



STC Test Report

Date: 2013-08-07

Page 1 of 18

No.: MH188809

Applicant (JPP001): J P PRODUCTS CO., LTD.
RM.504-5 CHINA CHEM GOLDEN PLAZA 77 MODY
ROAD, TST, KLN, HK

Manufacturer: J P PRODUCTS CO., LTD.
RM.504-5 CHINA CHEM GOLDEN PLAZA 77 MODY
ROAD, TST, KLN, HK

Description of Sample(s): Submitted samples(s) said to be
Product: WALKIE TALKIE
Brand Name: N/A
Model Number: SVDJP-1332357
FCC ID: SVDJP-1332357

Date Sample(s) Received: 2013-07-26

Date Tested: 2013-08-01 to 2013-08-02

Investigation Requested: Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2012 and ANSI C63.4: 2009 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): ---

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



STC Test Report

Date: 2013-08-07

Page 2 of 18

No.: MH188809

CONTENT:

Cover	Page 1 of 18
Content	Page 2 of 18
<u>1.0</u>	<u>General Details</u>
1.1	Equipment Under Test [EUT] Description of EUT operation
1.2	Date of Order
1.3	Submitted Sample(s)
1.4	Test Duration
1.5	Country of Origin
<u>2.0</u>	<u>Technical Details</u>
2.1	Investigations Requested
2.2	Test Standards and Results Summary
<u>3.0</u>	<u>Test Results</u>
3.1	Emission
3.2	Bandwidth Measurement
<u>Appendix A</u>	
	List of Measurement Equipment
<u>Appendix B</u>	
	Photographs

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STC Test Report

Date: 2013-08-07

Page 3 of 18

No.: MH188809

1.0 General Details

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

Product:	WALKIE TALKIE
Manufacturer:	J P PRODUCTS CO., LTD.
Brand Name:	N/A
Model Number:	SVDJP-1332357
Input Voltage:	9Vd.c("6F22" size battery x 1)

1.1.1 Description of EUT Operation

The Equipment Under Test (EUT) is a sound transceiver. The transceiver operates with 1 button; the EUT continues to transmit while the button is pressed and continue to receive when the button is being released. It is audio signal transmitter, modulated by Mic. and the type is Amplitude modulation.

1.2 Date of Order

2013-07-26

1.3 Submitted Sample(s):

1 Sample

1.4 Test Duration

2013-08-01 to 2013-08-02

1.5 Country of Origin

China

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STC Test Report

Date: 2013-08-07

Page 4 of 18

No.: MH188809

2.0 Technical Details

2.1 Investigations Requested

Perform ElectroMagnetic Interference measurement in accordance with FCC 47CFR [Codes of Federal Regulations] Part 15: 2012 and ANSI C63.4:2009 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 C63.4:2009	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emissions, 30MHz to 1GHz	FCC 47CFR 15.209	ANSI C63.4:2009	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: N/A - Not Applicable

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STC Test Report

Date: 2013-08-07

Page 5 of 18

No.: MH188809

3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions (30 – 1000MHz)

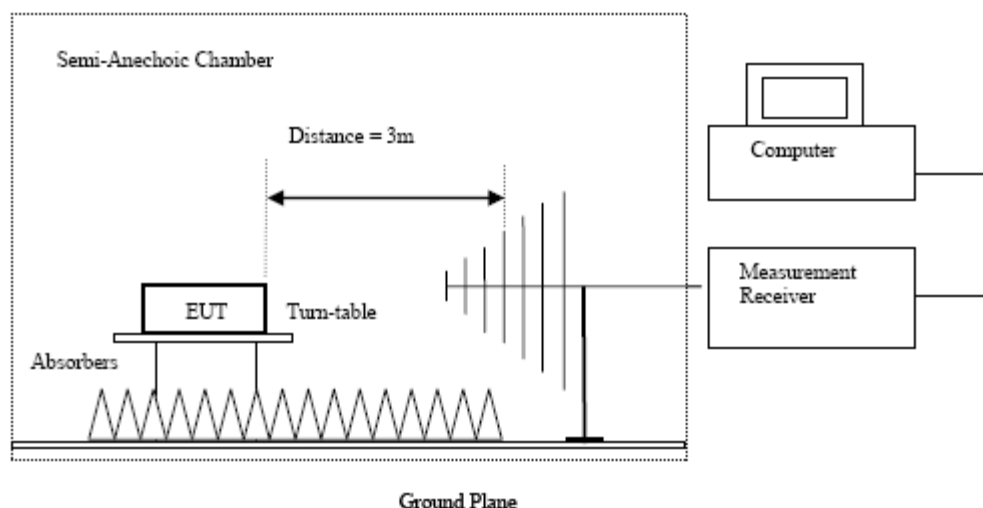
Test Requirement:	FCC 47CFR 15.235
Test Method:	ANSI C63.4:2009
Test Date:	2013-08-01
Mode of Operation:	Tx mode

