58	43.50	-11.92			HORIZONTAL	QP
3	230.80	51.64	-16.12	35.52	46.00	-10.48			HORIZONTAL	QP
4	384.80	49.41	-11.74	37.67	46.00	-8.33			HORIZONTAL	QP
5	769.60	43.99	-6.12	37.87	46.00	-8.13			HORIZONTAL	QP
6	834.00	39.89	-5.81	34.08	46.00	-11.92			HORIZONTAL	QP

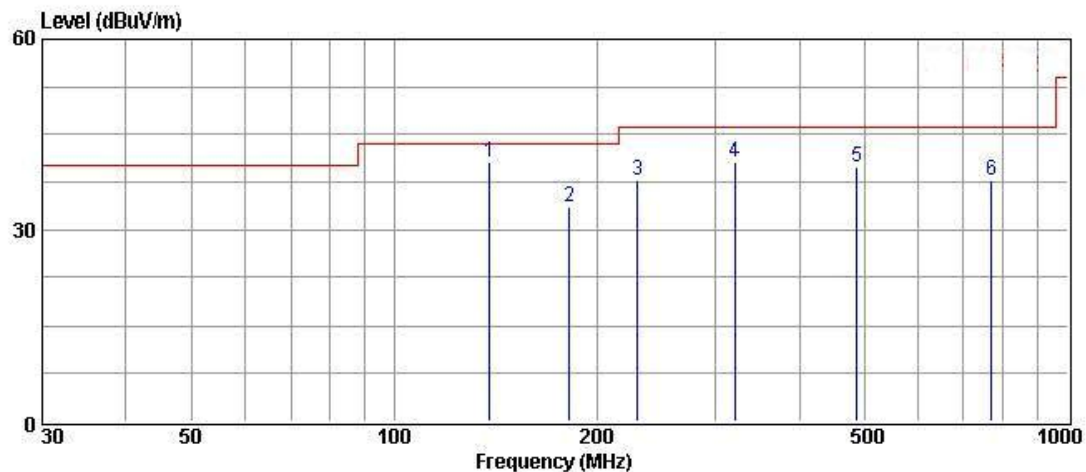
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain •  
2. Margin = Result - Limit ; Result = Reading + C.F •

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: N/A
Test Mode	: AV Mode 4		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.40	60.03	-19.35	40.68	43.50	-2.82			VERTICAL	QP
2	182.02	51.55	-17.89	33.66	43.50	-9.84			VERTICAL	QP
3	230.06	53.79	-16.15	37.64	46.00	-8.36			VERTICAL	QP
4	321.32	53.48	-12.83	40.65	46.00	-5.35			VERTICAL	QP
5	485.72	50.21	-10.29	39.92	46.00	-6.08			VERTICAL	QP
6	769.60	43.95	-6.12	37.83	46.00	-8.17			VERTICAL	QP

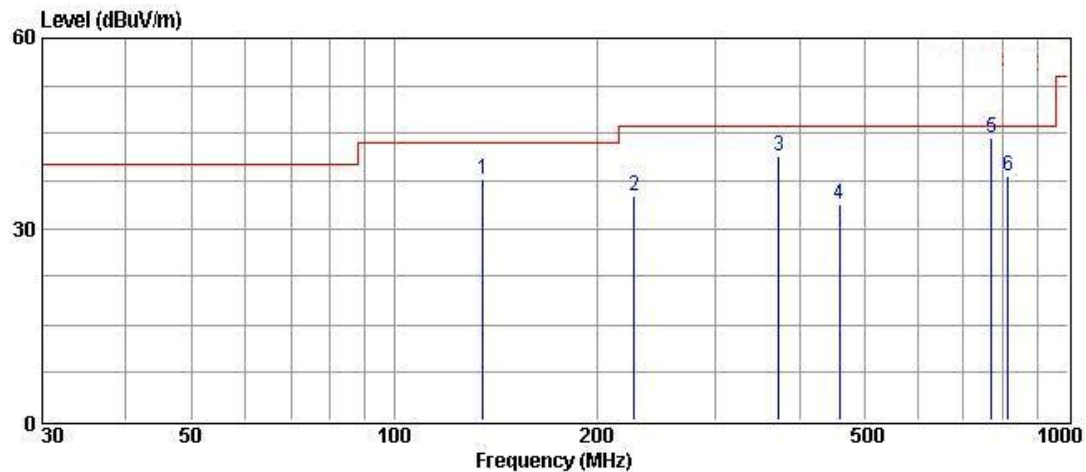
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
 2. Margin = Result - Limit ; Result = Reading + C.F .

Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: N/A
Test Mode	: AV Mode 5		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	135.46	57.23	-19.44	37.79	43.50	-5.71			HORIZONTAL	QP
2	227.20	51.27	-16.28	34.99	46.00	-11.01			HORIZONTAL	QP
3	370.88	53.87	-12.42	41.45	46.00	-4.55			HORIZONTAL	QP
4	457.60	44.61	-10.83	33.78	46.00	-12.22			HORIZONTAL	QP
5	769.51	50.43	-6.12	44.31	46.00	-1.69			HORIZONTAL	QP
6	815.92	44.08	-5.93	38.15	46.00	-7.85			HORIZONTAL	QP

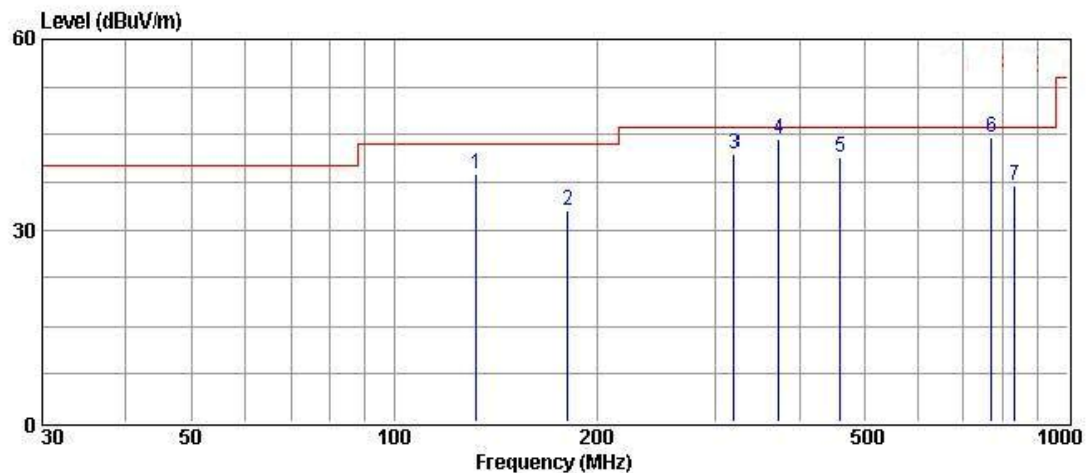
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
2. Margin = Result - Limit ; Result = Reading + C.F .

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: N/A
Test Mode	: AV Mode 5		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	132.21	58.32	-19.53	38.79	43.50	-4.71			VERTICAL	QP
2	181.13	50.99	-17.92	33.07	43.50	-10.43			VERTICAL	QP
3	320.47	54.66	-12.86	41.80	46.00	-4.20			VERTICAL	QP
4	370.87	56.83	-12.42	44.41	46.00	-1.59			VERTICAL	QP
5	458.40	52.23	-10.80	41.43	46.00	-4.57			VERTICAL	QP
6	769.51	50.64	-6.12	44.52	46.00	-1.48			VERTICAL	QP
7	834.00	42.66	-5.81	36.85	46.00	-9.15			VERTICAL	QP

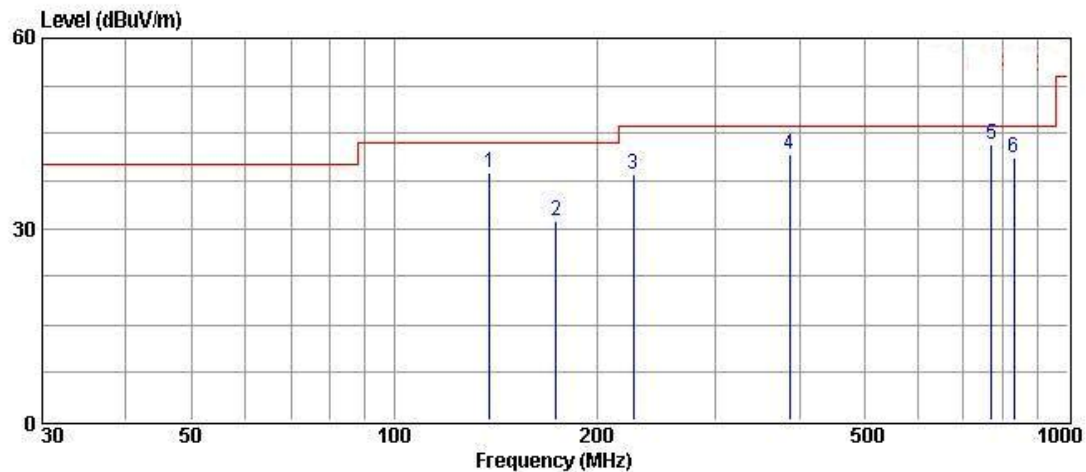
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain •  
2. Margin = Result - Limit ; Result = Reading + C.F •

