STC Test Report

Date: 2013-08-14

No.: DM111961

Applicant (HZQ001): HUIZHOU QINGTENG ELECTRO TECHNOLOGY CO., LTD
HO PEI VILLAGE, PAN LI, LI LIN TOWN, HUI CHENG DISTRICT, HUI ZHOU CITY, GUANG DONG PROVINCE, CHINA.

Manufacturer: HUIZHOU QINGTENG ELECTRO TECHNOLOGY CO., LTD
HO PEI VILLAGE, PAN LI, LI LIN TOWN, HUI CHENG DISTRICT, HUI ZHOU CITY, GUANG DONG PROVINCE, CHINA.

Description of Sample(s): Submitted samples(s) said to be

Product:	WALKIE TALKIE
Brand Name:	N/A
Model Number:	AK-9
FCC ID:	2AAWNOBK

Date Sample(s) Received: 2013-07-18

Date Tested: 2013-07-30 to 2013-08-10

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): ---

LONG Yun Jian, Along
Authorized Signatory
ElectroMagnetic Compatibility Department
For and on behalf of
STC (Dongguan) Company Limited

CONTENT:

Appendix A

Appendix B

1.0 General Details

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

Product:	WALKIE TALKIE
Manufacturer:	HUIZHOU QINGTENG ELECTRO TECHNOLOGY CO., LTD
Brand Name:	N/A
Model Number:	AK-9
Input Voltage:	9Vd.c (“LR61” size battery x 1)

1.1.1 Description of EUT Operation

The Equipment Under Test (EUT) is a HUIZHOU QINGTENG ELECTRO TECHNOLOGY CO., LTD, WALKIE TALKIE. The EUT is a transmitter of radio control toy. The transmitter is a button transmitter. The EUT continues to transmit while button is being pressed.
It is button transmitter, Modulation by Crystal and type is amplitude modulation.

1.2 Date of Order

2013-07-18

1.3 Submitted Sample(s):

1 Sample

1.4 Test Duration

2013-07-30 to 2013-08-10

1.5 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: 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	☒	☐
Radiated Emissions, 30MHz to 1GHz	FCC 47CFR 15.209	ANSI C63.4:2009	N/A	☒	☐

Note: N/A - Not Applicable

3.0 Test Results

3.1 Emission

3.1.1 Radiated Emissions (30 – 1000MHz)

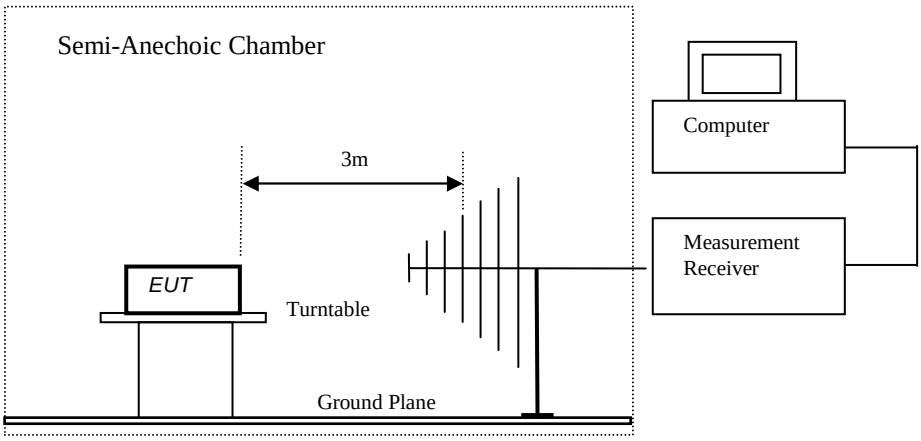
Test Requirement:	FCC 47CFR 15.235
Test Method:	ANSI C63.4:2009
Test Date:	2013-08-10
Mode of Operation:	Tx mode

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:



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

Frequency Range of Fundamental [MHz]	Field Strength of Fundamental Emission [Peak] [μV/m]	Field Strength of Fundamental Emission [Average] [μV/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 dBμV	Correction Factor dB/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
49.875	53.5	9.7	63.2	1,437.1	100,000	Vertical

Field Strength of Fundamental Emissions Average							
Frequency MHz	Measured Level @3m dBμV	Adjusted by Duty Cycle dB	Correction Factor dB/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
49.875	52.5	Nil	9.7	62.2	1,288.2	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.

