

# TEST REPORT

**Reference No.**..... : WTS15S0730008E  
**FCC ID** ..... : 2ADTE-Y100X  
**Applicant**..... : Shenzhen KVD Communication Equipment  
**Address**..... : 13C, Block C, Shenzhen Electronic Technology Building, Shennan Middle Road, Futian District, Shenzhen City.  
**Manufacturer** ..... : Shenzhen KVD Communication Equipment  
**Address**..... : The second floor in A2 building, Silicon valley power new material industrial park, Zongyi Road, Dafu industrial park, Guanlan Guanguang Road, Baoan district, Shenzhen City  
**Product Name**..... : Mobile Phone  
**Model No.**..... : Nova Y100X  
**Brand**..... : DOOGEE  
**Standards** ..... : FCC PART15 SUBPART B: 2014  
**Date of Receipt sample** .... : Jul.17, 2015  
**Date of Test** ..... : Jul.17- 23, 2015  
**Date of Issue**..... : Aug. 03, 2015  
**Test Result**..... : Pass  
**Remark**..... : N/A

**Remarks:**

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

**Prepared By:**

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## 1 Test Summary

Test Item	Test Requirement	Class	Test Method	Test Result
Power Line Conducted Emission (150kHz to 30MHz)	FCC PART 15, SUBPART B: 2014	Class B	ANSI C63.4: 2009	Pass
Radiated Emission 30MHz to 1GHz)	FCC PART 15, SUBPART B: 2014	Class B	ANSI C63.4: 2009	Pass
Radiated Emission (Above 1GHz)	FCC PART 15, SUBPART B: 2014	Class B	ANSI C63.4: 2009	Pass

Remark:

Pass Test item meets the requirement

Fail Test item does not meet the requirement

N/A Test case does not apply to the test object

## 2 Contents

	Page
<b>COVER PAGE .....</b>	<b>1</b>
<b>1 TEST SUMMARY .....</b>	<b>2</b>
<b>2 CONTENTS .....</b>	<b>3</b>
<b>3 GENERAL INFORMATION.....</b>	<b>4</b>
3.1 GENERAL DESCRIPTION OF E.U.T.....	4
3.2 DETAILS OF E.U.T.....	4
3.3 STANDARDS APPLICABLE FOR TESTING .....	5
3.4 TEST FACILITY .....	5
3.5 SUBCONTRACTED .....	6
3.6 ABNORMALITIES FROM STANDARD CONDITIONS .....	6
<b>4 EQUIPMENT USED DURING TEST .....</b>	<b>7</b>
4.1 EQUIPMENT LIST.....	7
4.2 DESCRIPTION OF SUPPORT UNITS.....	8
4.3 MEASUREMENT UNCERTAINTY .....	8
<b>5 EMISSION TEST RESULTS.....</b>	<b>9</b>
5.1 POWER LINE CONDUCTED EMISSION, 150KHZ TO 30MHZ .....	9
5.2 RADIATION EMISSION, 30MHZ TO 1000MHZ.....	12
5.3 RADIATION EMISSION, ABOVE 1000MHZ.....	15
<b>6 PHOTOGRAPHS – TEST SETUP .....</b>	<b>18</b>
6.1 PHOTOGRAPH –POWER LINE CONDUCTED EMISSION TEST SETUP AT TEST SITE 1#.....	18
6.2 PHOTOGRAPH – RADIATED EMISSION TEST SETUP FOR 30~1000MHZ AT TEST SITE 2#.....	18
6.3 PHOTOGRAPH – RADIATED EMISSION TEST SETUP FOR ABOVE 1GHZ AT TEST SITE 1#.....	19
<b>7 PHOTOGRAPHS - CONSTRUCTIONAL DETAILS.....</b>	<b>错误!未定义书签。</b>
7.1 MODEL NOVA Y100X - EXTERNAL VIEW.....	<b>错误!未定义书签。</b>
7.2 MODEL NOVA Y100X – INTERNAL PHOTOS .....	<b>错误!未定义书签。</b>

### 3 General Information

#### 3.1 General Description of E.U.T.

Product Name	: Mobile Phone
Model No.	: Nova Y100X
Model Description	: N/A
GSM Band(s)	: GSM 850/900/1800/1900MHz
GPRS Class	: 12
WCDMA Band(s)	: FDD Band I/II/V
Wi-Fi Specification	: 802.11b/g/n HT20/n HT40
Bluetooth Version	: Bluetooth v4.0 with BLE
GPS	: Support
NFC	: N/A
Hardware Version	: G156MB-A2-BOM2
Software Version	: 14-12-31 g156f-daoge-a30-fwvga-850-1900-2100-kk-64g8g-DG280-4.4-R07

