



# FCC Test Report

On Model Name: Back Mirror Wireless Player  
Model Numbers: VM-5602&VM-5602B  
Trade Marks: Original  
FCC ID: UBOVM5602B

Prepared for Global Elite Electronic Company  
Limited

According to FCC part15 (2004)Section 15.239  
*FM personal broadcast band transmitter*

*Test Report #:* GLO-0605-5435-FCC\_239

*Prepared by:* Ravin Su

*Reviewed by:* Harry Zhao

*QC Manager:* Paul Chen

*Test Report Released by:*

Paul Chen

2006, June 9

Date

### List of Attached Files

<b>Exhibit Type</b>	<b>File Description</b>	<b>File Name</b>
<i>FM Test Report</i>	<i>FM Test Report</i>	<i>UBOVM5602B_15.239 Test report.pdf_Rev4</i>
<i>Operation Description</i>	<i>Technical Description</i>	<i>UBOVM5602B _operation description.pdf</i>
<i>FM Modual Specification</i>	<i>FM Modual Specification</i>	<i>UBOVM5602B_FM Modual Spec.pdf</i>
<i>External Photos</i>	<i>External Photos</i>	<i>UBOVM5602B_External Photos_Rev1</i>
<i>Internal Photos</i>	<i>Internal Photos</i>	<i>UBOVM5602B_Internal Photos_Rev2</i>
<i>Block Diagram</i>	<i>Block Diagram</i>	<i>UBOVM5602B _Block_Rev1 Diagram.pdf</i>
<i>Schematics</i>	<i>Circuit Diagram</i>	<i>UBOVM5602B _Schematics.pdf</i>
<i>ID Label/Location</i>	<i>Label Artwork and Location</i>	<i>UBOVM5602B_Label &amp; Location.pdf_Rev1</i>
<i>User Manual</i>	<i>User Manual</i>	<i>UBOVM5602B_User Manual.pdf_Rev3</i>
<i>Test setup photos</i>	<i>Test setup photos</i>	<i>EBOVM5602B_Test Setup Photos_Rev1.pdf</i>

### **Test Location**

*Tests performed at Shenzhen Electronic Product Quality Testing center in a Certified ANSI Semi-Anechoic Chamber and Shielded Room.*

*Test Site Location: Electronic Testing Building Shahe Road, Xili, Nanshan District Shenzhen 518055, P.R.China.*

*Tel: 86-755-26703698*

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*Registration Number: 261032*

### **Accreditation Bodies**

*EMC Compliance Management Group is a fully accredited Test Laboratory for ITE, ISM and Telecommunications Products.*



*In compliance with the site registration requirements of Section 2.948 of the FCC Rules to perform EMI measurements for the general public.*



*Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code # 200068-0.*

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## ADMINISTRATIVE DATA

*Test Sample* : Back Mirror Wireless Player

*Model Name* : VM-5602B / VM-5602

*FCC ID* : UBOVM5602B

*Model Tested* : VM-5602B

*Serial Number* : Engineering Sample

*Date Tested* : 2006, June 5<sup>th</sup> to 16<sup>th</sup>

*Applicant* : Global Elite Electronic Company Limited  
5F South m, Building No.1 Jinxiang  
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Shenzhen

*Telephone* : 86 755-83306746

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*Manufacturer* : Global Elite Electronic Company Limited  
5F South m, Building No.1 Jinxiang  
Buildings ,South Xinzhou Road  
Futian District Shenzhen

## ***EUT Description***

*Global Elite Electronic Company Limited, model tested VM-5602B (referred to as the EUT in this report) is a Back Mirror Wireless Player.*

*The EUT including two modules that are FM transmitter and Bluetooth, which equipped with AUX/USB/SD card input jack. The FM module selects frequency(from 88.1M-107.9M) to transmit, then searches the car FM radio to receive concern frequency. The other is bluetooth cell phone handsfree double amplifying. Details on electrical reference is listed as below:*

### *FM Transmitter Module:*

- a. frequency range : 88.1M-107.9M*
- b. frequency response: 125Hz-15KHz*
- c. transmission power:0.5uW*
- d. effective distance:>1m*
- e. signal/noise ratio:>-46dB*