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:



- Absorbers placed on top of the ground plane are for measurements above 1000MHz only.
- Measurements between 30MHz to 1000MHz made with Bi-log antenna, above 1000MHz horn antenna is used.

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STC Test Report

Date: 2013-08-07

Page 6 of 18

No.: MH188809

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 $\text{dB}\mu\text{V}$	Correction Factor dB/m	Field Strength $\text{dB}\mu\text{V/m}$	Field Strength $\mu\text{V/m}$	Limit @3m $\mu\text{V/m}$	E-Field Polarity
49.860	50.4	9.7	60.1	1,011.6	100,000	Vertical

Field Strength of Fundamental Emissions Average							
Frequency MHz	Measured Level @3m $\text{dB}\mu\text{V}$	Adjusted by Duty Cycle dB	Correction Factor dB/m	Field Strength $\text{dB}\mu\text{V/m}$	Field Strength $\mu\text{V/m}$	Limit @3m $\mu\text{V/m}$	E-Field Polarity
49.860	50.1	Nil	9.7	59.8	977.2	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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STC Test Report

Date: 2013-08-07

Page 7 of 18

No.: MH188809

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
149.60	30.7	9.9	40.6	107.2	150	Vertical
398.90	24.3	17.8	42.1	127.4	200	Vertical
448.80	24.2	9.9	34.1	50.7	200	Vertical
149.60	19.2	10.7	29.9	31.3	150	Horizontal
398.90	18.5	18.8	37.3	73.3	200	Horizontal
448.80	20.0	19.6	39.6	95.5	200	Horizontal

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STC Test Report

Date: 2013-08-07

Page 8 of 18

No.: MH188809

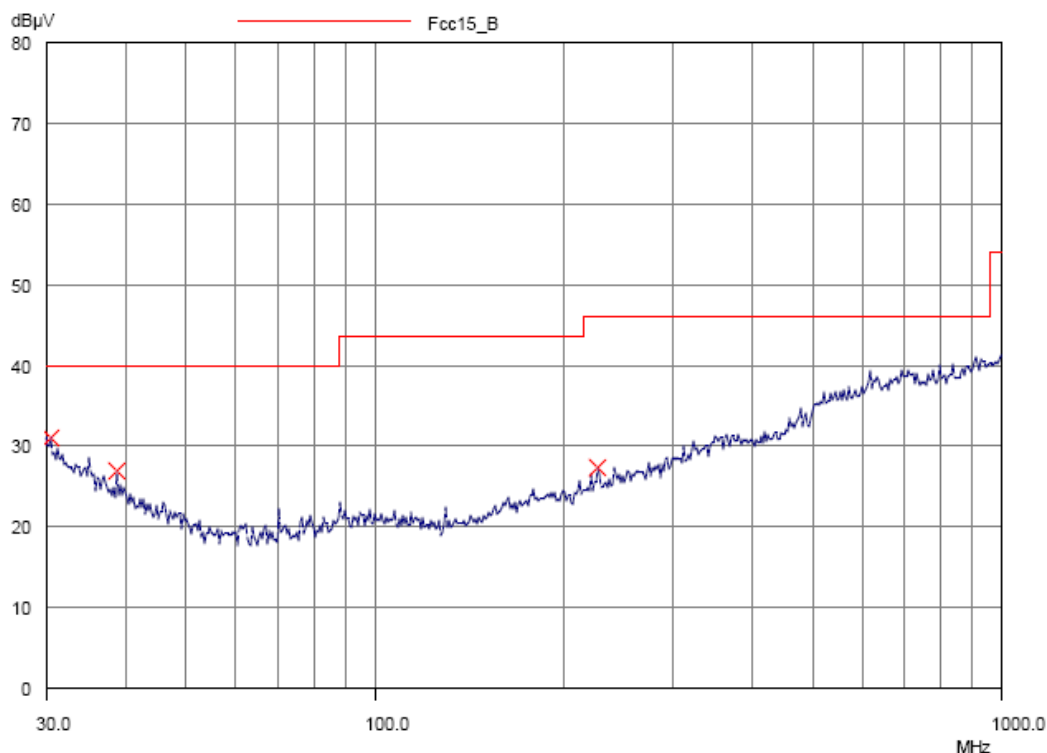
Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [$\mu\text{V/m}$]
30-88	100
88-216	150
216-960	200
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 Rx mode: PASS