#### 3.2 Details of E.U.T.

Operation Frequency	: GSM/GPRS 850: 824~849MHz GSM/GPRS 900: 925-960MHz DCS 1800: 1805-1880MHz PCS 1900: 1850~1910MHz WCDMA Band I: 1920-1980MHz WCDMA Band II: 1850-1910MHz WCDMA Band V: 824~849MHz WiFi: 802.11b/g/n HT20: 2412-2462MHz 802.11n HT40: 2422-2452MHz Bluetooth: 2402-2480MHz GPS: 1.57GHz
Max. RF output power	: GSM 850: 32.81dBm PCS1900: 29.69dBm WCDMA Band II: 20.95dBm WCDMA Band V: 22.86dBm WiFi: 9.24dBm Bluetooth: 0.86dBm
Type of Modulation	: GSM,GPRS: GMSK WCDMA: BPSK

	WiFi: CCK, OFDM
	Bluetooth: GFSK, Pi/4 DQPSK, 8DPSK
Antenna installation	: GSM/WCDMA: Wire antenna WiFi/Bluetooth: Metal Dome
Antenna Gain	: GSM 850: -4.0dBi PCS1900: -4.0dBi WCDMA Band II: -4.0dBi WCDMA Band V: -4.0dBi WiFi: -1.0dBi Bluetooth: -1.0dBi
Technical Data	: Battery DC 3.8V 1800mAh DC 5V, 1.0A, charging from adapter (Adapter Input: 100-240V~50/60Hz, 0.15A)
Adapter	: Manufacture: Shenzhen KVD Communication Equipment Model No.: DG80

### 3.3 Standards Applicable for Testing

The tests were performed according to following standards:

FCC PART 15, SUBPART B: Electronic Code of Federal Regulations- Unintentional Radiators 2014

### 3.4 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A-1**

Waltek Services (Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration 7760A-1, July 12, 2012.

- **FCC Test Site 1#– Registration No.: 880581**

Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581, April 29, 2014.

- **FCC Test Site 2#– Registration No.: 328995**

Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 328995, December 3, 2014.

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### 3.5 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes      ☒ No

If Yes, list the related test items and lab information:

Test Lab:      N/A

Lab address: N/A

Test items:    N/A

### 3.6 Abnormalities from Standard Conditions

None.

## 4

## Equipment Used during Test

## 4.1 Equipment List

Conducted Emissions Test Site 1#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMI Test Receiver	R&S	ESCI	100947	Sep.15,2014	Sep.14,2015
2.	LISN	R&S	ENV216	101215	Sep.15,2014	Sep.14,2015
3.	Cable	Top	TYPE16(3.5M)	-	Sep.15,2014	Sep.14,2015
Conducted Emissions Test Site 2#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMI Test Receiver	R&S	ESCI	101155	Sep.15,2014	Sep.14,2015
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Sep.15,2014	Sep.14,2015
3.	Limiter	York	MTS-IMP-136	261115-001-0024	Sep.15,2014	Sep.14,2015
4.	Cable	LARGE	RF300	-	Sep.15,2014	Sep.14,2015
3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	EMC Analyzer	Agilent	E7405A	MY45114943	Sep.15,2014	Sep.14,2015
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Sep.15,2014	Sep.14,2015
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Apr.19,2015	Apr.18,2016
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Sep.15,2014	Sep.14,2015
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr.19,2015	Apr.18,2016
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Apr.19,2015	Apr.18,2016
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Mar.17,2015	Mar.16,2016
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	Apr.10,2015	Apr.09,2016
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	Equipment	Manufacturer	Model No.	Serial No	Last Calibration Date	Calibration Due Date
1	Test Receiver	R&S	ESCI	101296	Sep.15,2014	Sep.14,2015
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Sep.15,2014	Sep.14,2015
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Sep.15,2014	Sep.14,2015

4	Cable	HUBER+SUHNER	CBL2	525178	Sep.15,2014	Sep.14,2015
Item	Equipment	Manufacturer	Model No.	Serial No	Last Calibration Date	Calibration Due Date
<b>RF Conducted Testing</b>						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	Sep.15,2014	Sep.14,2015
2.	Spectrum Analyzer (9k~6GHz)	R&S	FSL6	100959	Sep.15,2014	Sep.14,2015
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	Sep.15,2014	Sep.14,2015

#### 4.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
MacBook Air	APPLE	A1465	C17KTQDNF5N7

#### 4.3 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	$\pm 3.64$ dB	(1)
Radiation Emission	30MHz~1000MHz	$\pm 5.03$ dB	(1)
	1GHz~6GHz	$\pm 5.47$ dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .



## 5 Emission Test Results

### 5.1 Power Line Conducted Emission, 150kHz to 30MHz

Test Requirement ..... : FCC PART 15, SUBPART B  
 Test Method ..... : ANSI C63.4  
 Test Result ..... : Pass  
 Frequency Range ..... : 150kHz to 30MHz  
 Class ..... : Class B  
 Limit ..... :

Frequency (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50

#### 5.1.1 E.U.T. Operation

Operating Environment:

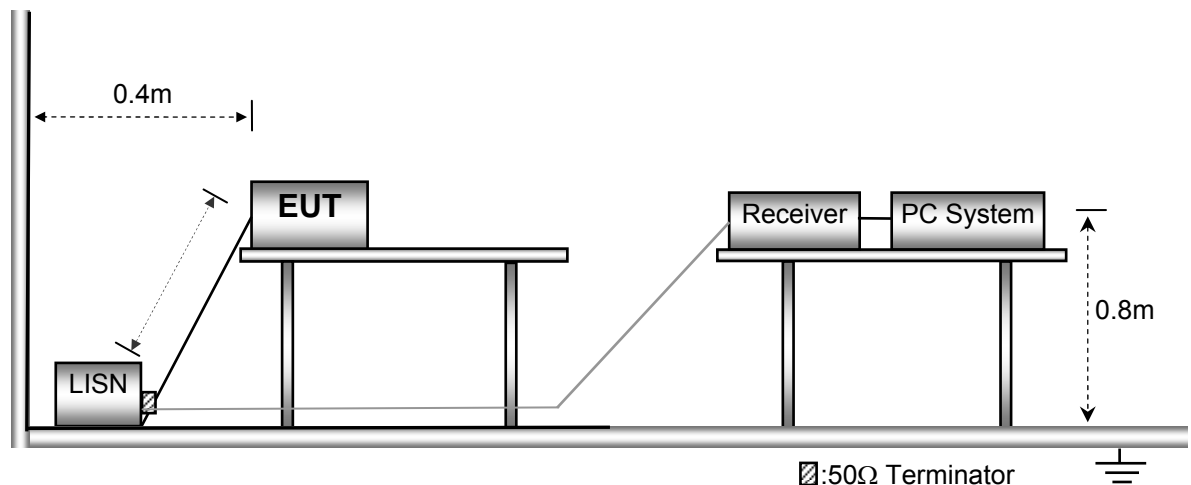
Temperature ..... : 23°C  
 Humidity ..... : 53.6%RH  
 Atmospheric Pressure ..... : 101kPa

EUT Operation:

Input Voltage ..... : (1)DC 5V by adapter input AC120V/60Hz  
 (2)DC 5V by PC  
 Operating Mode ..... : GPS receiving mode, Charging mode, Data transmission with PC mode.  
 Remark ..... : The worse case is Data transmission with PC mode and the data is shown as follow.

#### 5.1.2 Block Diagram of Test Setup

The Mains Terminals Disturbance Voltage tests were performed in accordance with the ANSI C63.4 .

