



STC Test Report

Date: 2017-05-04
No.: HM170671

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Applicant: Supersonics Electronics Company
Phase II, Block C, 4th Floor, Gee Chang Ind. Bldg.,
108 Lok Shan Road, Kowloon,
Hong Kong

Manufacturer: Supersonics Electronics Toys (Shenzhen) Co. Ltd.
Block 1 & 2, Xin Tian Village, Xin Feng Ind. Area, Guan
Lan, BaoAn, Shanzhen, China

Description of Sample(s): Submitted samples(s) said to be
Product: WALKIE TALKIES
Brand Name: N/A
Model Number: 33310
FCC ID: II633310

Date Sample(s) Received: 2017-03-21

Date Tested: 2017-03-28 to 2017-05-04

Investigation Requested: Perform ElectroMagnetic Interference measurement in
accordance with FCC 47CFR [Codes of Federal
Regulations] Part 15: 2015 and ANSI C63.10: 2013 for
FCC Certification.

Conclusion(s): 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.

Remark(s): Laboratory Report supersedes our previous Test Report No.
HM170671 issued on 2017-04-07 which is hereby deemed
null and void.



Dr. LEE Kam Chuen,
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
The Hong Kong Standards and Testing Centre Ltd.



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1.0 General Details

1.1 Equipment Under Test [EUT] Description of Sample(s)

Product:	WALKIE TALKIES
Manufacturer:	Supersonics Electronics Toys (Shenzhen) Co. Ltd.
Brand Name:	N/A
Model Number:	33310
Input Voltage:	9Vd.c("6F22" size battery x1)

1.1.1 Description of EUT Operation

The Equipment Under Test (EUT) is an audio signal transceiver. The transceiver was operating with 1 button; the EUT was set into continuous transmission by affixing the adhesive tape on the push-to-talk button. The audio signal was modulated by IC, and the type of modulation is AM.

1.2 Date of Order

2017-03-21

1.3 Submitted Sample(s):

1 Sample

1.4 Test Duration

2017-03-28 to 2017-05-04

1.5 Country of Origin

China

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2.0 Technical Details

2.1 Investigations Requested

Perform Electromagnetic Interference measurements in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2015 Regulations and ANSI C63.10: 2013 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
Field Strength of Fundamental Emissions & Spurious Emissions	FCC 47CFR 15.235	ANSI C63.10: 2013	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emissions, 30MHz to 1GHz	FCC 47CFR 15.209	ANSI C63.10: 2013	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: N/A - Not Applicable

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3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions (30 – 1000MHz)

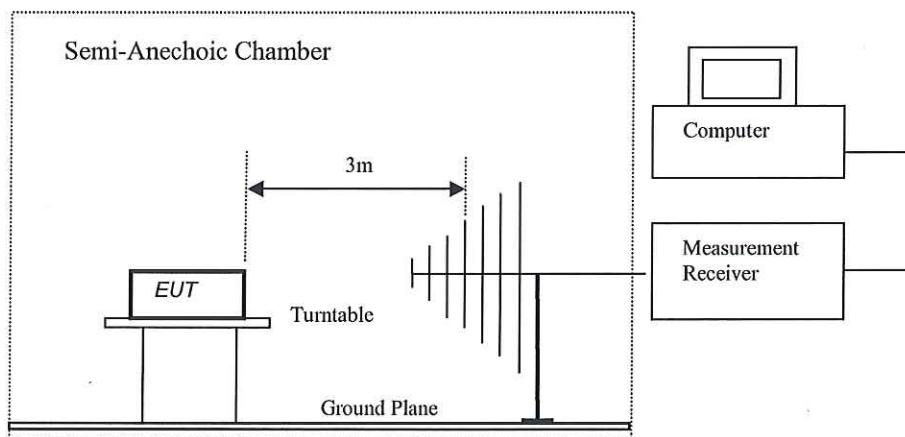
Test Requirement:	FCC 47CFR 15.235
Test Method:	ANSI C63.10: 2013
Test Date:	2017-03-28
Mode of Operation:	Tx mode

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 "The Hong Kong Standards and Testing Centre Ltd." with a metal ground plane filed with the FCC pursuant to section 2.948 of the FCC rules, with Registration Number: 607756.