### *Bluetooth Module:*

- a. frequency range:2.4G automatic frequency-hopping*
- b. 1.2 Transmission standard*

*Voltage: car power source 12V-24V*

## ***EUT Model Differences***

*The difference between models of VM-5602B and VM-5602 is that VM-5602B with Bluetooth function and VM-5602 without Bluetooth function.*

## Test Summary

The Electromagnetic Compatibility requirements on tested model tested VM-5602B for this test is stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

VM-5602B has been found to conform to the following parts of the 47 CFR FCC as detailed below:

Specification	Description	Result Pass/Fail	Remark
FCC part 15.207	Conducted Limits	Pass	Test is not applicable, because EUT only employ battery power for operation.
FCC part 15.209(a) 15.239&15.33(a)	Radiated Emissions limits	Pass	The unit complies with the radiated emission of FCC part 15.209(a)&15.239&15.33(a)
FCC part 15.239(a)	Occupied bandwidth measurement	Pass	The unit complies with the bandwidth Limit of 15.239.
FCC part 15.239(c)	Band edge measurement	Pass	The unit Complies with the bandwidth emissions of 15.239.

This report an application for Certification of Transmitter operation pursuant to FCC part 15.239, code of federal regulations 47. The product covered by this report is the VM-5602B. This report is designed to demonstrate the compliance of this device with the requirements outlined in 47 CFR Part 15 using the methods in CFR 47 Part 2.

## Test Mode Justification

This device complies with Part 15 of the FCC rules. Operations 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.

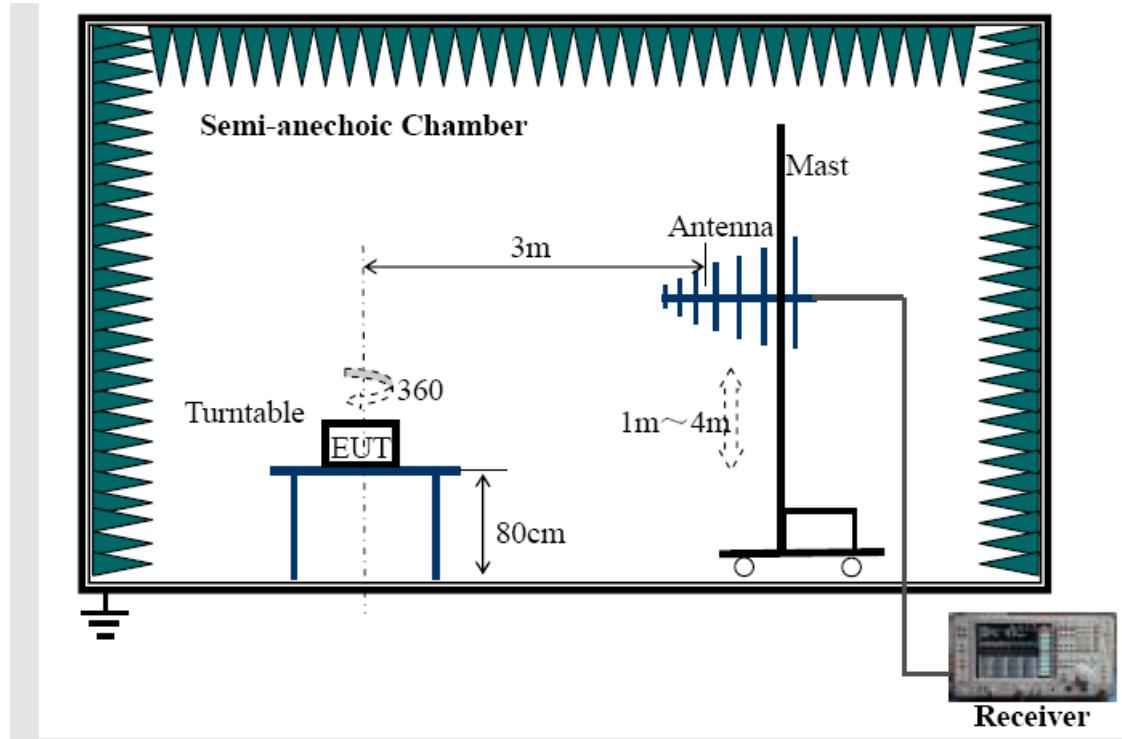
### **Equipment Modification**

*Any modifications installed previous to testing by Global Elite Electronic Company Limited will be incorporated in each production model sold or leased in United States.*