Horizontal



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STC Test Report

Date: 2013-08-07

Page 9 of 18

No.: MH188809

Results of Rx mode: PASS

Radiated Emissions					
Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dB μ V/m	Limit @3m dB μ V/m	Level @3m μ V/m	Limit @3m μ V/m
30.5	Horizontal	31.1	40.0	35.9	100
38.8	Horizontal	27.0	40.0	22.4	100
226.3	Horizontal	27.5	46.0	23.7	200

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STC Test Report

Date: 2013-08-07

Page 10 of 18

No.: MH188809

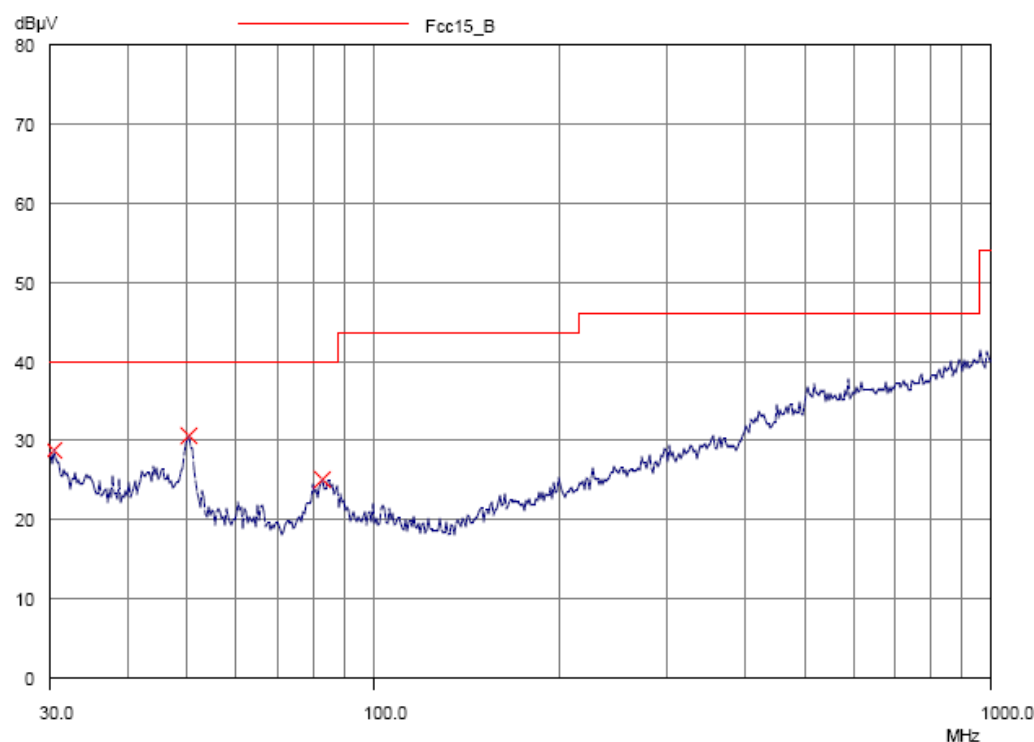
Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak Limits [$\mu\text{V/m}$]
30-88	100
88-216	150
216-960	200
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 Rx mode: PASS

Vertical



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STC Test Report

Date: 2013-08-07

Page 11 of 18

No.: MH188809

Results of Rx mode: PASS

Radiated Emissions Quasi-Peak					
Emission Frequency MHz	E-Field Polarity	Level @3m dBμV/m	Limit @3m dBμV/m	Level @3m μV/m	Limit @3m μV/m
30.4	Vertical	28.9	40.0	27.9	100
50.4	Vertical	30.6	40.0	33.9	100
82.8	Vertical	25.2	40.0	18.2	100

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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STC Test Report

Date: 2013-08-07

Page 12 of 18

No.: MH188809

3.2 20dB Bandwidth of Fundamental Emission

Test Requirement:	FCC 47 CFR 15.235
Test Method:	ANSI C63.4:2009 (Section 13.1.7)
Test Date:	2013-08-02
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.