Test Setup:



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Limits for Field Strength of Fundamental Emissions [FCC 47CFR 15.235]:

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission [Peak] [$\mu\text{V/m}$]	Field Strength of Fundamental Emission [Average] [$\mu\text{V/m}$]
49.82-49.90	100,000	10,000

Results of Tx mode: PASS

Field Strength of Fundamental Emissions Peak Value						
Frequency MHz	Measured Level @3m dB μV	Correction Factor dB/m	Field Strength dB $\mu\text{V/m}$	Field Strength $\mu\text{V/m}$	Limit @3m $\mu\text{V/m}$	E-Field Polarity
49.860	51.4	6.8	58.2	812.8	100,000	Vertical

Field Strength of Fundamental Emissions Average							
Frequency MHz	Measured Level @3m dB μV	Adjusted by Duty Cycle dB	Correction Factor dB/m	Field Strength dB $\mu\text{V/m}$	Field Strength $\mu\text{V/m}$	Limit @3m $\mu\text{V/m}$	E-Field Polarity
49.860	51.1	Nil	6.8	57.9	785.2	10,000	Vertical

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.

Remarks:

Correction Factor includes Antenna Factor and Cable Attenuation.

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Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [$\mu\text{V/m}$]
30-88	100
88-216	150
216-960	200
Above 960	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 (9kHz-30MHz): PASS

Emissions detected are more than 20 dB below the limit line(s).

Results of Tx mode: PASS

Radiated Emissions Quasi-Peak						
Frequency MHz	Measured Level @3m dB μV	Correction Factor dB/m	Field Strength dB $\mu\text{V/m}$	Field Strength $\mu\text{V/m}$	Limit @3m $\mu\text{V/m}$	E-Field Polarity
99.72	12.2	8.3	20.5	10.6	150	Vertical
199.44	19.6	10.2	29.8	30.9	150	Vertical
398.92	19.1	17.6	36.7	68.4	200	Vertical
448.76	14.4	18.1	32.5	42.2	200	Vertical

Remarks:

No further spurious emissions found between lowest internal frequency and 30MHz.

Correction Factor includes Antenna Factor and Cable Attenuation.

Calculated measurement uncertainty (30MHz – 1GHz): 4.9dB

Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.

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3.2 20dB Bandwidth of Fundamental Emission

Test Requirement:	FCC 47 CFR 15.235
Test Method:	ANSI C63.10: 2013 (Clause 6.9.2)
Test Date:	2017-03-28 to 2017-05-04
Mode of Operation:	Tx mode

Test Method:

Refer to ANSI C63.10: 2013 (Clause 6.9.2)

Test Setup:

As Test Setup of clause 3.1.1 in this test report.