Limits for Radiated Emissions [FCC 47 CFR 15.209]:

Frequency Range [MHz]	Quasi-Peak 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 (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 dBμV	Correction Factor dB/m	Field Strength dBμV/m	Field Strength μV/m	Limit @3m μV/m	E-Field Polarity
32.30	13.5	16.6	30.1	32.0	100	Vertical
99.80	21.0	9.7	30.7	34.3	150	Vertical
399.00	17.6	17.8	35.4	58.9	200	Vertical
99.80	19.2	10.7	29.9	31.3	150	Horizontal
173.10	14.5	11.4	25.9	19.7	150	Horizontal
399.00	13.5	18.8	32.3	41.2	200	Horizontal

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): 4.6dB
Emissions in the vertical and horizontal polarizations have been investigated and the worst-case test results are recorded in this report.

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:	2013-07-30
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.

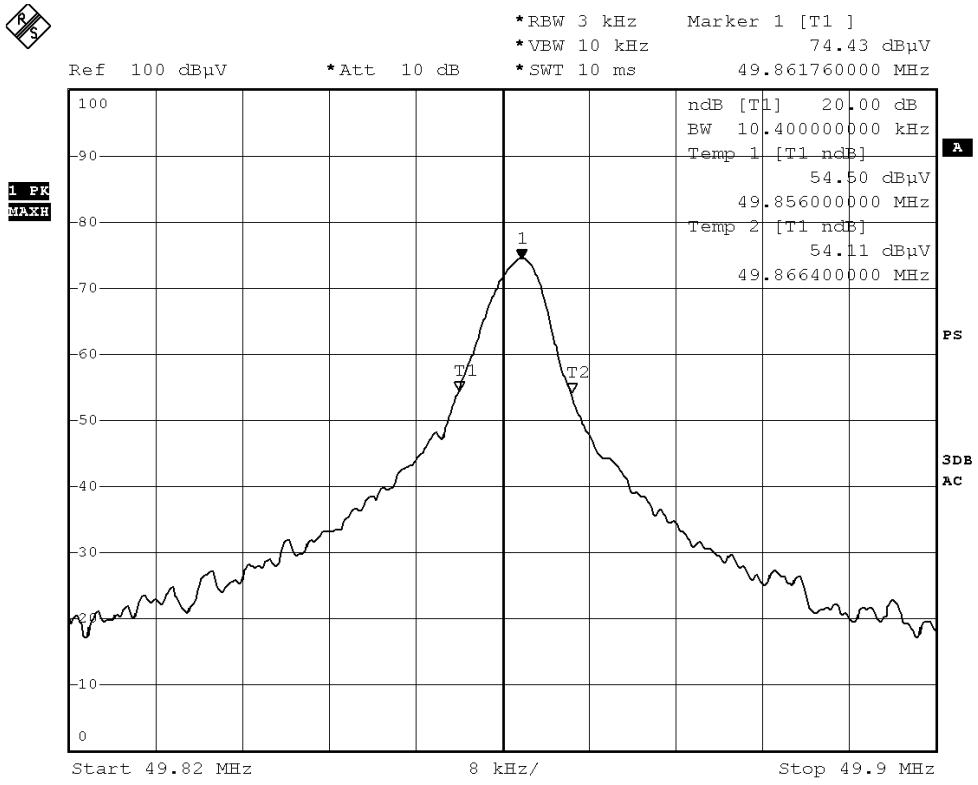
Test Setup:

As Test Setup of clause 3.1.1 in this test report.