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Date: 2013-08-07

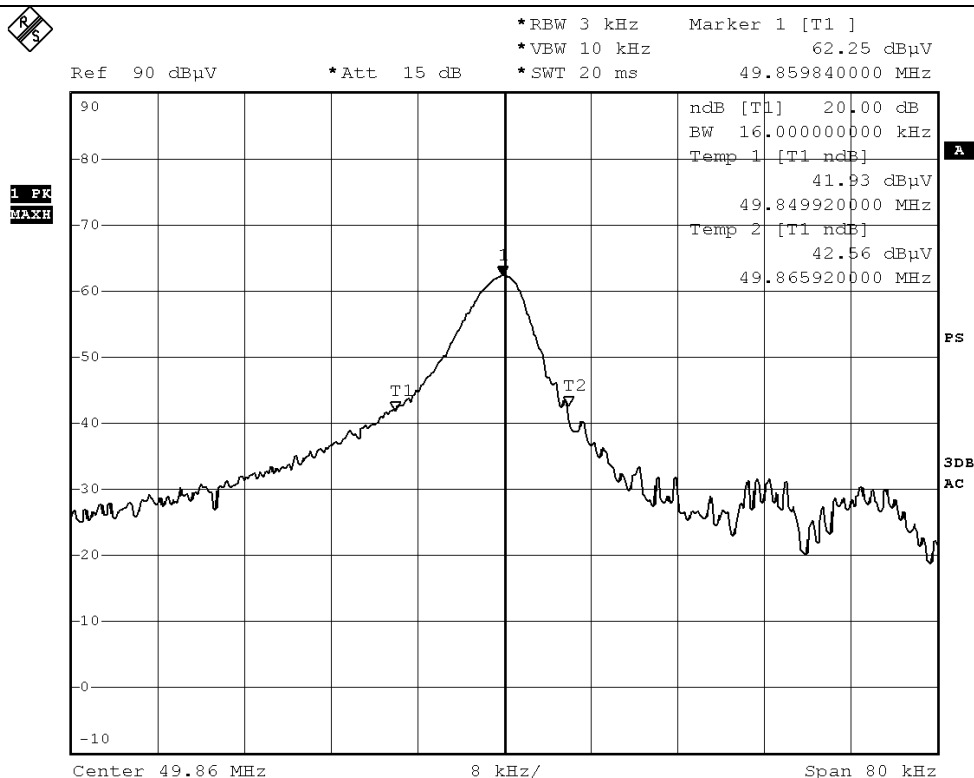
Page 13 of 18

No.: MH188809

Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range [MHz]	20dB Bandwidth [kHz]	FCC Limits [MHz]
49.86	16.00	within 49.82-49.90

20dB Bandwidth of Fundamental Emission



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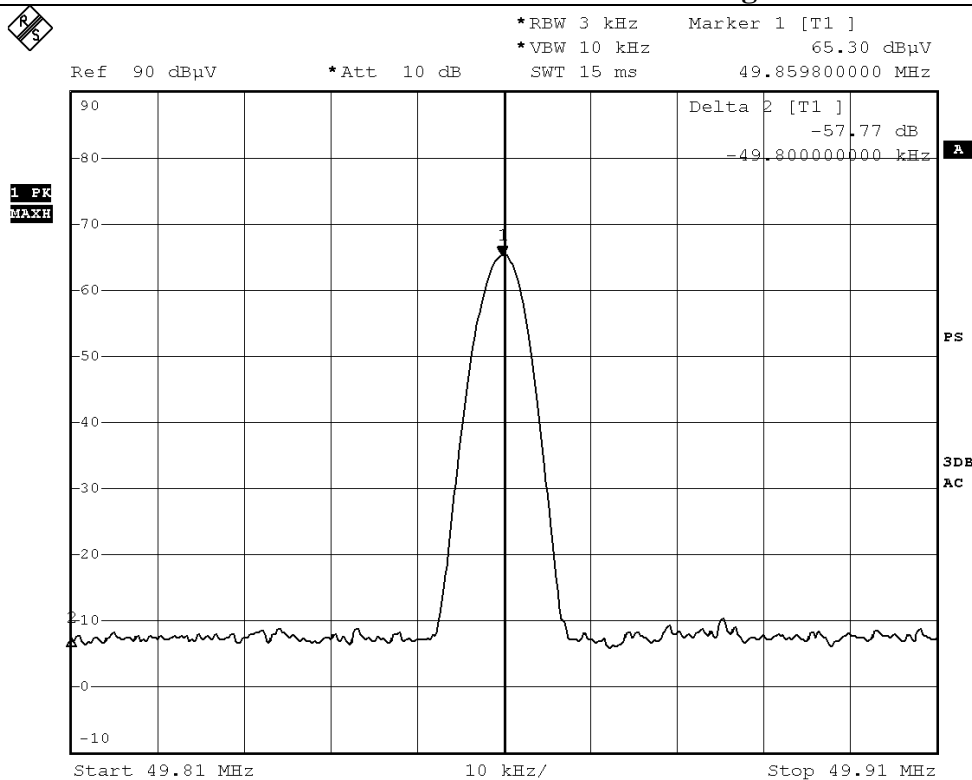
STC Test Report