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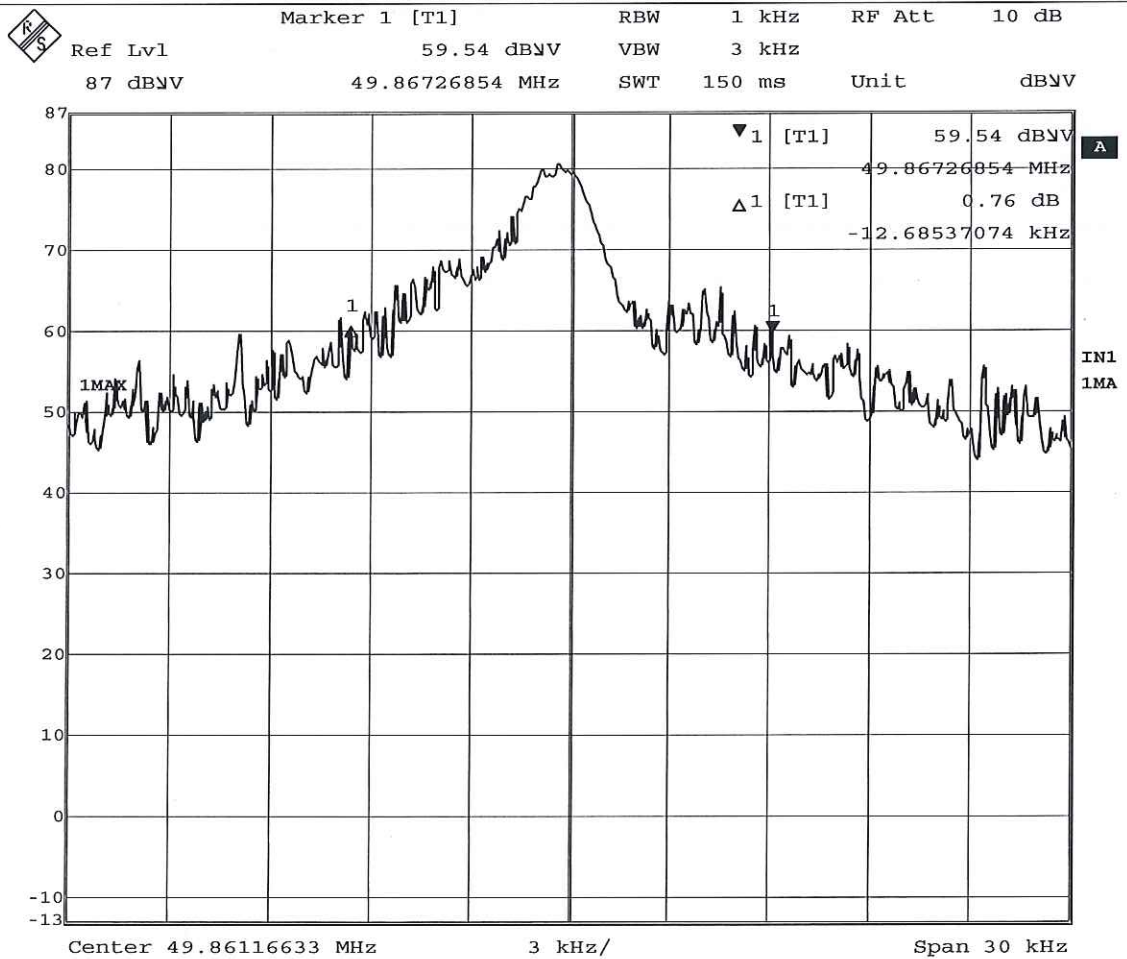
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Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range [MHz]	20dB Bandwidth [kHz]	FCC Limits [MHz]
49.86	12.685	within 49.82-49.90

