STC Test Report

Date : 2007-04-16
No. : HM158399

Applicant: WORLD ENTERPRISE SINO LTD.
RM. 2504, 25/F, HOPEWELL CENTRE, 183 QUEEN'S ROAD EAST, WANCHAI, H.K.

Description of Samples:

Model name:	FM HI-FI WIRELESS EARPHONE USER'S MANUAL
Model no.:	006879
Brand name:	N/A
FCC ID:	U5368793621788

Date Samples Received: 2007-03-22

Date Tested: 2007-03-27 to 2007-04-04

Investigation Requested: FCC Part 15 Subpart C

Conclusions: The submitted product COMPLIED with the requirements of Federal Communications Commission [FCC] Rules and Regulations Part 15. The tests were performed in accordance with the standards described above and on Section 2.2 in this Test Report.

Remarks: ----

LEE Kam Chuen, EMD
For and on behalf of
The Hong Kong Standards and Testing Centre Ltd.

CONTENT:

Appendix A

Appendix B

The Hong Kong Standards and Testing Centre Ltd.
10 Dai Wang Street, Taipo Industrial Estate, N.T., Hong Kong
Tel: (852) 2666 1888 Fax: (852) 2664 4353 Homepage: www.hkstc.org E-mail: hkstc@hkstc.org

1.0 General Details

1.1 Test Laboratory

The Hong Kong Standards and Testing Centre Ltd.
EMC Laboratory
10 Dai Wang Street, Taipo Industrial Estate
New Territories, Hong Kong

Telephone: 852 2666 1888
Fax: 852 2664 4353

1.2 Applicant Details

Applicant

WORLD ENTERPRISE SINO LTD.
RM. 2504, 25/F, HOPEWELL CENTRE, 183 QUEEN'S ROAD EAST, WANCHAI, H.K.

Manufacturer

POLYTAK ENTERPRISES LTD.
SHIWAN POLYTAK ELECT. FTY,
LI SHAN NAN ROAD, SHIW AN BOLUO

1.3 Equipment Under Test [EUT]

Description of Sample

Model Name:	FM HI-FI WIRELESS EARPHONE USER'S MANUAL
Manufacturer:	POLYTAK ENTERPRISES LTD.
Brand Name:	N/A
Model Number:	006879
Input Voltage:	3Vd.c. ("AA" size battery x 2) or 4.5Vd.c. with jack

The AC/DC Adaptor used for the tests was a "Winstar" adaptor: Model Number: NA-12, Input: 100-120/220-240Va.c., Output: 3-15Vd.c. 1200mA max.

1.3.1 Description of EUT Operation

The Equipment Under Test (EUT) is a WORLD ENTERPRISE SINO LTD., FM HI-FI WIRELESS EARPHONE USER'S MANUAL. The transmitter is a 1 button transmitter. The EUT continues to transmit while button is being pressed. It is voice transmitter, modulation by Microphone and type is frequency modulation.

1.4 Date of Order

2007-03-22

1.5 Submitted Sample(s):

2 Samples

1.6 Test Duration

2007-03-27 to 2007-04-04

1.7 Country of Origin

China

2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2006 and ANSI C63.4: 2003 for FCC Certification.

2.2 Test Standards and Results Summary Tables

EMISSION
Results Summary

Test Condition	Test Requirement	Test Method	Class / Severity	Test Result		
				Pass	Failed	N/A
Field Strength of Fundamental Emissions & Spurious Emissions	FCC 47CFR 15.239	ANSI C63.4:2003	N/A	☒	☐	☐
Radiated Emissions, 30MHz to 1GHz	FCC 47CFR 15.209	ANSI C63.4:2003	Class B	☒	☐	☐
Conducted Emissions on AC, 0.15MHz to 30MHz	FCC 47CFR 15.207	ANSI C63.4:2003	Class B	☒	☐	☐

Note: N/A - Not Applicable

3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions (30 – 1000MHz)