*There were no modifications for this EUT intended for grant.*

<b>EUT</b>				
<b>Model Name:</b>	<b>VM-5602B / VM-5602</b>			
<b>Tested Model Name:</b>	<b>VM-5602B</b>			
<b>Serial Number:</b>	<b>Engineering Sample</b>			
<b>Description:</b>	<b>Back Mirror Wireless Player</b>			
<b>Manufacturer:</b>	<b>Global Elite Electronic Company Limited</b>			
<b>Support Equipment</b>				
<b>Description</b>	<b>Model Number</b>	<b>Serial Number</b>	<b>Manufacturer</b>	<b>Power Cable Description</b>
USB-DISK	LGU-012(128M)	N/A	LANGGUAN	N/A
SD-CARD	16 MB	N/A	TOSHIBA	N/A
MP4	F786(512M)	N/A	AIGO	N/A
<b>Car Power Cable Description</b>				
<b>From</b>	<b>To</b>	<b>Length (Meters)</b>	<b>Shielded (Y/N)</b>	<b>Ferrite Loaded (Y/N)</b>
EUT	CAR	1.5	N	N

### ***Configuration of Tested system***



## 1. FCC 15.239 Radiated emissions

### Limit:

According to 15.239 the field strength of emissions from intentional radiators operated under these frequency bands shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of fundamental (uV/meter) dB uV/meter	
88-108	250	47.9

Field strength limits are at the distance of 3 meter, emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following table:

Other Frequency (MHz)	Field strength (uV/meter) dB uV/meter	
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

### Note:

1. Field Strength (dBmV/m) = 20 log Field Strength (mV/m).
2. In the emission tables above, the tighter limit applies at the band edges

### **Test Procedures:**

- a. The EUT was placed on the top of a ratable 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meter above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to the heights from 1 to 4 meters and the ratable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detector Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emission that did not have 10 dB margin would be retested one by one using the quasi-peak method.

### **EUT Operating Conditions:**

The EUT was powered by 12VDC.

The EUT was working at USB/SD-Card/AUX input mode during the test  
The EUT was working continuously at the highest middle and the lowest frequency during the test.

The input signal is 1kHz.

For Aud input, the level of the signal is 0.2V.

### **Test Equipment List:**

<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal. Due</b>
Test Receiver	ROHDE&SCHWARZ	ESIB26	100130	06/10/06	06/10/07
Ultra Broadband Ant.	ROHDE&SCHWARZ	HL562	100089	06/05/06	06/05/07
Semi-Anechoic Chamber	Albatross	H-249	P21505-016-001	04/18/06	04/18/07

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Prepared by EMC Compliance Management Group

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**Test Data-Radiated Emission Measurements (FCC 15.239):**

Set-up/Configuration: ANSI C63.4: 2003, CISPR 16-1:2002

**USB MODE(play 1kHz signal):**

**For lowest channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
88. 1	H	AV	27.54	11.2	38.74	47.9	-9.16
88. 1	H	PK	30.76	11.2	41.96	67.9	-25.94

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV)</b>	<b>Correction Factor (dB/m)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
70.46	H	QP	20.82	8.0	28.82	43.5	-14.68
154.68	V	QP	16.26	12.0	28.26	43.5	-15.24
212.86	V	QP	20.37	11.8	32.17	43.5	-11.33
*176.2	H	QP	14.15	11.2	25.35	43.5	-18.15
*264.3	H	QP	17.58	14.8	32.38	46.0	-13.62
386.56	V	QP	11.79	17.4	29.19	46.0	-16.81

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

**For middle channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
98.1	H	AV	26.94	12.3	39.24	47.9	-8.66
98.1	H	PK	29.55	12.3	41.85	67.9	-26.05

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
70.64	H	QP	22.47	8.0	30.47	46.0	-15.53
153.93	V	QP	15.04	11.9	26.94	46.0	-19.06
*196.2	V	QP	15.58	10.8	26.38	43.5	-17.12
*294.3	H	QP	16.92	14.5	31.42	46.0	-14.58
312.75	H	QP	7.73	15.0	22.73	46.0	-23.27
483.52	V	QP	2.56	19.1	21.66	46.0	-24.34