Date: 2013-08-07

Page 14 of 18

No.: MH188809

26 dB Level Reduction at Band Edge



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STC Test Report

Date: 2013-08-07

Page 15 of 18

No.: MH188809

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 TURNTABLE	EMCO	2088	00029144	N/A	N/A
EM218	ANECHOIC CHAMBER	ETS-LINDGREN	FACT-3	--	2012/10/25	2013/10/25
EM174	BICONILOG ANTENNA	EMCO	3142B	1671	2012/05/31	2014/05/31
EM229	EMI TEST RECEIVER	R&S	ESIB40	100248	2013/05/07	2014/05/07
EM022	LOOP ANTENNA	EMCO	6502	1189-2424	2011/09/14	2013/09/14

Remarks:-

CM Corrective Maintenance

N/A Not Applicable

TBD To Be Determined

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Date: 2013-08-07

Page 16 of 18

No.: MH188809

Appendix B

Photographs of EUT

Front View of the product



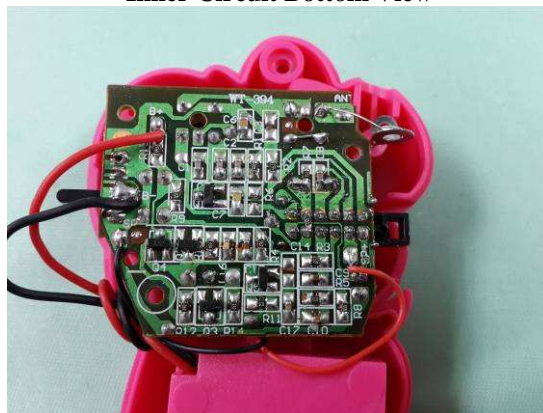
Rear View of the product



Inner Circuit Top View



Inner Circuit Bottom View



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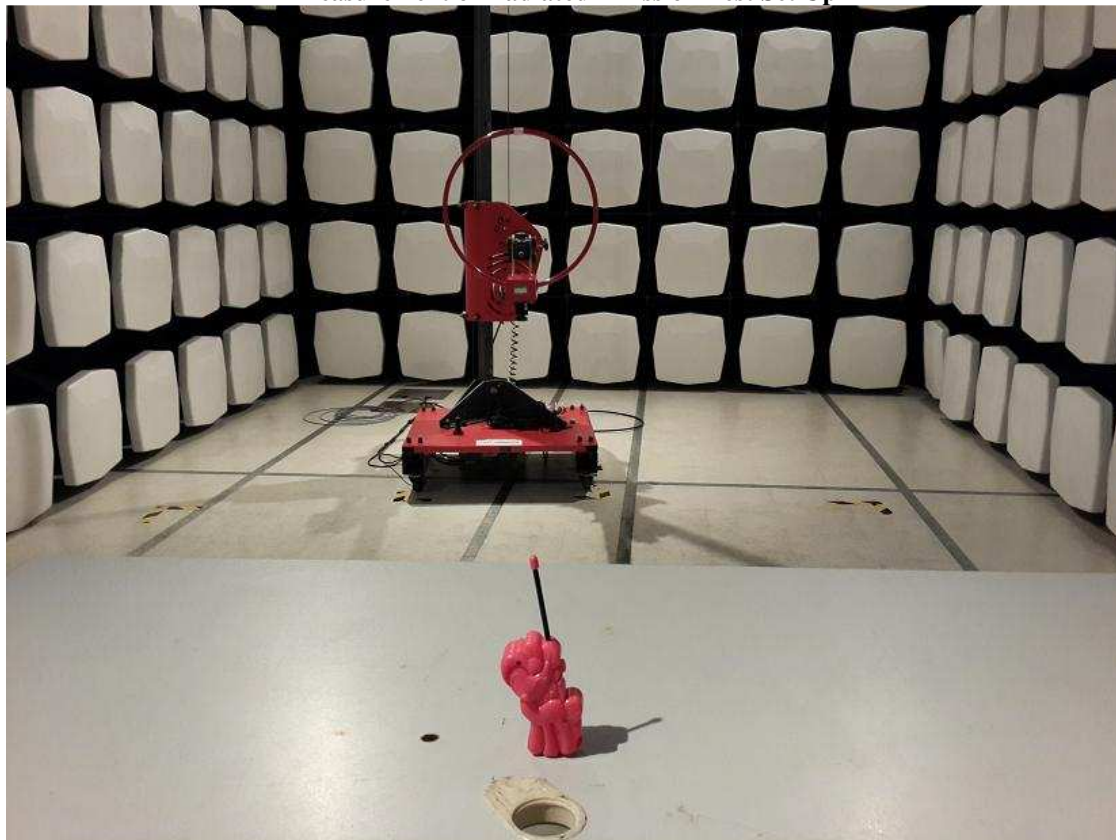
Date: 2013-08-07