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: CH LOW (88.3)
Test Mode	: FM Mode 6		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.62	58.07	-19.35	38.72	43.50	-4.78			HORIZONTAL	QP
2	173.77	49.20	-18.08	31.12	43.50	-12.38			HORIZONTAL	QP
3	226.80	54.88	-16.28	38.60	46.00	-7.40			HORIZONTAL	QP
4	384.80	53.28	-11.74	41.54	46.00	-4.46			HORIZONTAL	QP
5	769.60	49.24	-6.12	43.12	46.00	-2.88			HORIZONTAL	QP
6	833.19	47.02	-5.81	41.21	46.00	-4.79			HORIZONTAL	QP

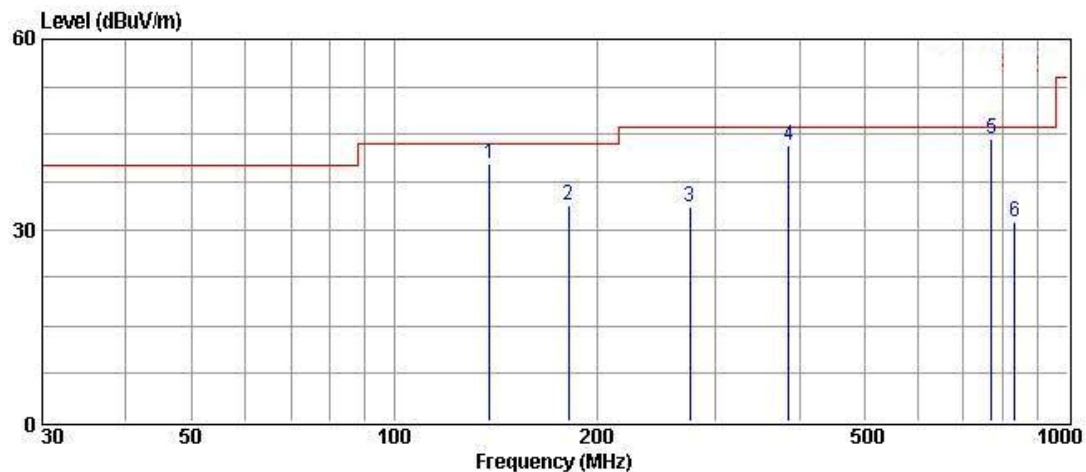
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
2. Margin = Result - Limit ; Result = Reading + C.F .

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: CH LOW (88.3)
Test Mode	: FM Mode 6		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.62	59.64	-19.35	40.29	43.50	-3.21			VERTICAL	QP
2	181.59	51.67	-17.92	33.75	43.50	-9.75			VERTICAL	QP
3	275.55	48.21	-14.76	33.45	46.00	-12.55			VERTICAL	QP
4	384.75	55.04	-11.74	43.30	46.00	-2.70			VERTICAL	QP
5	769.60	50.39	-6.12	44.27	46.00	-1.73			VERTICAL	QP
6	833.30	36.87	-5.81	31.06	46.00	-14.94			VERTICAL	QP

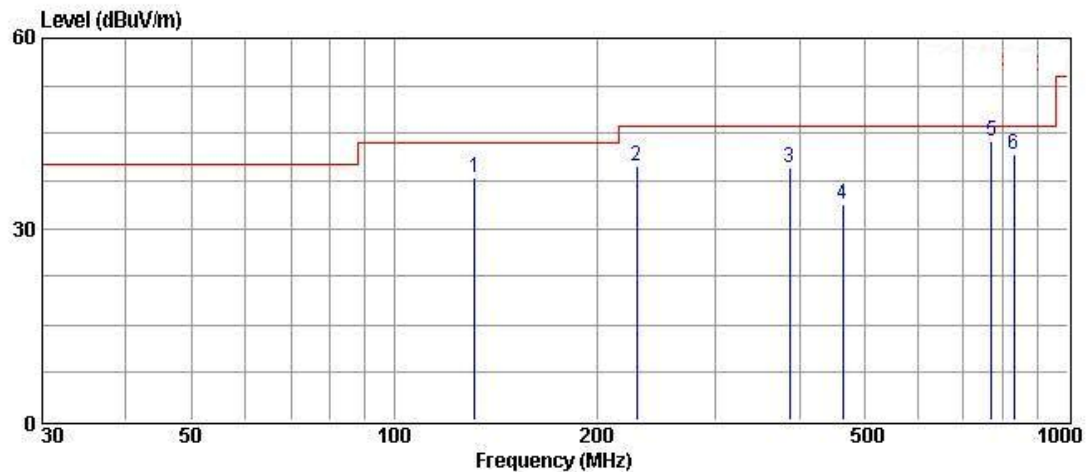
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
 2. Margin = Result - Limit ; Result = Reading + C.F .

