



## SGS-CSTC Standards Technical Services Ltd.

No.198 Kezhu Road, Science Town Economic& Technology  
Development District Guangzhou, China 510663  
Telephone: +86 (0) 20 8215 5555 Fax: +86 (0) 20 8207 5059  
Email: sgs\_internet\_operations@sgs.com

**FEDERAL COMMUNICATIONS COMMISSION**  
Registration number: 556682

Report No.: SZEMO070802207RFF  
Page: 1 of 9  
FCC ID: Q38A68D7741

# TEST REPORT

**Application No. :** SZEMO070802207RF(SGS SZ NO.: SZTYR060300520/EL)  
**Applicant:** Kiu Hung Industries Ltd  
**FCC ID:** Q38A68D7741  
**Fundamental Frequency :** 95.6MHz  
**Equipment Under Test (EUT):**  
EUT Name: FM Wireless Microphone  
Model No.: A68D7741  
Labelled Age Grading: 3 years +  
Country of Origin:: CHINA  
**Standards:** FCC PART 15, SUBPART C : 2007  
**Date of Receipt:** 23 August 2007  
**Date of Test:** 13 January 2008  
**Date of Issue:** 15 January 2008

<b>Test Result :</b>	<b>PASS *</b>
----------------------	---------------

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo  
Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.



## **2 Test Summary**

<b>Test</b>	<b>Test Requirement</b>	<b>Stanadard Paragraph</b>	<b>Result</b>
Radiated Emission (30MHz to 1000MHz)	FCC PART 15 :2007	Section 15.239	PASS
Occupied Bandwidth	FCC PART 15 :2007	Section 15.215	PASS

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.



### 3 Contents

	Page
1 COVER PAGE .....	1
2 TEST SUMMARY .....	2
3 CONTENTS .....	3
4 GENERAL INFORMATION.....	4
4.1 CLIENT INFORMATION .....	4
4.2 DETAILS OF E.U.T. ....	4
4.3 DESCRIPTION OF SUPPORT UNITS .....	4
4.4 TEST LOCATION .....	4
4.5 OTHER INFORMATION REQUESTED BY THE CUSTOMER.....	4
5 TEST RESULTS .....	5
5.1 TEST INSTRUMENTS.....	5
5.2 E.U.T. OPERATION .....	5
5.3 TEST PROCEDURE & MEASUREMENT DATA .....	5
5.3.1 <i>Radiated Emissions</i> .....	5-8
5.3.2 <i>Occupied Bandwidth</i> .....	9



## **4 General Information**

### **4.1 Client Information**

Applicant Name: Kiu Hung Industries Ltd  
Applicant Address: 14/F., Yale Industrial Center, 61-63 Au Pui Wan Street, Fotan, Hong Kong

### **4.2 Details of E.U.T.**

EUT Name: FM Wireless Microphone  
Item No.: A68D7741  
Power Supply: 3.0V DC (2\*1.5V 'AA' Size Batteries) for Tx.  
Power Cord: N/A-

### **4.3 Description of Support Units**

The EUT was tested as an independent unit: 95.6MHz radio transmitter.

### **4.4 Test Location**

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic & Technology Development District Guangzhou, China 510663

Tel: +86 20 8215 5555 Fax: +86 20 8207 5059

### **4.5 Other Information Requested by the Customer**

None.



## 5 Test Results

### 5.1 Test Instruments

R&TTE RE in Chamber						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	16-06-2007	15-06-2008
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	12-12-2007	11-12-2008
3	EMI Test software	AUDIX	E3	SEL0050	N/A	N/A
4	Coaxial cable	SGS	N/A	SEL0028	01-06-2007	31-05-2008
5	Coaxial cable	SGS	N/A	SEL0027	20-10-2007	19-10-2008
6	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0014	12-08-2007	11-08-2008
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEL0022	27-06-2007	26-06-2008
8	Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	15-06-2007	14-06-2008

### 5.2 E.U.T. Operation

Input voltage:	3.0V DC
Operating Environment:	
Temperature:	26.0 °C
Humidity:	51% RH
Atmospheric Pressure:	1004mbar
EUT Operation:	Test the EUT in transmitting mode.
Modulation Signal:	FM 1KHz
FM deviation of modulation signal:	±75KHz

### 5.3 Test Procedure & Measurement Data

#### 5.3.1 Radiated Emissions

Test Requirement:	FCC Part15 C Section 15.239
Test Method:	ANSI C63.4
Test Date:	27 August 2007(Initial Test) 19 December 2007(First Retest) 07 January 2008(Second Retest)
Measurement Distance:	3m (Semi-Anechoic Chamber)
Requirements:	Carrier frequency will not exceed 80dBuV/m AT 3m. Out of band emissions shall not exceed: 40.0 dBuV/m between 30MHz & 88MHz 43.5 dBuV/m between 88MHz & 216MHz 46.0 dBuV/m between 216MHz & 960MHz



## SGS-CSTC Standards Technical Services Ltd.

Report No.: SZEMO070802207RFF

Page: 6 of 9

**Detector:**

54.0 dB $\mu$ V/m above 960MHz

RBW=9KHz VBW=30KHz for 9kHz to 30MHz;

RBW=120KHz VBW=300KHz for 30MHz to 1000MHz

**Requirement:**

- (a) Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range of 88-108 MHz.
- (b) 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.
- (c) 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 Section 15.209.