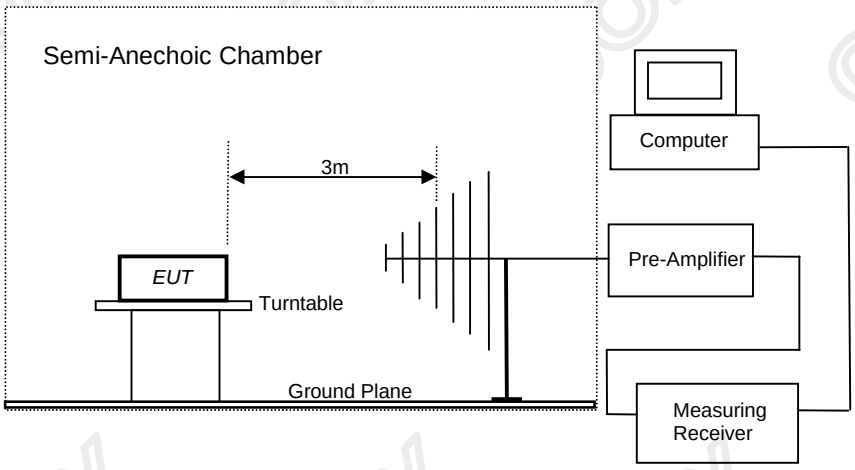
Test Requirement:	FCC 47CFR 15.239
Test Method:	ANSI C63.4:2003
Test Date:	2007-04-04
Mode of Operation:	Tx mode

Test Method:

The sample was placed 0.8m above the ground plane of semi-anechoic Chamber*. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

*: Semi-anechoic chamber located on the G/F of HKSTC with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 607756.

Test Setup:



Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.239]:

Frequency Range of Fundamental [MHz]	Peak Limits [μV/m]	Average Limits [μV/m]
88-108	2,500	250

Results of Tx mode: PASS

Field Strength of Fundamental Emissions Peak Value						
Frequency MHz	Measured Level @3m dBμV	Correction Factor dB/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
88.38	30.70	8.2	38.9	88.1	2,500	Vertical

Field Strength of Fundamental Emissions Average Value						
Frequency MHz	Measured Level @3m dBμV	Correction Factor dB/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
88.38	28.90	8.2	37.1	71.6	250	Vertical

Remarks:

Correction Factor included Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty : 30MHz to 1GHz ±5.2dB

According to FCC 47CFR15.35, the limit on the radio frequency emissions as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit for the frequency being investigated unless a different peak emission limit is otherwise specified in the rules.

Limits for Radiated Emissions [FCC 47 CFR 15.209 Class B]:

Frequency Range [MHz]	Limits [µV/m]
30-88	100
88-216	150
216-960	200
Above960	500

The emission limits shown in the above table are based on measurement employing a CISPR quasi-peak detector and above 1000MHz are based on measurements employing an average detector.

Results of Tx mode: PASS

Radiated Emissions Quasi-Peak						
Frequency MHz	Measured Level @3m dBµV	Correction Factor dB/m	Field Strength dBµV/m	Field Strength µV/m	Limit @3m µV/m	E-Field Polarity
176.76	9.3	10.0	19.3	9.2	150	Vertical
265.14	< 12.5	15.2	< 27.7	< 24.3	200	Vertical
353.52	< 1.0	17.5	< 18.5	< 8.4	200	Vertical
441.90	< 1.0	10.2	< 11.2	< 3.6	200	Vertical
530.28	< 1.0	11.9	< 12.9	< 4.4	200	Vertical
618.66	< 1.0	12.4	< 13.4	< 4.7	200	Vertical
707.04	< 1.0	13.2	< 14.2	< 5.1	200	Vertical
795.42	< 1.0	15.0	< 16.0	< 6.3	200	Vertical
883.80	< 1.0	16.1	< 17.1	< 7.2	200	Vertical

Remarks:

Correction Factor included Antenna Factor and Cable Attenuation.
Calculated measurement uncertainty : 30MHz to 1GHz ±5.2dB

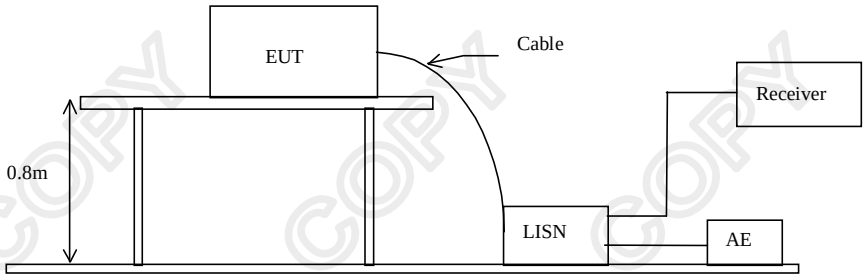
3.1.2 Conducted Emissions (0.15MHz to 30MHz)

Test Requirement:	FCC 47CFR 15.107
Test Method:	ANSI C63.4:2003
Test Date:	2007-04-04
Mode of Operation:	Tx mode

Test Method:

The test was performed in accordance with ANSI C63.4: 2003, with the following: an initial measurement was performed in peak and average detection mode on the live line, any emissions recorded within 30dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of results.