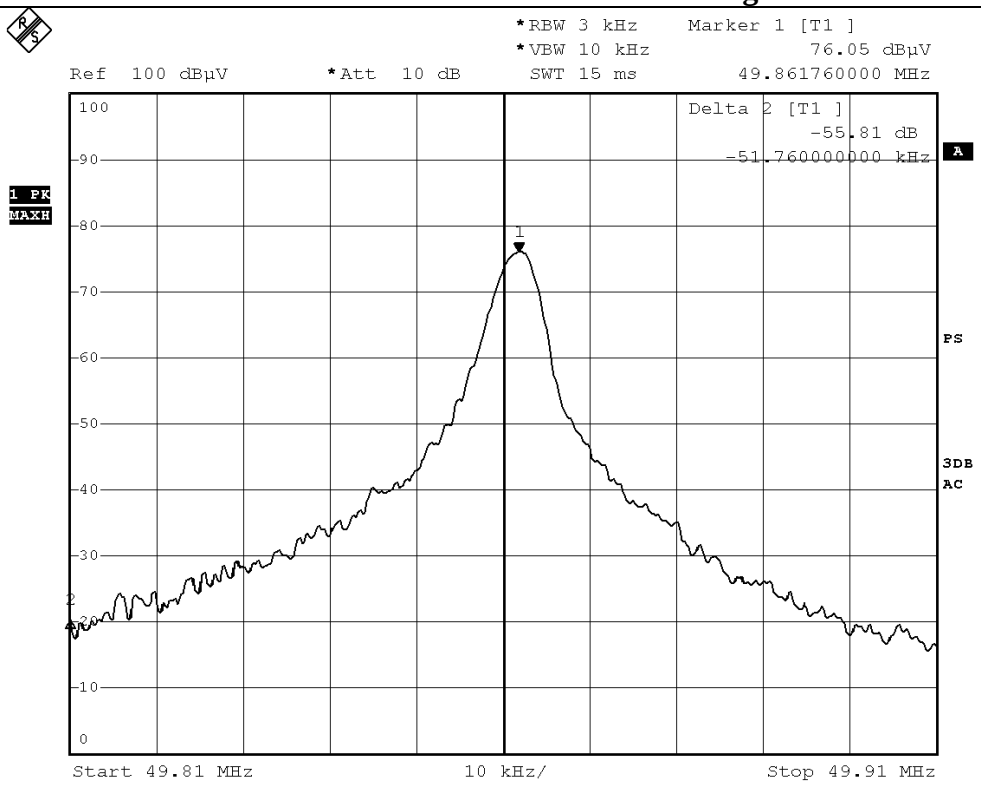
Limits for 20dB Bandwidth of Fundamental Emission:

Frequency Range [MHz]	20dB Bandwidth [kHz]	FCC Limits [MHz]
49.86	10.40	within 49.82-49.90