**Test Procedure:**

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum 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. Repeat above procedures until the measurements for all frequencies are complete.
- 7 The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

The following measurements were performed on the modified modified EUT on 10 April 2007:  
Test the EUT in transmitting mode.

**Intentional emission**

Test Frequency (MHz)	Peak (dBμV/m)		Limits (dBμV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
95.6	44.2	39.1	68.0	23.8	28.9

Test Frequency (MHz)	Average (dBμV/m)		Limits (dBμV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
95.6	43.0	38.2	48.0	5.0	9.8

Y: EUT as per photograph in section 5.3.3 of this report.

X: As Y, but rotate EUT by 90° clockwise.

Z: As X, but rotate EUT by 90° vertically.

**Other emissions**

Test Procedure: The procedure used was ANSI Standard C63.4-2003. The receive was scanned from 30MHz to 1000MHz. When an emission was found, the table was rotated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. The worst case emissions were reported.

An initial pre-scan was performed in the 3m chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bilog antenna with 2 orthogonal polarities



Test the EUT in transmitting mode.

Horizontal.

Frequency (MHz)	Antenna Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	Read Level (dBuV)	Quasi-Peak Level (dBuV/m)	Cable Loss (dB)	Preamp Factor (dB)
188.11	1.38	10.06	27.22	34.80	19.02	43.50	-24.48
285.11	1.83	13.26	26.77	35.41	23.73	46.00	-22.27
476.20	2.51	17.80	27.64	37.05	29.72	46.00	-16.28
570.29	2.67	19.07	27.65	33.53	27.62	46.00	-18.38

Vertical.

Frequency (MHz)	Antenna Factor (dB/m)	Limit Line (dBuV/m)	Over Limit (dB)	Read Level (dBuV)	Quasi-Peak Level (dBuV/m)	Cable Loss (dB)	Preamp Factor (dB)
62.98	0.80	7.11	28.03	34.00	13.88	40.00	-26.12
191.02	1.39	10.11	27.20	41.10	25.40	43.50	-18.10
288.02	1.85	13.40	26.76	36.79	25.28	46.00	-20.72
382.11	2.15	16.08	27.30	38.22	29.15	46.00	-16.85

Remark:

According to 15.35 (b) When average radiated emission measurements are specified in the regulations, including emission measurements below 1000 MHz, there is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules, e.g., see Section 15.255.

**Test Results: The unit does meet the FCC Part 15 C Section 15.239 requirements.**



### 5.3.2 Occupied Bandwidth

Test Requirement: FCC Part 15 C Section 15.215 (C) and Section 15.239.

Test Method: ANSI C63.4

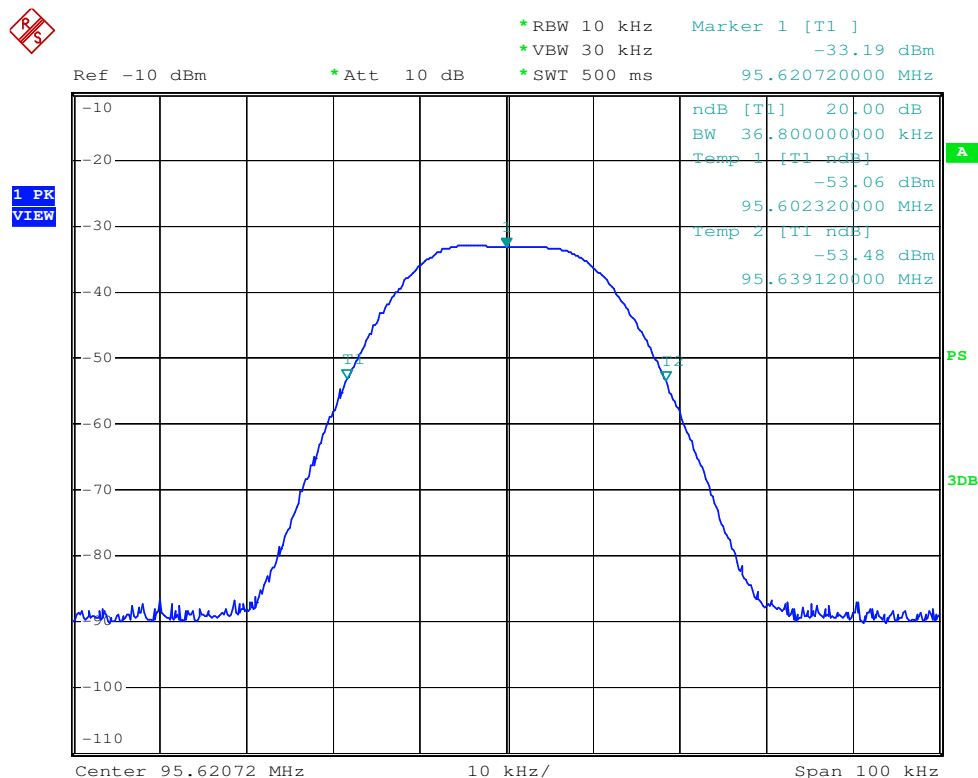
Operation within the band 88-108 MHz .

Test Date: 04 July 2006

### 88-108MHz Mode.

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

Method of measurement: The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector. The vertical Scale is set to 10dB per division. The horizontal scale is set to 10KHz per division.



Date: 17.DEC.2007 13:15:02

**The results: The unit does meet the FCC Part 15 C Section 15.215 requirements**