Test Setup:



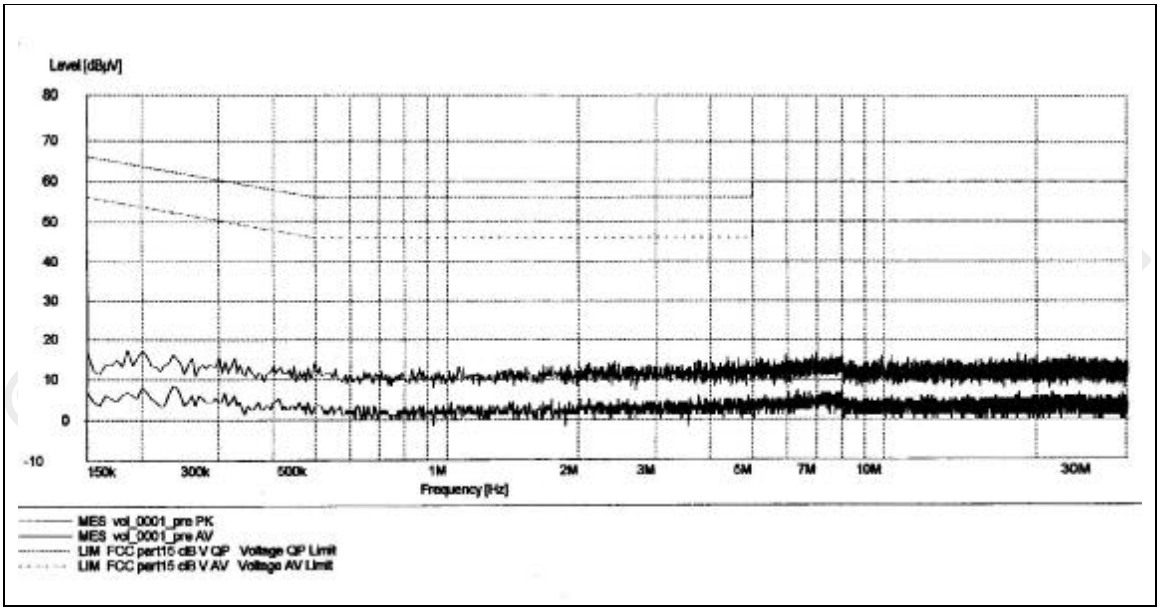
Limit for Conducted Emissions (FCC 47 CFR 15.107):

Frequency Range [MHz]	Quasi-Peak Limits [dBµV]	Average [dBµV]
0.15-0.5	66 to 56*	56 to 46*
0.5-5.0	56	46
5.0-30.0	60	50

* Decreases with the logarithm of the frequency.

Limits for Conducted Emissions Test, please refer to limit lines (Quasi-Peak and Average) in the following diagram.

Results of Tx mode: PASS



Conductor Live or Neutral	Frequency MHz	Quasi-peak Level dBµV	Quasi-peak Limit dBµV	Average Level dBµV	Average Limit dBµV
Emissions detected are more than 20 dB below the FCC Limits					

Remarks:

Calculated measurement uncertainty : ±3.97dB
-*- Emission(s) that is far below the corresponding limit line.

3.2 20B Bandwidth of Fundamental Emission

Test Requirement:	FCC 47 CFR 15.227
Test Method:	ANSI C63.4:2003 (Section 13.1.7)
Test Date:	2007-04-04
Mode of Operation:	Tx mode

Test Method:

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

Test Setup:

As Test Setup of clause 3.1.1 in this test report.