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: CH MID (97.9 MHz)
Test Mode	: FM Mode 7		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	131.55	57.43	-19.54	37.89	43.50	-5.61			HORIZONTAL	QP
2	229.20	56.11	-16.19	39.92	46.00	-6.08			HORIZONTAL	QP
3	384.80	51.20	-11.74	39.46	46.00	-6.54			HORIZONTAL	QP
4	462.80	44.53	-10.72	33.81	46.00	-12.19			HORIZONTAL	QP
5	769.60	49.79	-6.12	43.67	46.00	-2.33			HORIZONTAL	QP
6	833.07	47.34	-5.81	41.53	46.00	-4.47			HORIZONTAL	QP

Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
2. Margin = Result - Limit ; Result = Reading + C.F .

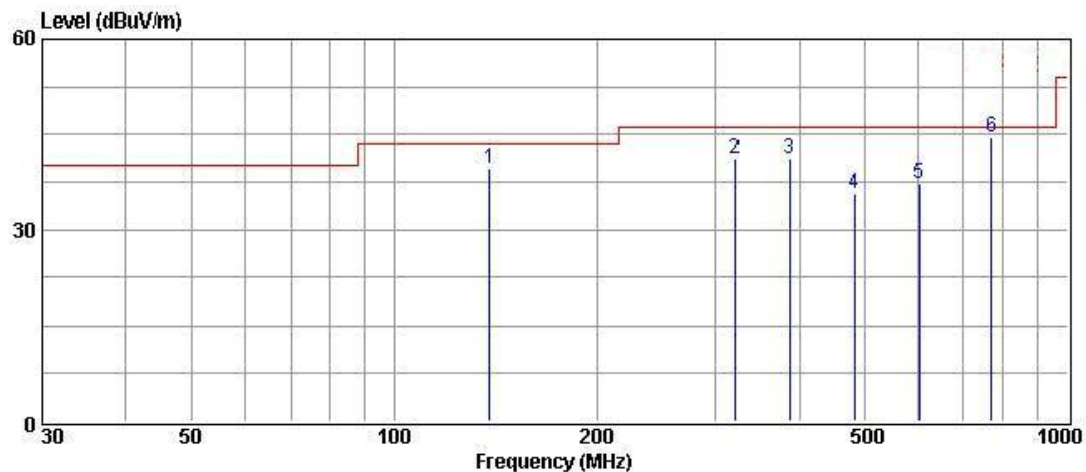
#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.



### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: CH MID (97.9 MHz)
Test Mode	: FM Mode 7		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	138.62	58.94	-19.35	39.59	43.50	-3.91			VERTICAL	QP
2	320.80	53.94	-12.83	41.11	46.00	-4.89			VERTICAL	QP
3	384.80	52.89	-11.74	41.15	46.00	-4.85			VERTICAL	QP
4	481.60	45.90	-10.34	35.56	46.00	-10.44			VERTICAL	QP
5	601.60	44.94	-7.76	37.18	46.00	-8.82			VERTICAL	QP
6	769.60	50.63	-6.12	44.51	46.00	-1.49			VERTICAL	QP

Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
2. Margin = Result - Limit ; Result = Reading + C.F .

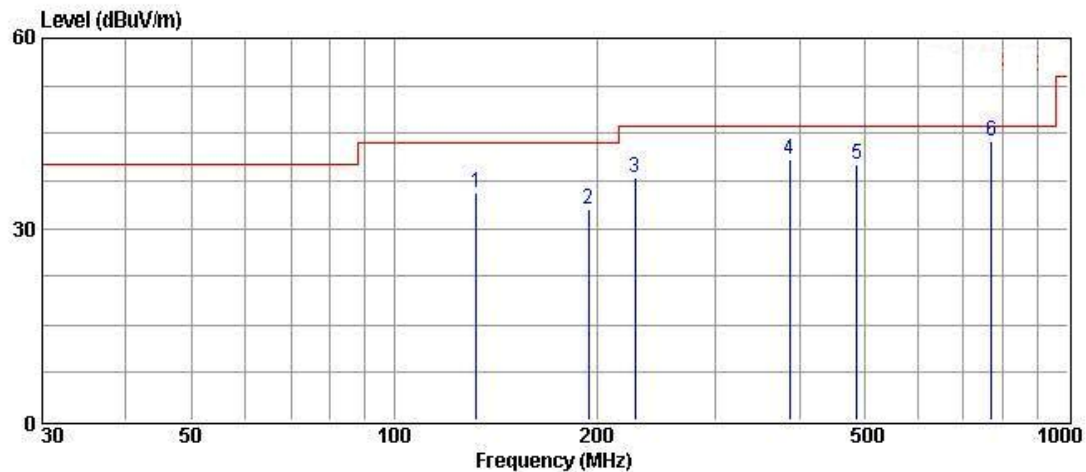
#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.



### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Horizontal	Channel	: CH HIGH (107.7 MHz)
Test Mode	: FM Mode 8		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	132.20	55.21	-19.53	35.68	43.50	-7.82			HORIZONTAL	QP
2	194.14	50.39	-17.44	32.95	43.50	-10.55			HORIZONTAL	QP
3	228.00	54.12	-16.25	37.87	46.00	-8.13			HORIZONTAL	QP
4	384.80	52.51	-11.74	40.77	46.00	-5.23			HORIZONTAL	QP
5	485.80	50.49	-10.29	40.20	46.00	-5.80			HORIZONTAL	QP
6	769.60	49.86	-6.12	43.74	46.00	-2.26			HORIZONTAL	QP

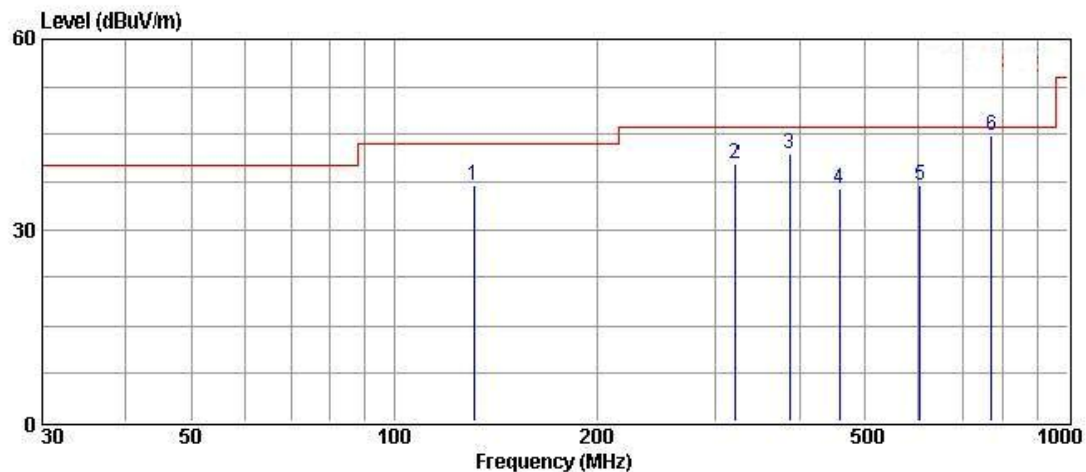
Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
2. Margin = Result - Limit ; Result = Reading + C.F .

#### Remark :

1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

### Radiated Emission Test Data (Below 1 GHz)

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Polarization	: Vertical	Channel	: CH HIGH (107.7 MHz)
Test Mode	: FM Mode 8		



No.	Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Antenna Pol.	Remark
1	131.09	56.54	-19.56	36.98	43.50	-6.52			VERTICAL	QP
2	321.20	53.18	-12.83	40.35	46.00	-5.65			VERTICAL	QP
3	384.80	53.55	-11.74	41.81	46.00	-4.19			VERTICAL	QP
4	457.60	47.13	-10.83	36.30	46.00	-9.70			VERTICAL	QP
5	602.40	44.66	-7.76	36.90	46.00	-9.10			VERTICAL	QP
6	769.60	50.89	-6.12	44.77	46.00	-1.23			VERTICAL	QP

Note: 1. C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain +  
 2. Margin = Result - Limit ; Result = Reading + C.F .

Remark :