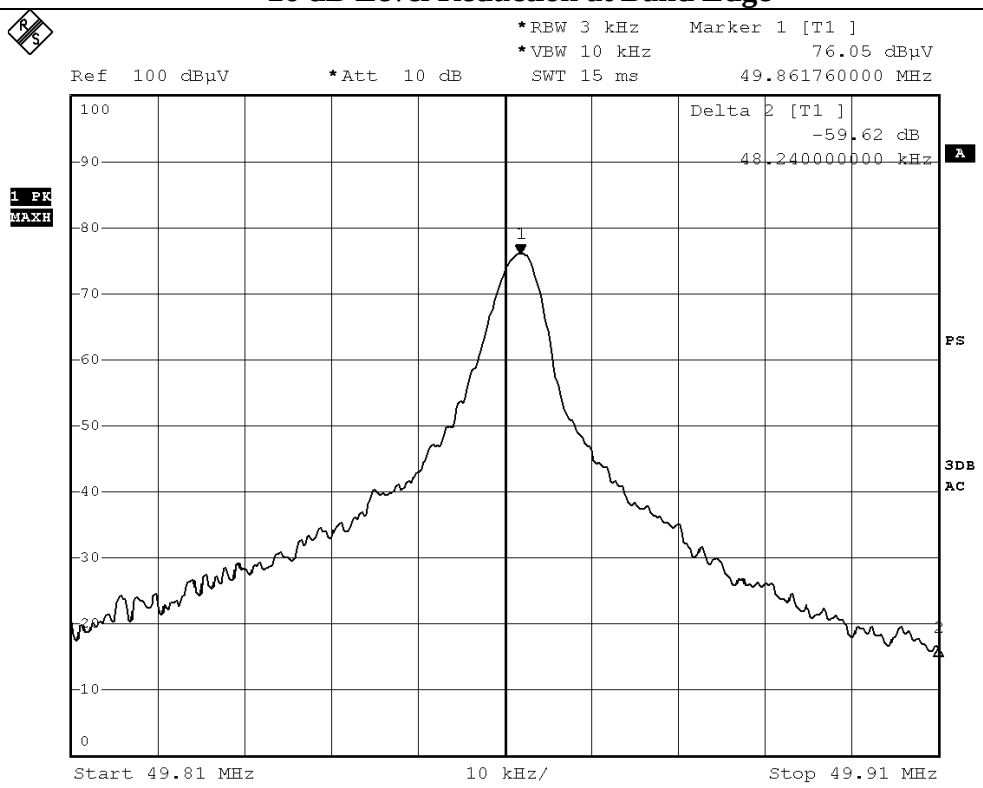
20dB Bandwidth of Fundamental Emission



26 dB Level Reduction at Band Edge



26 dB Level Reduction at Band Edge



Appendix A

List of Measurement Equipment

Radiated Emission

EQP NO.	DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CAL	DUE CAL
EMD036	EMI Test Receiver	ROHDE & SCHWARZ	ESIB26	100388	2013.05.28	2014.05.27
EMD061	Biconilog Antenna	ETS.LINDGREN	3142C	00060439	2012.11.28	2014.11.27
EMD084	MULTI-DVICE CONTROLLER	ETS.LINDGREN	2090	00060107	N/A	N/A
EMD088	Video Contol Unit	ETS.LINDGREN	Y21953A	2601073	N/A	N/A
EMD093	Monitor	ViewSonic	VA9036	Q8X064201876	N/A	N/A
EMD102	Intelligent Frequency	Ainuo lnstrument Co., Ltd	AN97005SS	79707454	N/A	N/A
EMD105	FACT-3 EMC Chamber	ETS.LINDGREN	FACT-3	3803	N/A	N/A
EMD124	LOOP Antenna	ETS.LINDGREN	6502	00104905	2012.03.26	2014.03.25