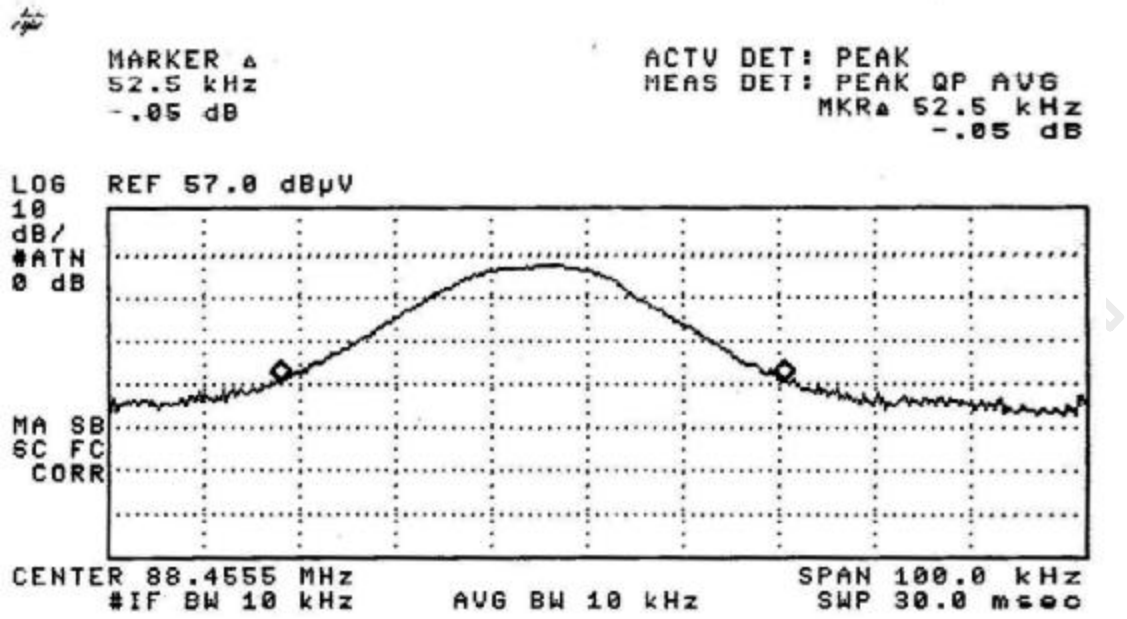
Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range [MHz]	20dB Bandwidth [kHz]	FCC Limits [kHz]
88.45	52.5	200

Result:

The following figure is the measured bandwidth of Fundamental Emission.

20dB Bandwidth of Fundamental Emission



3.3 Operation Description

The transmitter is a voice transmitter operating at 88.45MHz band. The transmitter is powered by a 3V battery “AA” size battery x 2. The operation is achieved by frequency modulating signal on the 88.45MHz carrier frequency.

Appendix A

List of Measurement Equipment

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.
EM007	SPECTRUM ANALYZER	HEWLETT PACKARD	HP85660B	3144A21192
EM008	SPECTRUM ANALYZER DISPLAY	HEWLETT PACKARD	HP85662A	3144A20514
EM009	QUASI PEAK ADAPTOR	HEWLETT PACKARD	HP85650A	3303A01702
EM010	RF PRESELECTOR	HEWLETT PACKARD	HP85685A	3221A01410
EM011	ATTENUATOR/SWITCH	HEWLETT PACKARD	HP11713A	2508A10595
EM012	PRE-AMPLIFIER	HEWLETT PACKARD	HP8449B	3008A00262
EM020	HORN ANTENNA	ETS-Linggren	3115	4032
EM022	LOOP ANTENNA	ETS-Linggren	6502	1189-2424
EM072	SIGNAL GENERATOR	HEWLETT PACKARD	8640B	1948A11892
EM083	OPEN AREA TEST SITE	HKSTC	N/A	N/A
EM131	EMC ANALYZER	HEWLETT PACKARD	8595EM	3710A00155
EM145	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESCS 30	830245/021
EM195	ANTENNA POSITIONING MAST	ETS-Linggren	2075	2368
EM196	MULTI-DEVICE CONTROLLER	ETS-Linggren	2090	1662
EM215	MULTIDEVICE CONTROLER	ETS-Linggren	2090	00024676
EM216	MINI MAST SYSTEM	ETS-Linggren	2075	00026842
EM217	ELECTRIC POWERED TURNTABLE	ETS-Linggren	2088	00029144
EM218	ANECHOIC CHAMBER	ETS-Linggren	FACT-3	--
EM219	BICONILOG ANTENNA	ETS-Linggren	3142C	00029071
EM229	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB40	100248