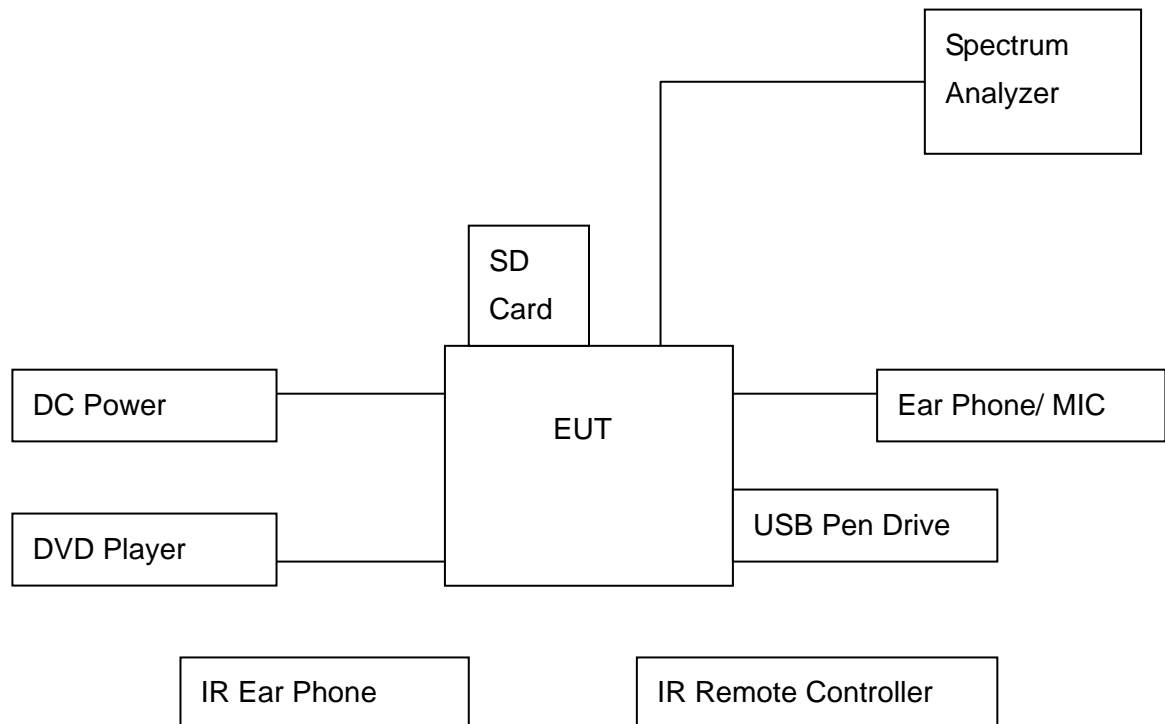
1. Measuring frequencies from 30 MHz to 1 GHz.
2. Measurements above show only up to 6 maximum emissions noted.
3. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
4. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
5. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

## 4 Emission Band Measurement

### 4.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

### 4.2 Test Arrangement and Procedure



1. The transmitter output was connected to the spectrum analyzer (through an attenuator, if it's necessary).
2. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 10kHz RBW and 30kHz VBW. Measured the -26 dB bandwidth and plotted the graph.
3. Audio input was set to max during the test.

### 4.3 Limit (§ 15.239(a))

Emissions from the intentional radiator shall be confined within a band 200kHz wide centered on the operating frequency. The 200kHz band shall lie wholly within the frequency range of 88~108MHz.

### 4.4 Test Result

#### Compliance

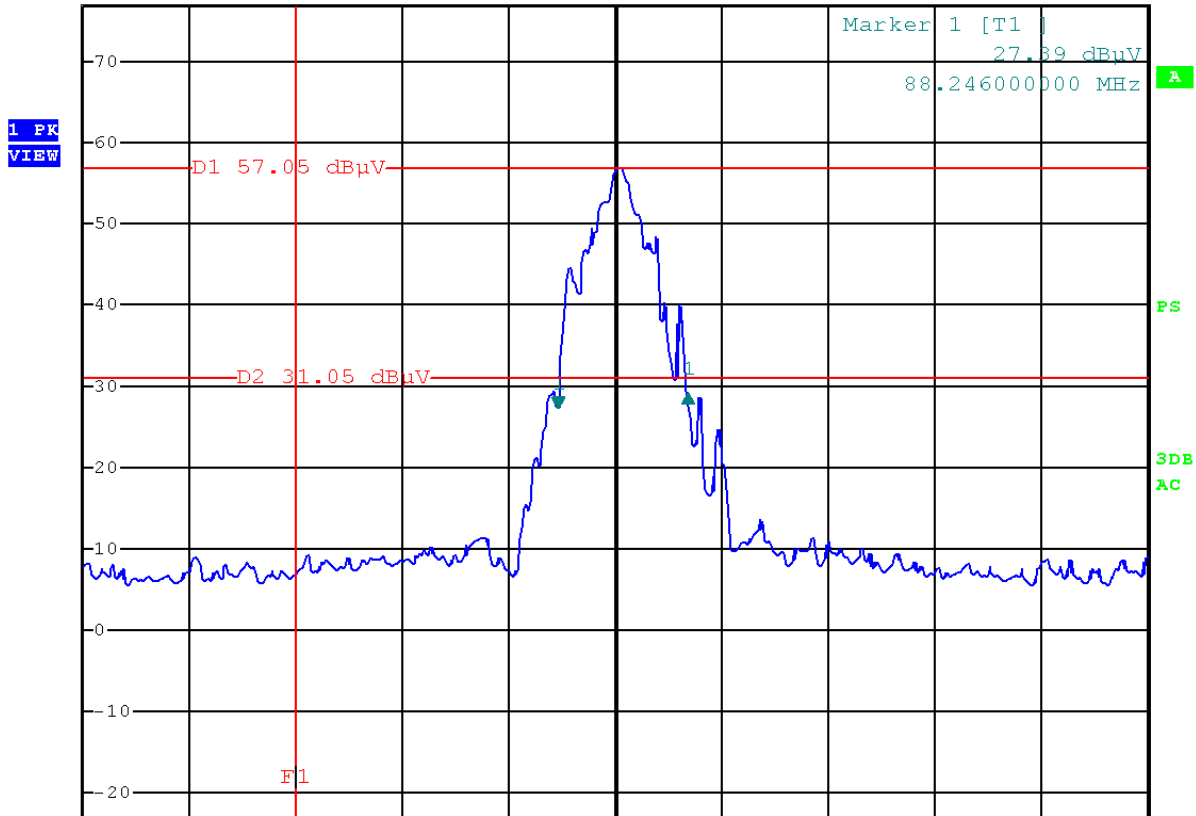
The final test data are shown on the following page(s).



Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Test Mode	: FM Mode 6	Channel	: CH LOW (88.3 MHz)



\*RBW 10 kHz Delta 1 [T1 ]  
\*VBW 30 kHz 1.65 dB  
Ref 77 dBμV Att 0 dB SWT 10 ms 122.000000000 kHz



-26 dB Bandwidth (kHz)	Maximum Limit (kHz)	Result
122	200	Pass

Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Test Mode	: FM Mode 7	Channel	: CH MID (97.9 MHz)



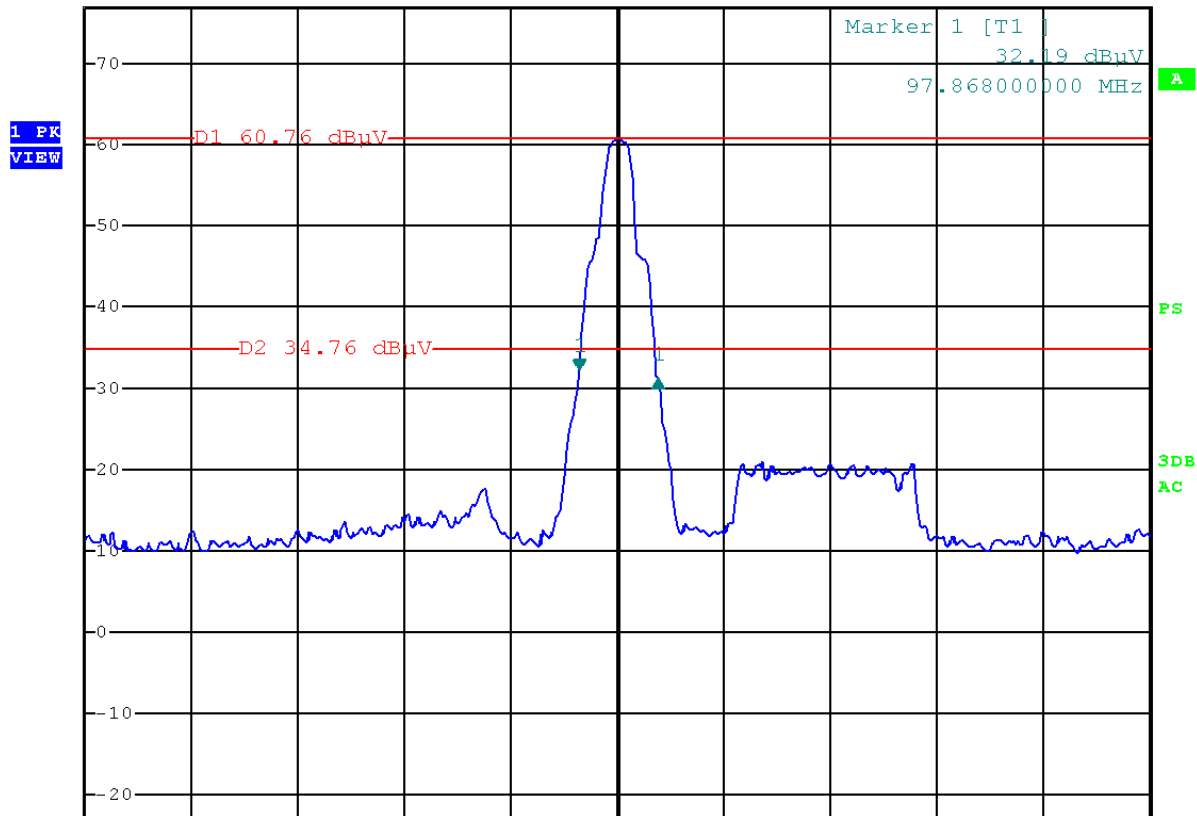
```
*RBW 10 kHz      Delta 1 [T1 ]
*VBW 30 kHz      -1.06 dB
SWT 10 ms        74.000000000 kHz
```