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

**For highest channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
107.9	H	AV	27.55	13.2	40.75	47.9	-7.15
107.9	H	PK	30.28	13.2	43.48	67.9	-24.42

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (Db)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (Db)</b>
70.12	H	QP	23.86	8.0	31.86	43.5	-11.64
115.57	V	QP	15.34	13.4	28.74	43.5	-14.76
*215.8	V	QP	19.22	11.4	30.62	43.5	-12.88
313.79	H	QP	9.24	15.1	24.34	46.0	-21.66
*431.6	V	QP	11.13	18.4	29.53	46.0	-16.47
483.45	H	QP	4.78	19.1	23.88	46.0	-22.12

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

**SD-CARD MODE(play 1kHz signal):**

**For lowest channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
88.1	H	AV	27.42	11.2	38.62	47.9	-9.28
88.1	H	PK	30.16	11.2	41.36	67.9	-26.54

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
70.48	H	QP	21.43	8.0	29.43	43.5	-14.07
115.84	V	QP	16.95	13.4	30.35	43.5	-13.15
*176.2	H	QP	20.77	11.2	31.97	43.5	-11.53
*264.3	H	QP	12.44	14.8	27.24	46.0	-18.76
362.73	V	QP	13.36	17.2	30.56	46.0	-15.44
486.57	V	QP	9.66	19.4	29.06	46.0	-16.94

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

**For middle channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
98.1	H	AV	26.55	12.3	38.85	47.9	-9.05
98.1	H	PK	28.97	12.3	41.27	67.9	-26.63

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
74.36	H	QP	21.93	8.7	30.63	43.5	-12.87
116.19	V	QP	18.06	13.4	31.46	43.5	-12.05
*196.2	H	QP	20.28	10.8	31.08	43.5	-12.42
*294.3	H	QP	14.74	14.5	29.24	46.0	-16.76
363.32	V	QP	9.06	17.3	26.36	46.0	-13.64
487.14	V	QP	8.91	19.5	28.41	46.0	-17.59

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

**For highest channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
107.9	H	AV	27.22	13.2	40.42	47.9	-7.48
107.9	H	PK	29.66	13.2	42.86	67.9	-15.04

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
76.75	H	QP	22.17	8.7	30.87	43.5	-12.63
118.52	V	QP	18.18	13.5	31.68	43.5	-11.82
*215.8	H	QP	18.89	11.4	30.29	43.5	-13.21
*323.7	H	QP	13.96	15.1	29.06	46.0	-16.94
363.32	V	QP	10.13	17.4	27.53	46.0	-18.47
487.14	V	QP	10.31	19.5	29.81	46.0	-16.19

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

**AUX IN MODE(input 1kHz signal 0.2V):**

**For lowest channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
88.1	H	AV	28.28	11.2	39.48	47.9	-8.42
88.1	H	PK	31.49	11.2	42.69	67.9	-25.21

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
79.46	H	QP	20.78	9.4	30.18	43.5	-13.32
126.47	V	QP	16.56	12.9	29.46	43.5	-14.05
*176.2	H	QP	17.17	11.2	28.37	43.5	-15.13
*264.3	H	QP	15.12	14.8	29.92	46.0	-16.08
*352.4	V	QP	9.55	16.7	26.25	46.0	-19.75
483.86	V	QP	7.86	19.1	26.96	46.0	-19.04

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

## For middle channel

### Fundamental radiated emission

Emission Frequency (MHz)	Antenna Polarization (V/H)	Test Detector	Raw Reading (dBuV/m)	Correction Factor (dB)	Corrected Reading (dBuV/m)	3 Meters Limit (dBuV/m)	Margin (dB)
98.1	H	AV	27.51	12.3	39.81	47.9	-8.09
98.1	H	PK	30.84	12.3	43.14	67.9	-24.76