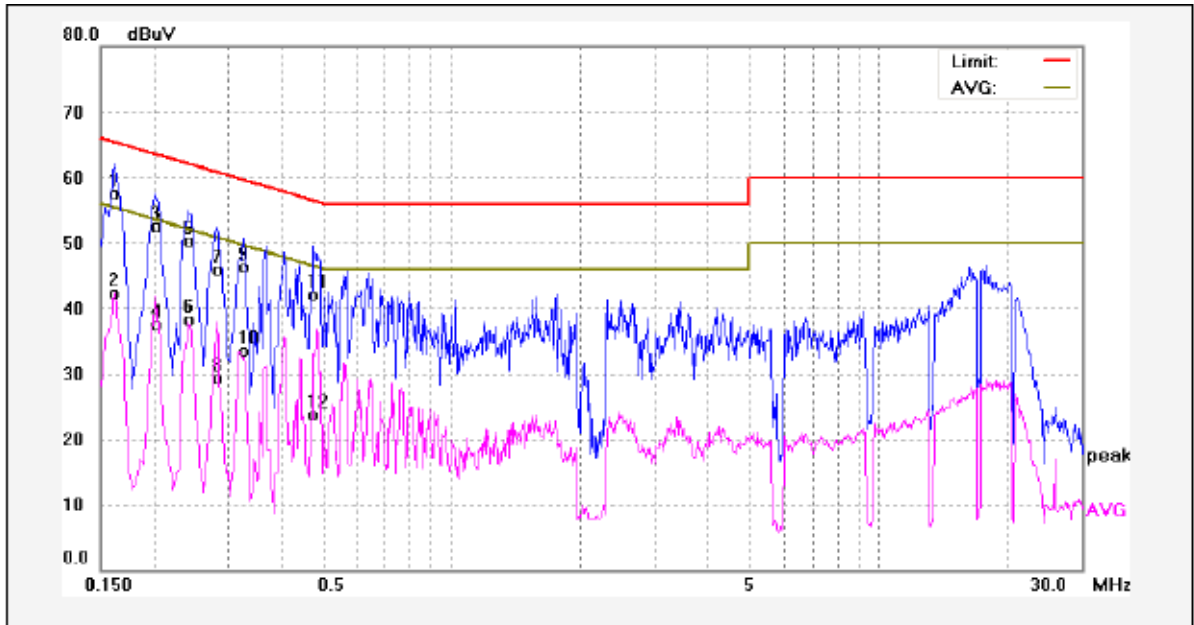


### 5.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line. According to the data in section 5.1.4, the EUT complied with the FCC PART 15, SUBPART B standards.

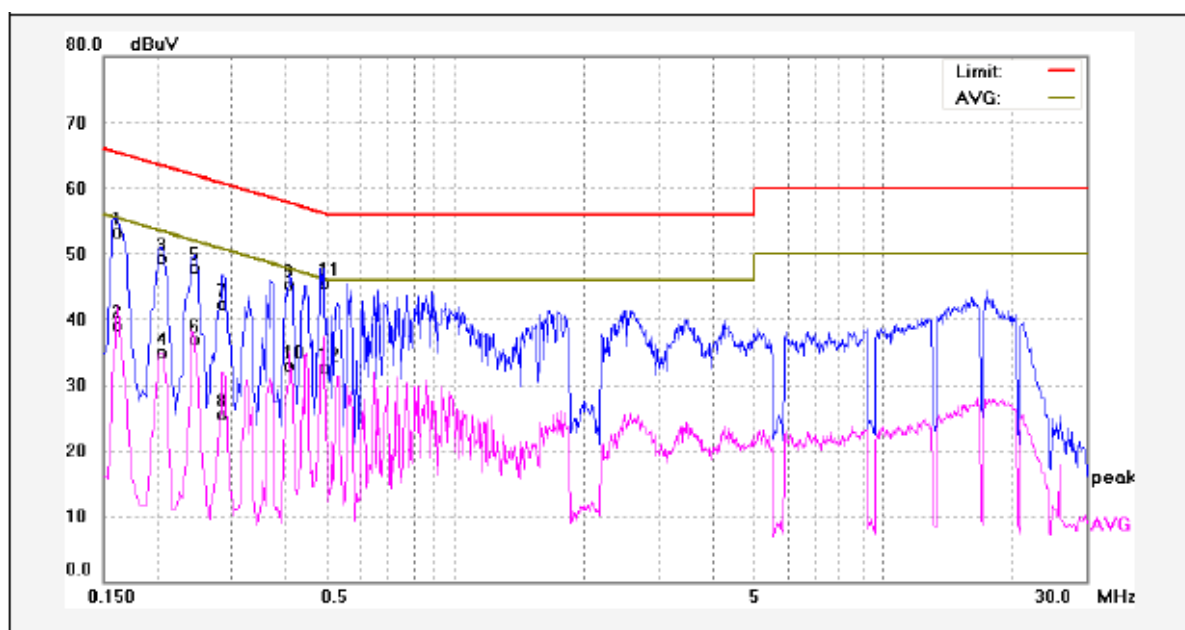
### 5.1.4 Power Line Conducted Emission Test Data

Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1620	47.44	10.13	57.57	65.36	-7.79	QP	
2	0.1620	32.10	10.13	42.23	55.36	-13.13	AVG	
3	0.2020	42.34	10.15	52.49	63.52	-11.03	QP	
4	0.2020	27.30	10.15	37.45	53.52	-16.07	AVG	
5	0.2420	40.21	10.16	50.37	62.02	-11.65	QP	
6	0.2420	28.09	10.16	38.25	52.02	-13.77	AVG	
7	0.2819	35.80	10.16	45.96	60.76	-14.80	QP	
8	0.2819	19.14	10.16	29.30	50.76	-21.46	AVG	
9	0.3260	36.09	10.17	46.26	59.55	-13.29	QP	
10	0.3260	23.33	10.17	33.50	49.55	-16.05	AVG	
11	0.4740	31.97	10.19	42.16	56.44	-14.28	QP	
12	0.4740	13.54	10.19	23.73	46.44	-22.71	AVG	

Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1620	43.25	10.13	53.38	65.36	-11.98	QP	
2	0.1620	28.89	10.13	39.02	55.36	-16.34	AVG	
3	0.2060	39.19	10.15	49.34	63.36	-14.02	QP	
4	0.2060	24.66	10.15	34.81	53.36	-18.55	AVG	
5	0.2460	37.65	10.16	47.81	61.89	-14.08	QP	
6	0.2460	26.77	10.16	36.93	51.89	-14.96	AVG	
7	0.2860	32.06	10.16	42.22	60.64	-18.42	QP	
8	0.2860	15.42	10.16	25.58	50.64	-25.06	AVG	
9	0.4100	35.05	10.18	45.23	57.65	-12.42	QP	
10	0.4100	22.79	10.18	32.97	47.65	-14.68	AVG	
11	0.4940	35.38	10.19	45.57	56.10	-10.53	QP	
12	0.4940	22.30	10.19	32.49	46.10	-13.61	AVG	

## 5.2 Radiation Emission, 30MHz to 1000MHz

Test Requirement ..... : FCC PART 15, SUBPART B  
 Test Method ..... : ANSI C63.4  
 Test Result ..... : Pass  
 Frequency Range ..... : 30MHz to 1000MHz  
 Class. .... : Class B  
 Limit..... :

Frequency (MHz)	Distance (Meter)	Limit (dB $\mu$ V/m Quasi-peak)
30 to 88	3	40
88 to 216	3	43.5
216 to 960	3	46
960 to 1000	3	54

### 5.2.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 22.5°C  
 Humidity ..... : 52.6%RH  
 Atmospheric Pressure..... : 101.2kPa

EUT Operation:

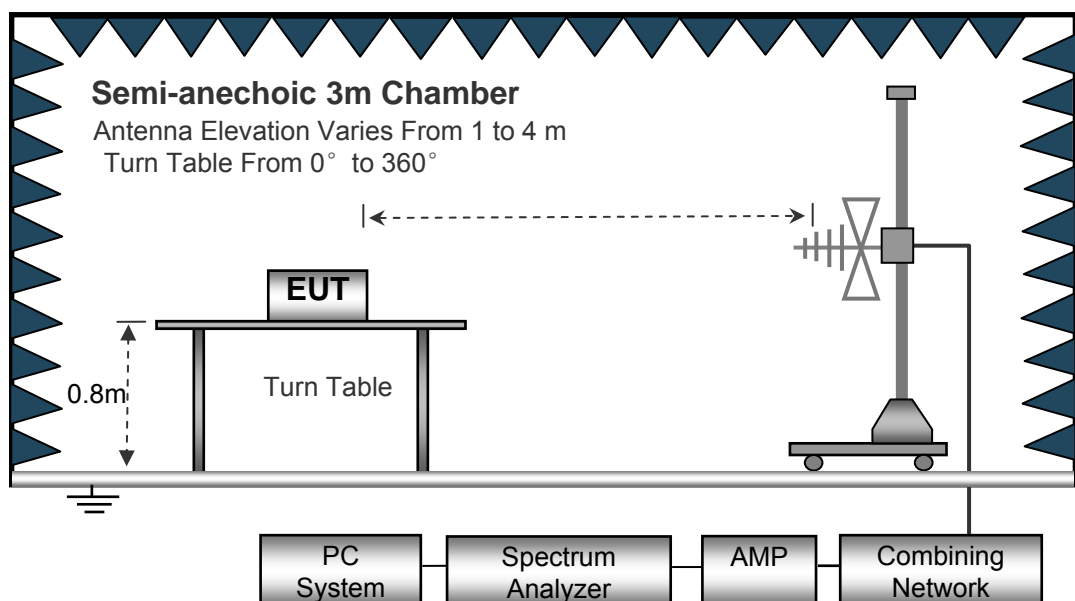
Input Voltage..... : (1)DC 5V by Adapter Input AC 120V/60Hz  
 (2)DC 5V by PC  
 (3)DC 3.7V by Battery

Operating Mode ..... : GPS receiving mode, Charging mode, Data transmission with PC mode.

Remark ..... : The worse case is Data transmission with PC mode and the data is shown as follow.