Line Conducted

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.
EM078	VARIAC	SHANGHAI VOLTAGE	TDGC-3/0.5	N/A
EM081	SMALL SCREENED ROOM	MIKO INST HK	N/A	N/A
EM119	LISN	ROHDE & SCHWARZ	ESH3-Z5	0831.5518.52
EM127	ISOLATION TRANSFORMER 220 TO 300V	WING SUN	N/A	N/A
EM233	PULSE LIMITER	ROHDE & SCHWARZ	ESH3-Z2	100314
EM181	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB7	100072
EM154	SHIELDING ROOM	SIEMENA MATSUSHITA COMPONENTS	N/A	803-740-057-99A
M197	LISN	ETS-Linggren	4825/2	1193

Remarks:-

CM Corrective Maintenance
N/A Not Applicable or Not Available
TBD To Be Determined

Appendix B

Photographs of EUT

Front View of the product

Rear View of the product

Front View of the product

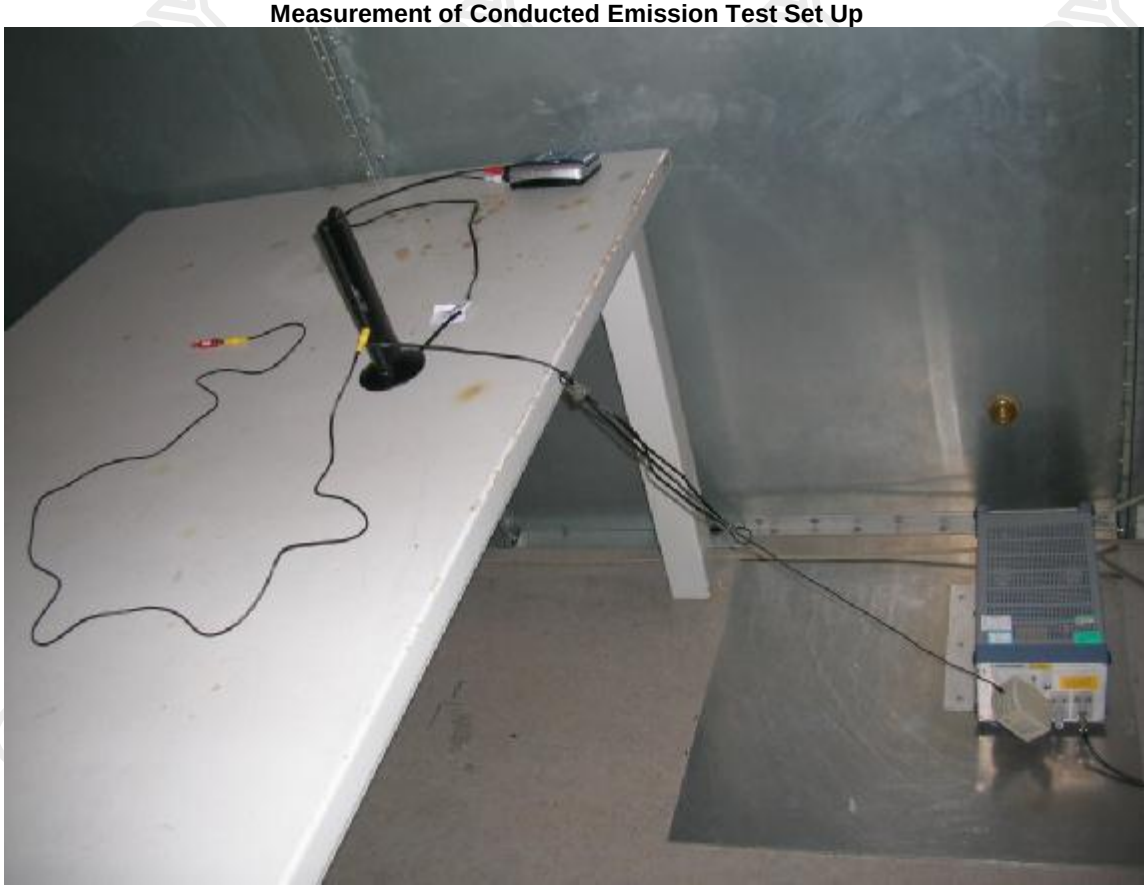
Rear View of the product

Photographs of EUT

Measurement of Radiated Emission Test Set Up

Photographs of EUT

Measurement of Conducted Emission Test Set Up



******* End of Test Report *******