Page 17 of 18

No.: MH188809

Photographs of EUT

Measurement of Radiated Emission Test Set Up



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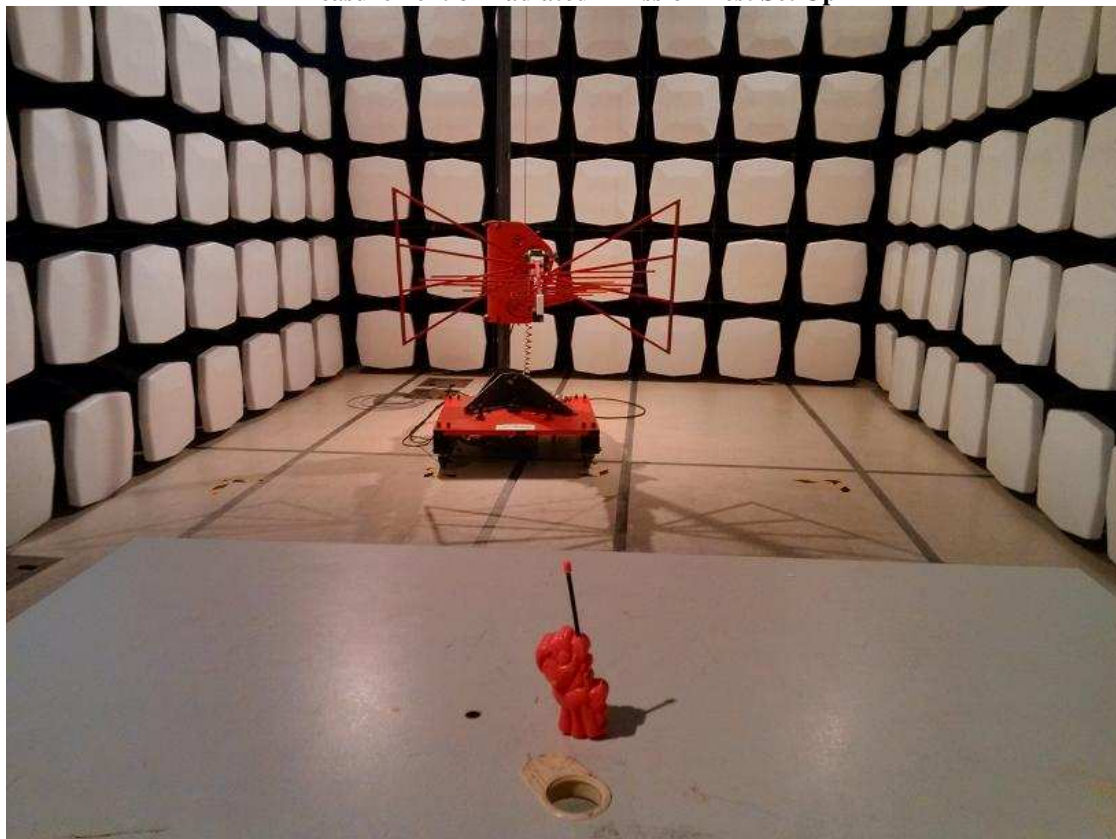
Date: 2013-08-07

Page 18 of 18

No.: MH188809

Photographs of EUT

Measurement of Radiated Emission Test Set Up



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