### Harmonic&spurious radiated emission

Emission Frequency (MHz)	Antenna Polarization (V/H)	Test Detector	Raw Reading (dBuV/m)	Correction Factor (dB)	Corrected Reading (dBuV/m)	3 Meters Limit (dBuV/m)	Margin (dB)
76.38	H	QP	21.36	8.7	30.06	43.5	-13.44
123.74	V	QP	16.44	13.5	29.94	43.5	-13.56
*196.2	H	QP	18.56	10.8	29.36	43.5	-14.14
*294.3	H	QP	15.68	14.5	30.18	46.0	-15.82
*392.4	V	QP	9.89	17.4	27.29	46.0	-18.71
480.37	V	QP	9.82	18.6	28.42	46.0	-17.58

### Remark:

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

**For highest channel**

**Fundamental radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
107.9	H	AV	26.95	13.2	40.15	47.9	-7.75
107.9	H	PK	31.19	13.2	44.39	67.9	-23.51

**Harmonic&spurious radiated emission**

<b>Emission Frequency (MHz)</b>	<b>Antenna Polarization (V/H)</b>	<b>Test Detector</b>	<b>Raw Reading (dBuV/m)</b>	<b>Correction Factor (dB)</b>	<b>Corrected Reading (dBuV/m)</b>	<b>3 Meters Limit (dBuV/m)</b>	<b>Margin (dB)</b>
74.56	H	QP	21.46	8.7	30.16	43.5	-13.34
121.29	V	QP	16.88	13.2	30.08	43.5	-13.42
*215.8	H	QP	20.05	11.4	31.45	43.5	-12.05
*323.7	H	QP	15.74	15.1	30.84	46.0	-15.16
*431.6	V	QP	10.63	18.4	29.37	46.0	-16.63
479.92	V	QP	10.38	18.6	28.98	46.0	-17.02

**Remark:**

1. Remark "\*" means the local oscillator frequency's harmonics.
2. Uncertainty was calculated in accordance with NAMAS NIS 81. In the general radiated emission test ,the uncertainty is within +/- 2.5dB.
3. Corrected Reading(dBuV/m)=Raw reading(dBuV) + Correction Factor(dB/m)
4. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
5. The other emission levels were very low against the limit.

## 2. occupied bandwidth Measurement

### **Limit:**

According to CFR 47 FCC Part15 subpartC 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 rang of 88-108M.

### **Test procedures:**

- a. The occupied bandwidth measurement was performed in a full anechoic chamber using radiation measurement method. The air lost of the site and the factors of the test system is pre-calibrated using substitution method.
- b. The EUT was placed on the vertical axis of a turntable 0.8 meters above the ground.
- c. For the frequency range 30 MHz to 3 GHz, ultra-broadband bi-log antenna was used. The antenna was at the same height as the EUT. Since there was no reflection from the chamber floor and the site was pre-calibrated, the antenna height need not to be changed as the open site method. The polarization of the receiving antenna was the same as that of the EUT transmitting antenna.
- d. The spectrum analyzer was set to Maxpeak Detector and Maximum Hold mode. The resolution bandwidth was set to at least 1% of the emission bandwidth. For FM signal, VBW=RBW=3kHz.

### **EUT Setup and Operating Conditions:**

- a. The EUT was powered by 12VDC.
- b. The EUT was working continuously transmitter at the highest middle and the lowest frequency during the test.
- c. the input port is AUD input, the signal is white noise. This is the worst case.