20dB Bandwidth of Fundamental Emission



Date: 4.MAY.2017 16:02:24

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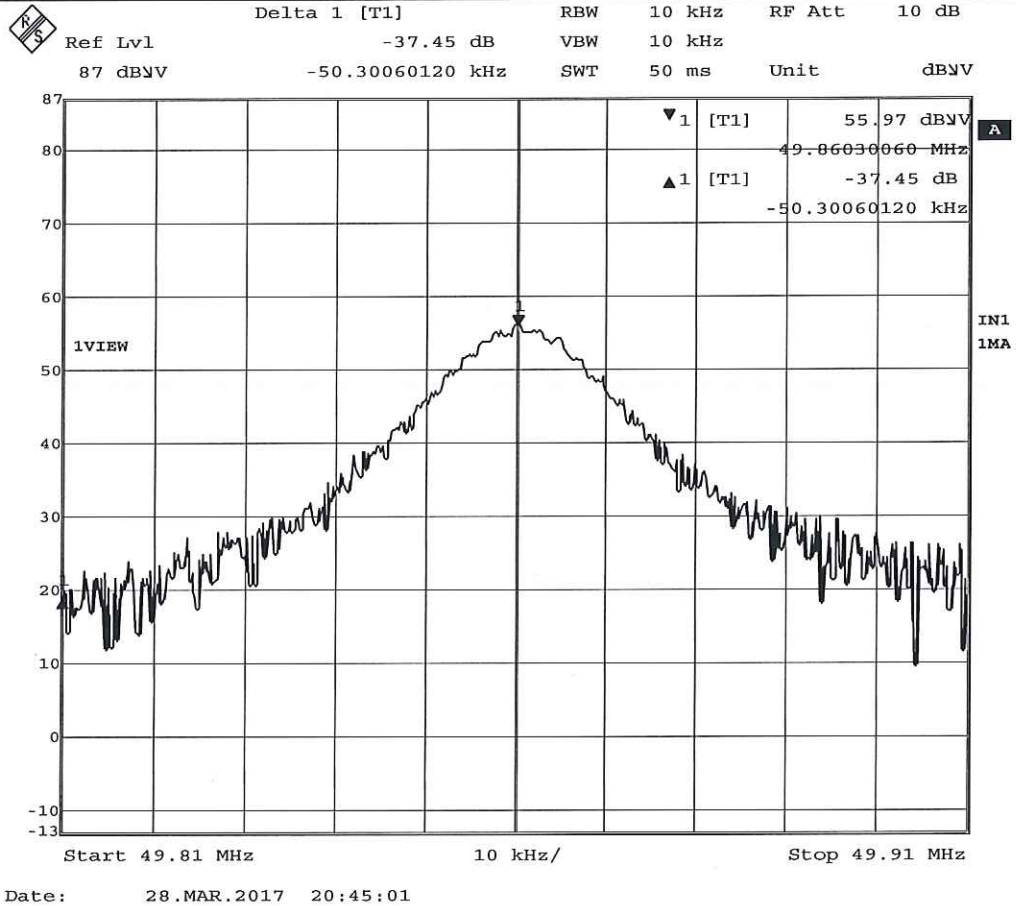
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26 dB Level Reduction at Band Edge



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Appendix A

List of Measurement Equipment

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EM215	MULTIDEVICE CONTROLLER	EMCO	2090	00024676	N/A	N/A
EM216	MINI MAST SYSTEM	EMCO	2075	00026842	N/A	N/A
EM217	ELECTRIC POWERED TURNABLE	EMCO	2088	00029144	N/A	N/A
EM218	ANECHOIC CHAMBER	ETS-LINDGREN	FACT-3	--	2016/04/24	2017/04/24
EM354	BICONILOG ANTENNA	ETS-LINDGREN	3143B	00142073	2016/02/29	2018/02/29
EM229	EMI TEST RECEIVER	R&S	ESIB40	100248	2016/06/01	2017/06/01
EM353	LOOP ANTENNA	ETS_LINDGREN	6502	00206533	2016/03/16	2018/03/16

Remarks:-

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

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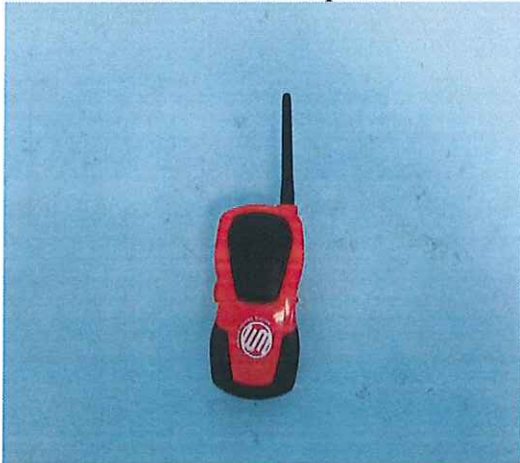
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Appendix B Photographs of EUT