Ref 77 dB $\mu$ V

Att 0 dB

SWT 10 ms

74.0000000000 kHz



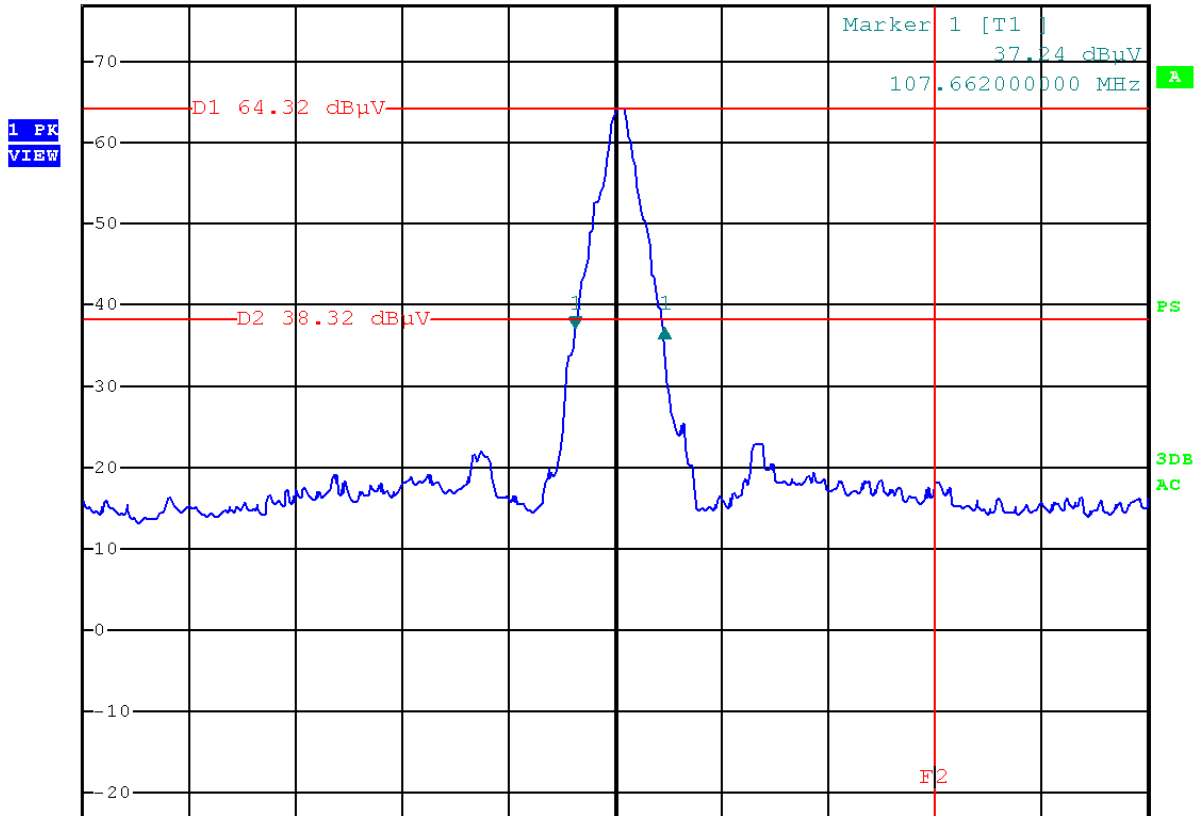
-26 dB Bandwidth (kHz)	Maximum Limit (kHz)	Result
74	200	Pass



Temperature	: 28°C	Humidity	: 30%
Test Date	: 03-JUL-2013	Tested by	: Eason Hsieh
Test Mode	: FM Mode 8	Channel	: CH HIGH (107.7 MHz)



\*RBW 10 kHz Delta 1 [T1 ]  
\*VBW 30 kHz 0.05 dB  
Ref 77 dBμV Att 0 dB SWT 10 ms 84.000000000 kHz



-26 dB Bandwidth (kHz)	Maximum Limit (kHz)	Result
84	200	Pass



## 5 Antenna requirement

### 5.1 Limit (§ 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

### 5.2 Test Result

#### **Compliance.**

The EUT applies a wire antenna with 0 dBi gain.