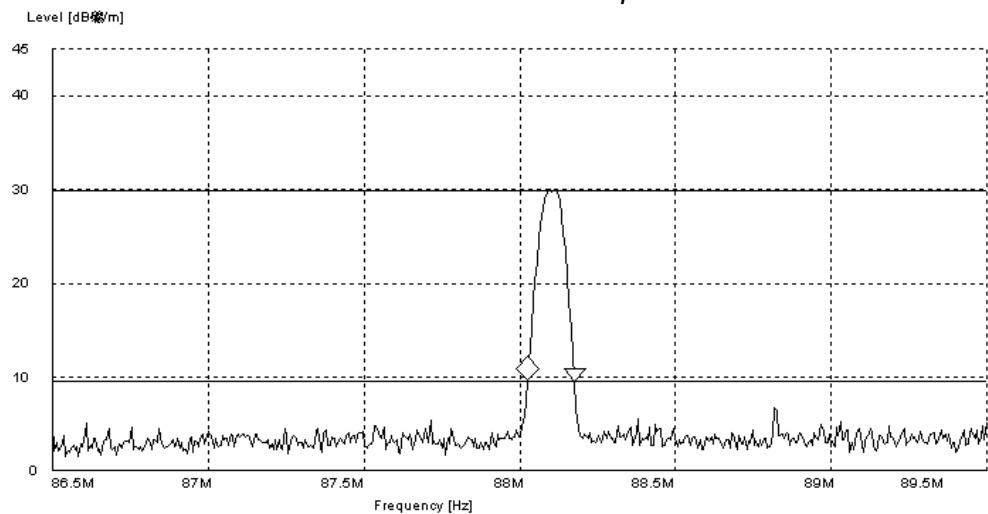
### **Test Equipment List:**

Test Equipment	Manufacturer	Model	Serial No.	Last Cal.	Cal. Due
Test Receiver	ROHDE&SCHWARZ	ESIB26	100130	06/10/06	06/10/07
Ultra Broadband Ant.	ROHDE&SCHWARZ	HL562	100089	06/15/06	06/15/07
Semi-Anechoic Chamber	Albatross	H-249	P21505-016-001	04/16/06	04/16/07