Remarks:-

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

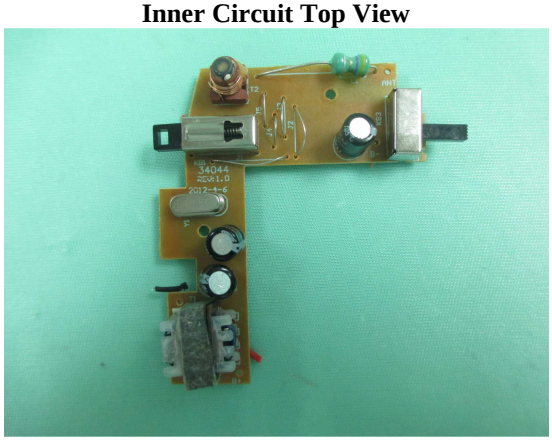
Appendix B

Photographs of EUT

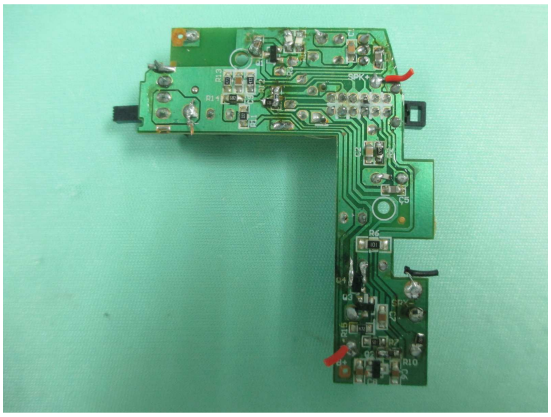
Front View of the product

Rear View of the product

Inner Circuit Top View

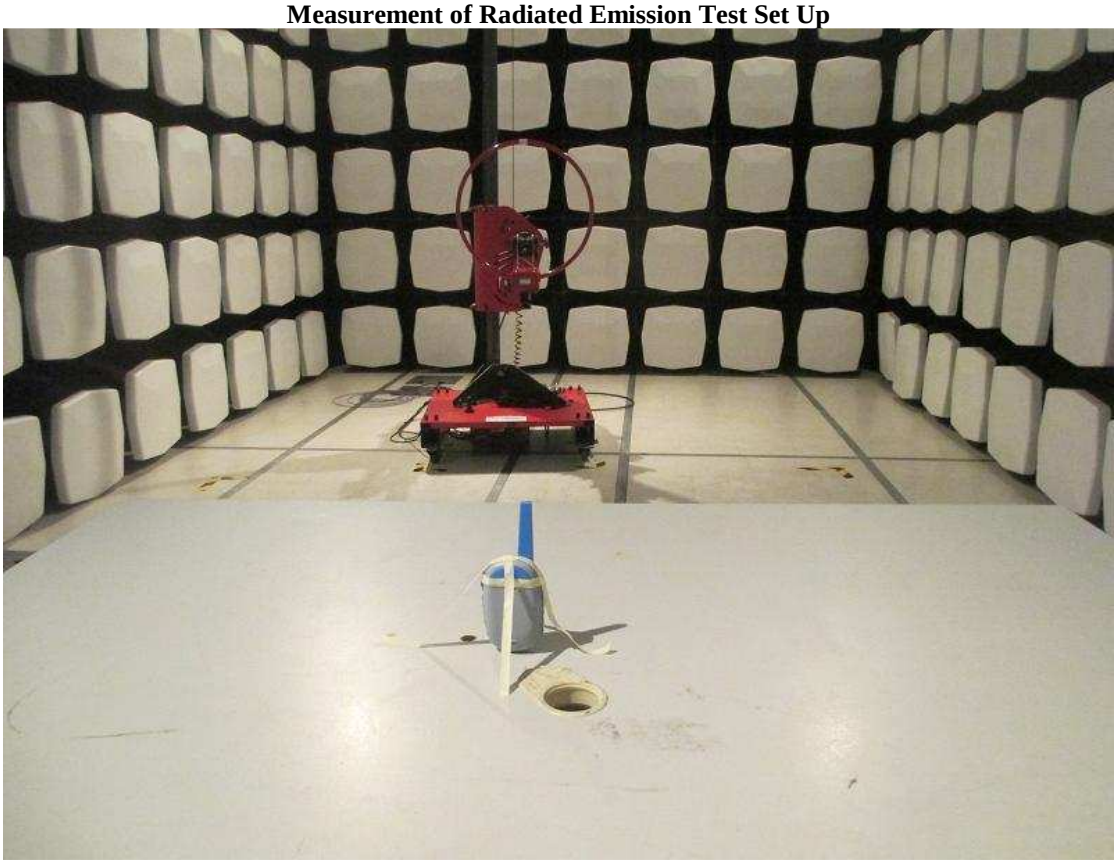


Inner Circuit Bottom View



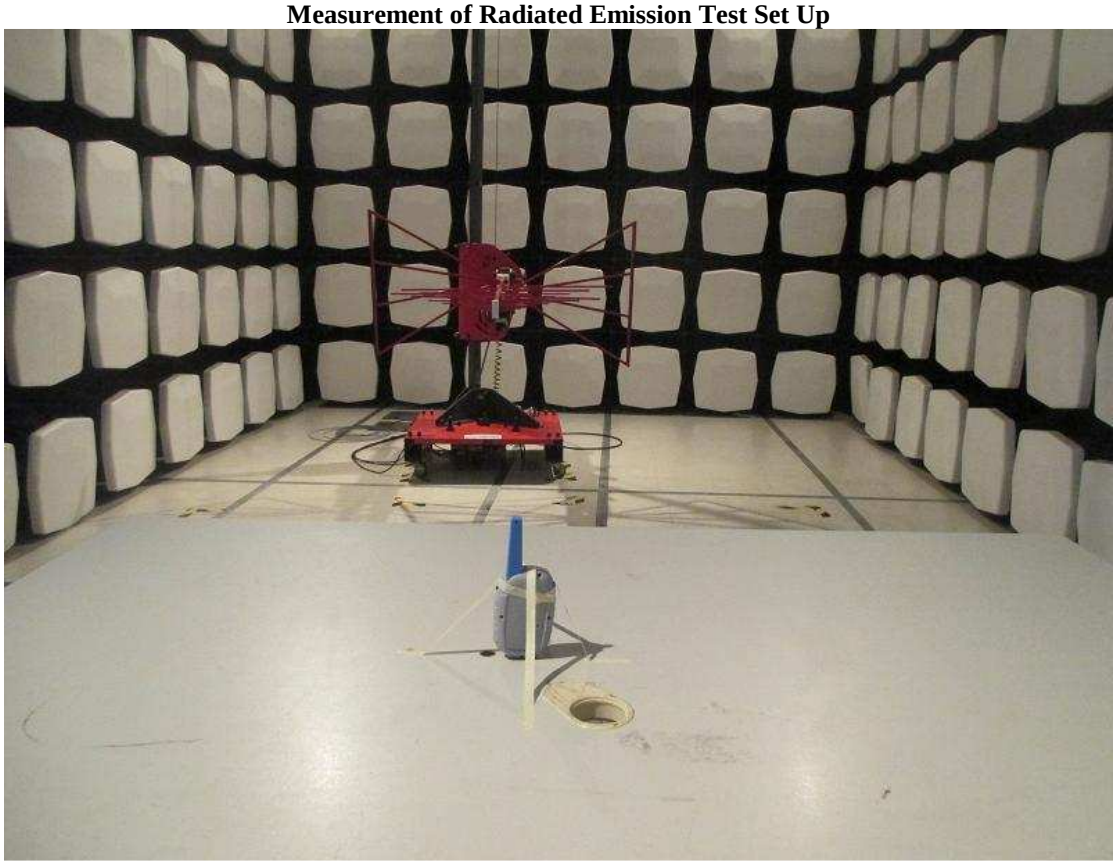
Photographs of EUT

Measurement of Radiated Emission Test Set Up



Photographs of EUT

Measurement of Radiated Emission Test Set Up



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