Front View of the product



Back View of the product



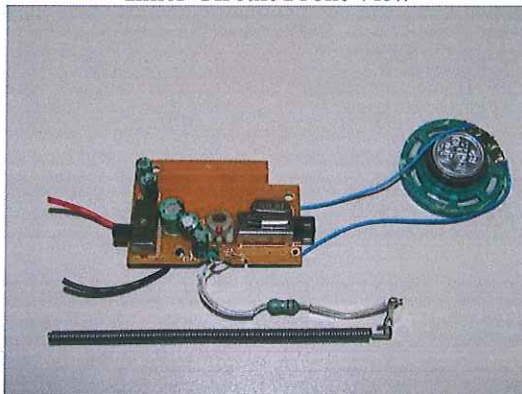
Interior View of the product



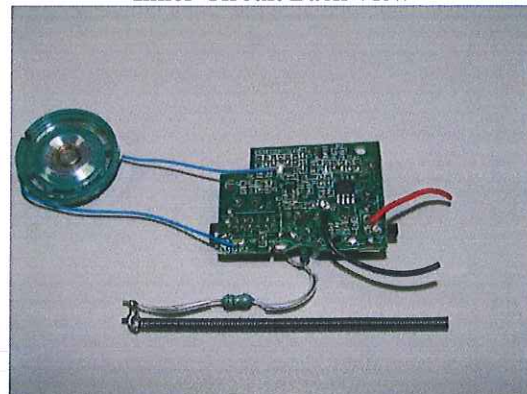
Interior View of the product



Inner Circuit Front View



Inner Circuit Back View



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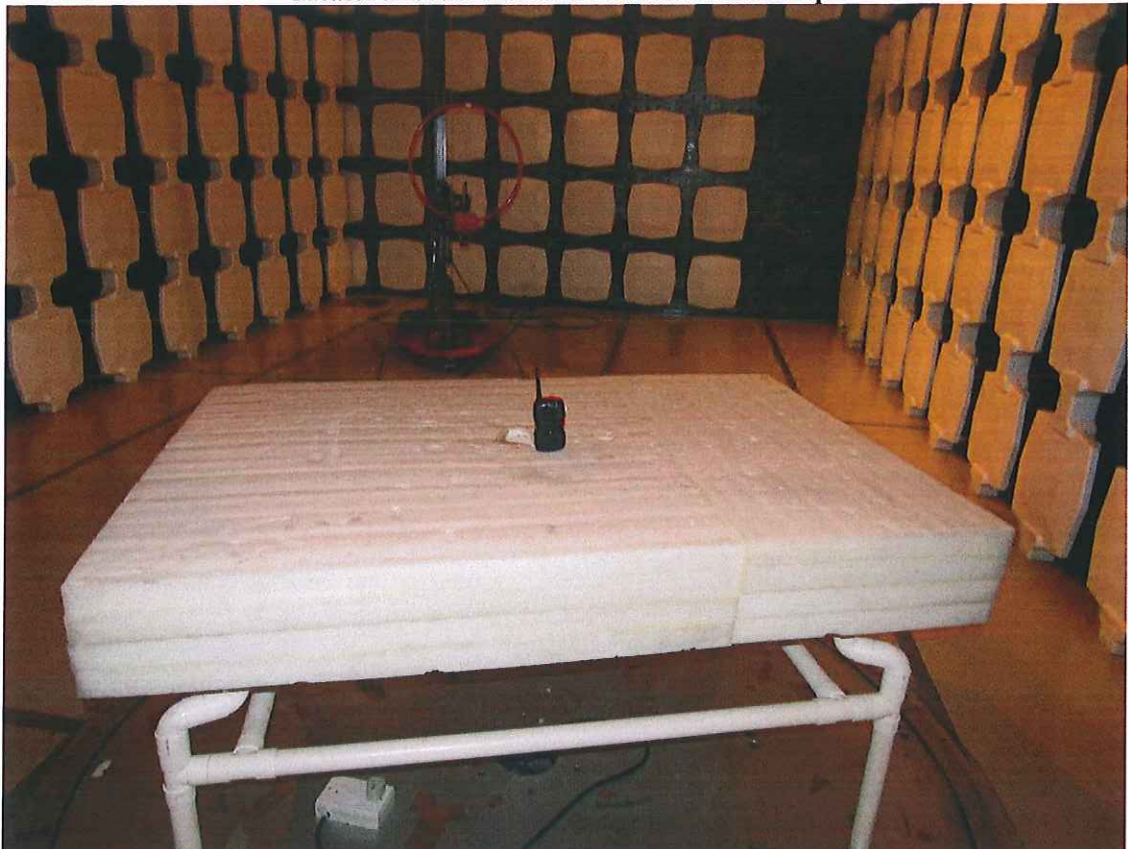
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Photographs of EUT

Measurement of Radiated Emission Test Set Up



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Measurement of Radiated Emission Test Set Up



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