**Test Data:**

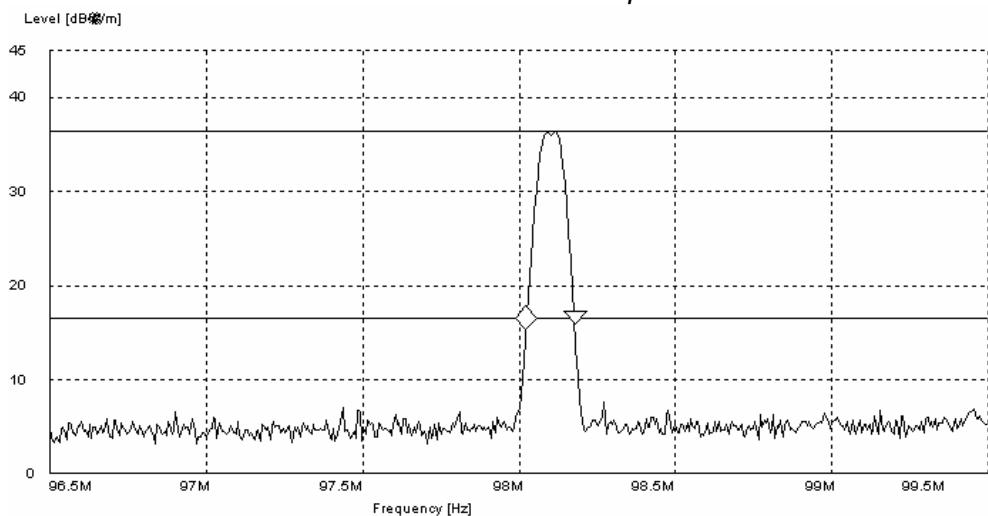
**For lowest channel 88.1MHz**

occupied bandwidth : 150.01KHz



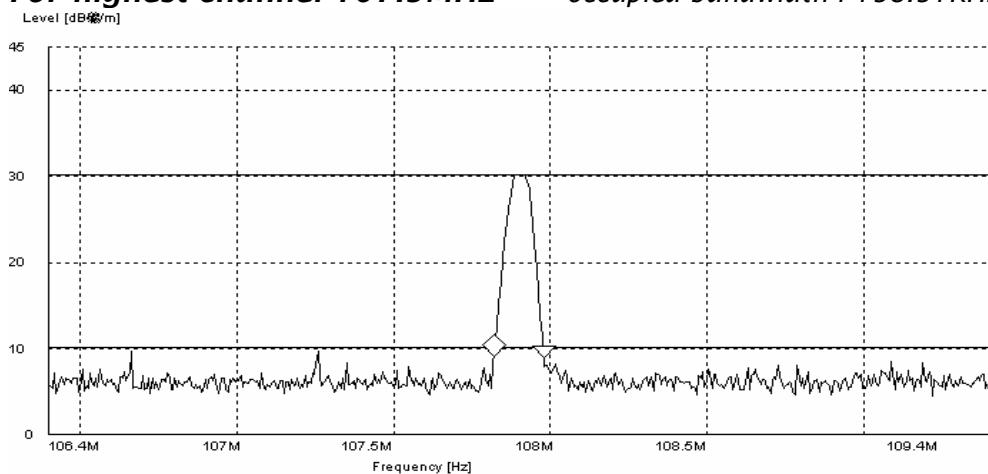
**For middle channel 98.1MHz**

occupied bandwidth : 155.58KHz



**For highest channel 107.9MHz**

occupied bandwidth : 158.51KHz



**FCC Test Report #: GLO-0606-5435-FCC**

**Prepared for Global Elite Electronic Company Limited**

**Prepared by EMC Compliance Management Group**

### 3. Band Edge Measurement

#### **Limit:**

*The band 88 MHz to 108 MHz is the band authorized by FCC Part 15.239. FCC Part 15.239(c) states that 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. The following emission is taken at the edge of the authorized band using the more stringent FCC §15.209 limit of 100 microvolts/meter at a 3 meter distance, equivalent to a 40 dB  $\mu$  V/m limit.*

#### **Test procedures:**

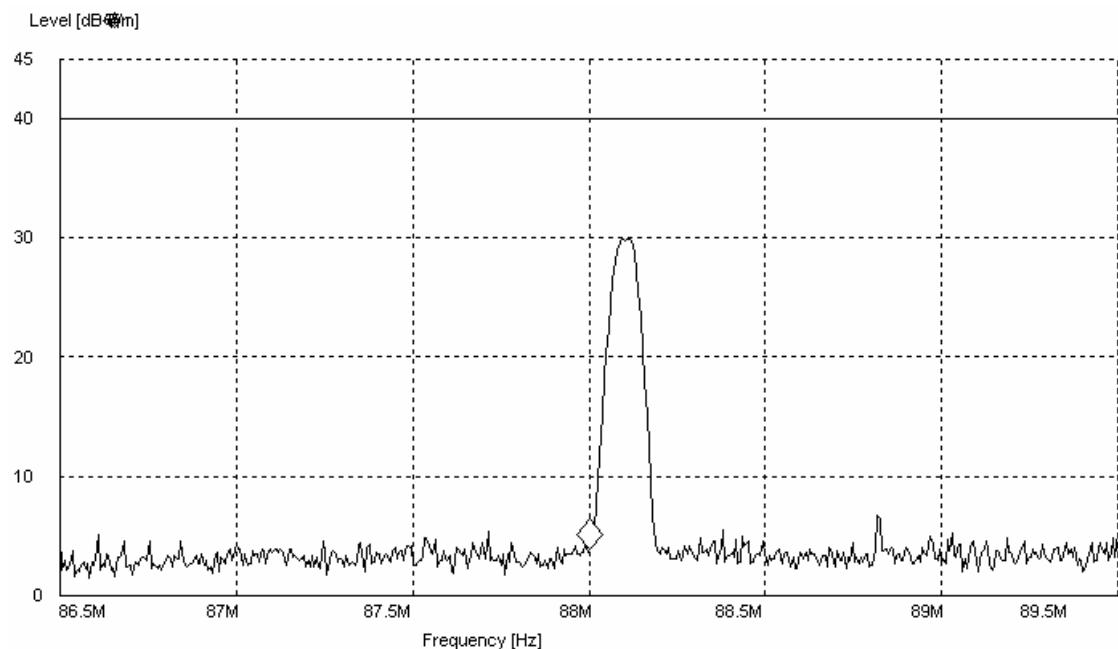
*Compliance with the band edge was performed using the lowest and highest channel frequency the determination of the band was made using 1% of the span for the resolution bandwidth setting. The final data derived below were from radiated measurements only. The data taken in this report represents the worst case using transmitter mode .*

#### **Test equipment list:**

<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal. Due</b>
Test Receiver	ROHDE&SCHWARZ	ESIB26	100130	06/10/06	06/10/07
Ultra Broadband Ant.	ROHDE&SCHWARZ	HL562	100089	06/15/06	06/15/07
Semi-Anechoic Chamber	Albatross	H-249	P21505-016-001	04/16/06	04/16/07

**Test Data:**

*Band Edge for Lowest channel 88.1MHz*



*Band Edge for Highest channel 107.9MHz*