### 5.2.2 Block Diagram of Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4.

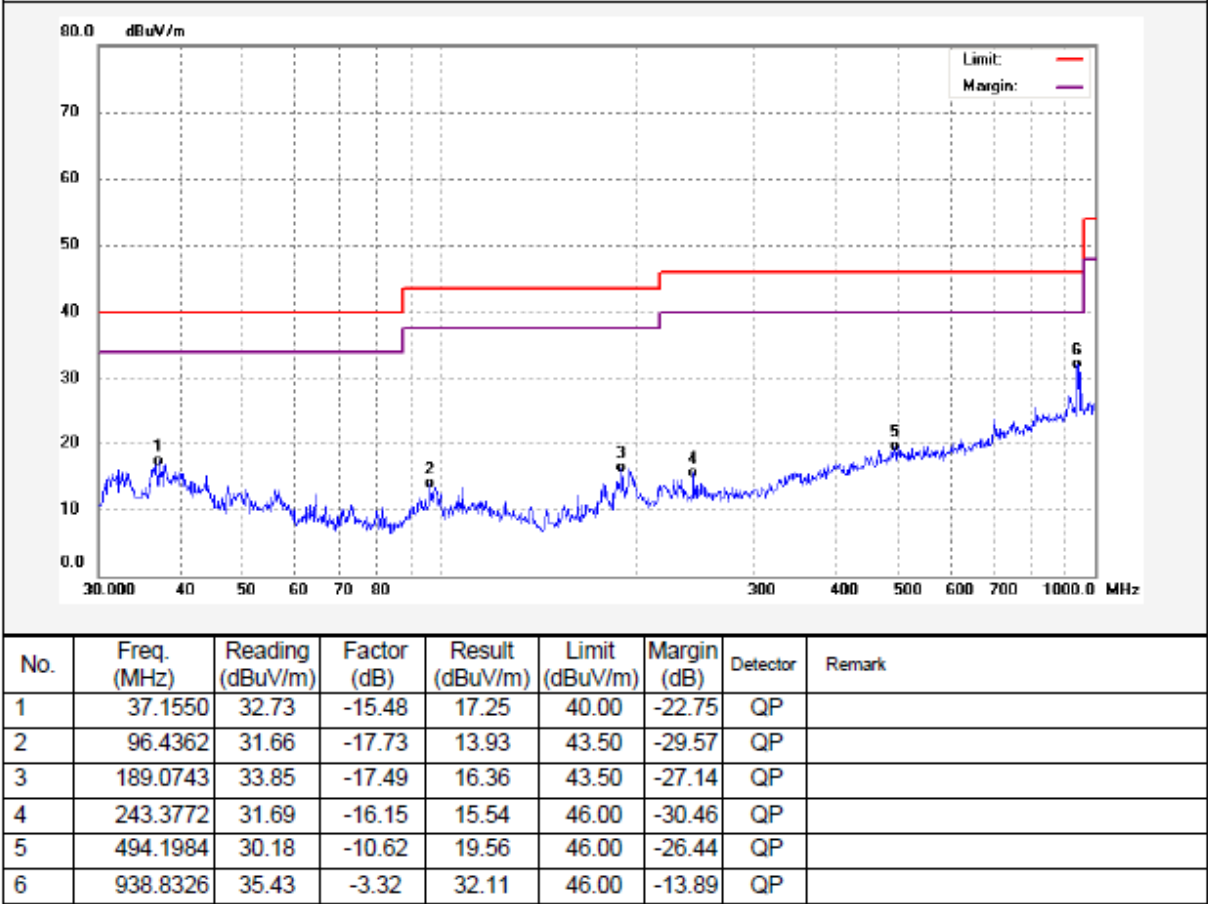


5.2.3 Measurement Data

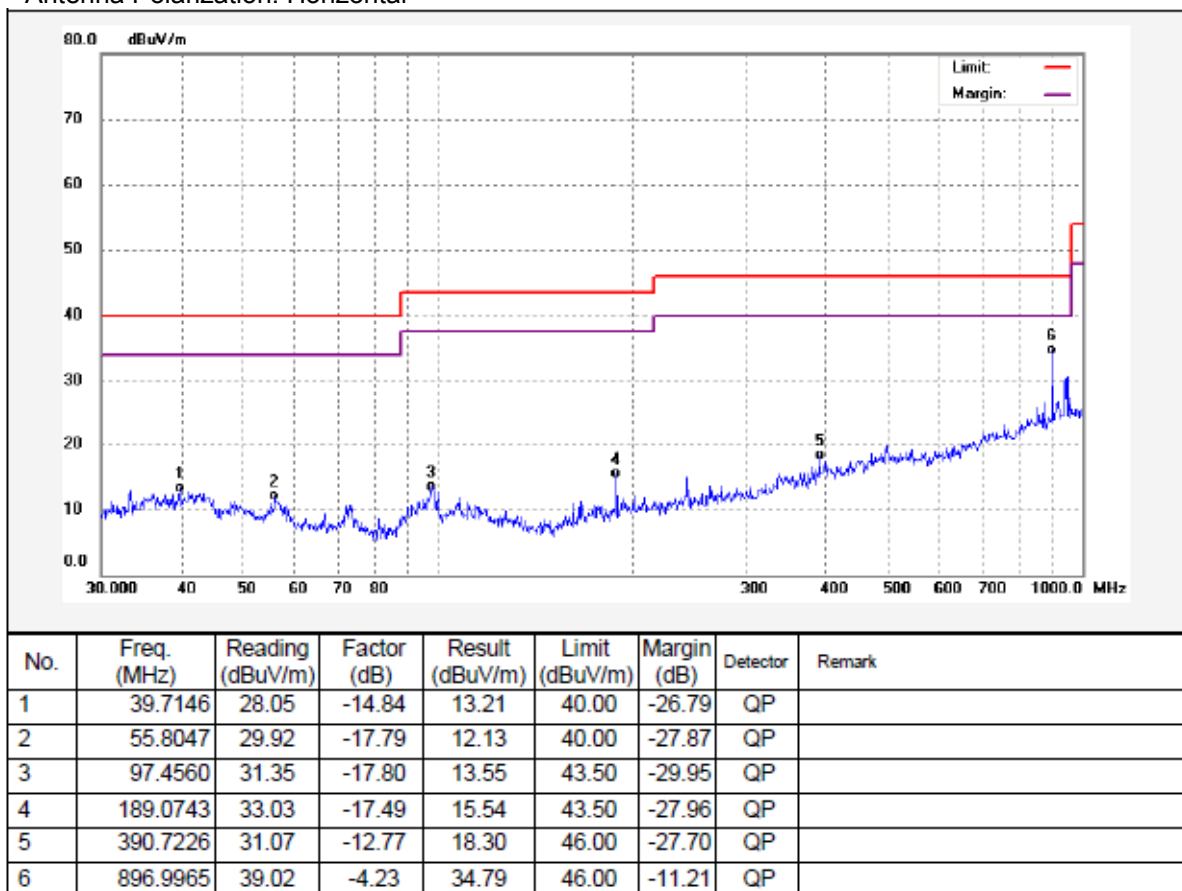
The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Quasi-peak measurements were performed if peak emissions were within 6dB of the Quasi-peak limit line.

5.2.4 Radiated Emission Test Data, 30MHz to 1000MHz

Antenna Polarization: Vertical



Antenna Polarization: Horizontal



### 5.3 Radiation Emission, Above 1000MHz

Test Requirement ..... : FCC PART 15, SUBPART B  
 Test Method ..... : ANSI C63.4  
 Test Result ..... : Pass  
 Frequency Range ..... : 1GHz~6GHz  
 Class. .... : Class B  
 Limit. .... :

Frequency Range (MHz)	Distance (Meter)	Average Limit dB(uV/m)	Peak Limit (dBUV/m)
Above 1GHz	3	54	74

#### 5.3.1 E.U.T. Operation

Operating Environment:

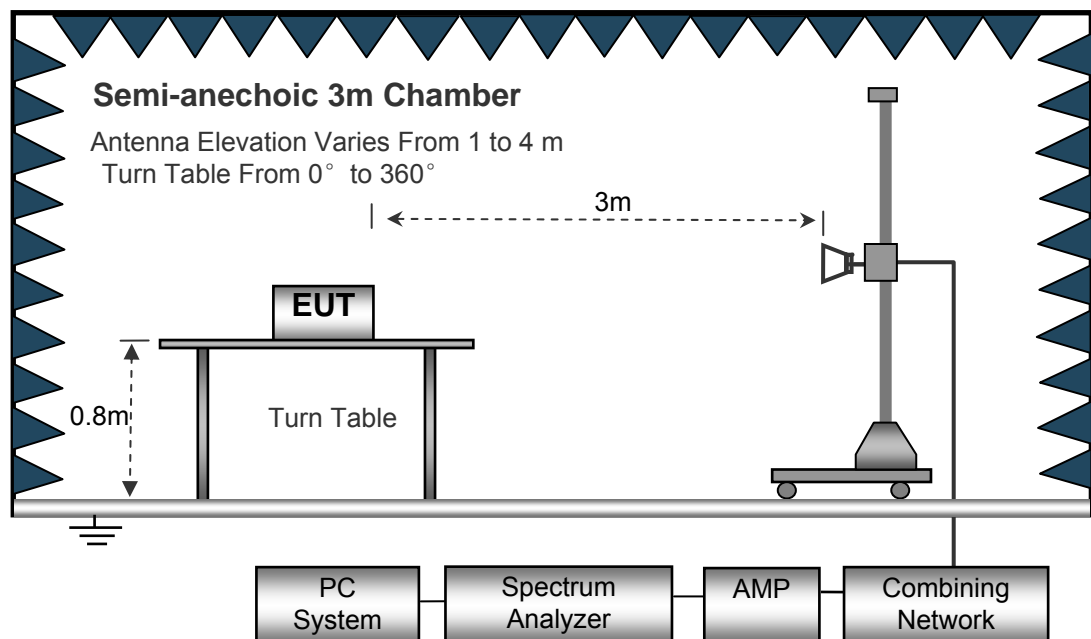
Temperature ..... : 22.4°C  
 Humidity ..... : 52.3%RH  
 Atmospheric Pressure ..... : 101.3kPa

EUT Operation:

Input Voltage ..... : (1)DC 5V by Adapter Input AC 120V/60Hz  
 (2)DC 5V by PC  
 (3)DC 3.7V by Battery  
 Operating Mode ..... : GPS receiving mode, Charging mode, Data transmission mode with PC.  
 Remark ..... : The worse case is date transmission mode and the data is shown as follow.

#### 5.3.2 Block Diagram of Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4.

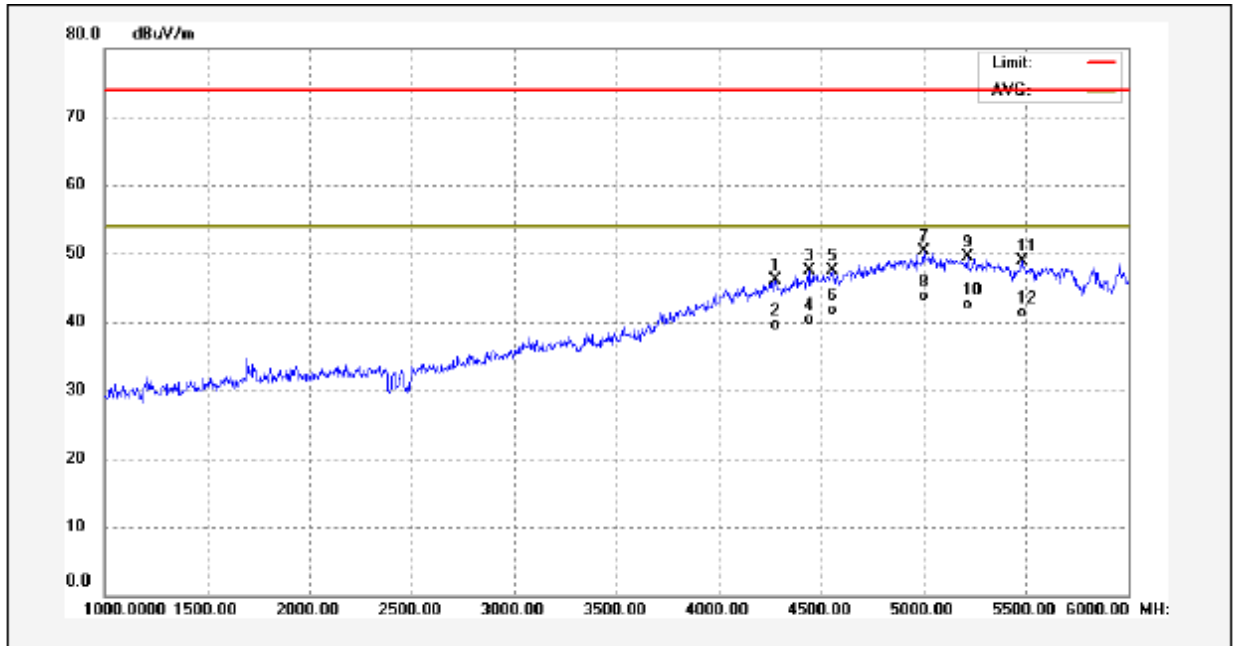


### 5.3.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Average measurements were performed if peak emissions were within 6dB of the average limit line

### 5.3.4 Radiated Emission Test Data, Above 1000MHz

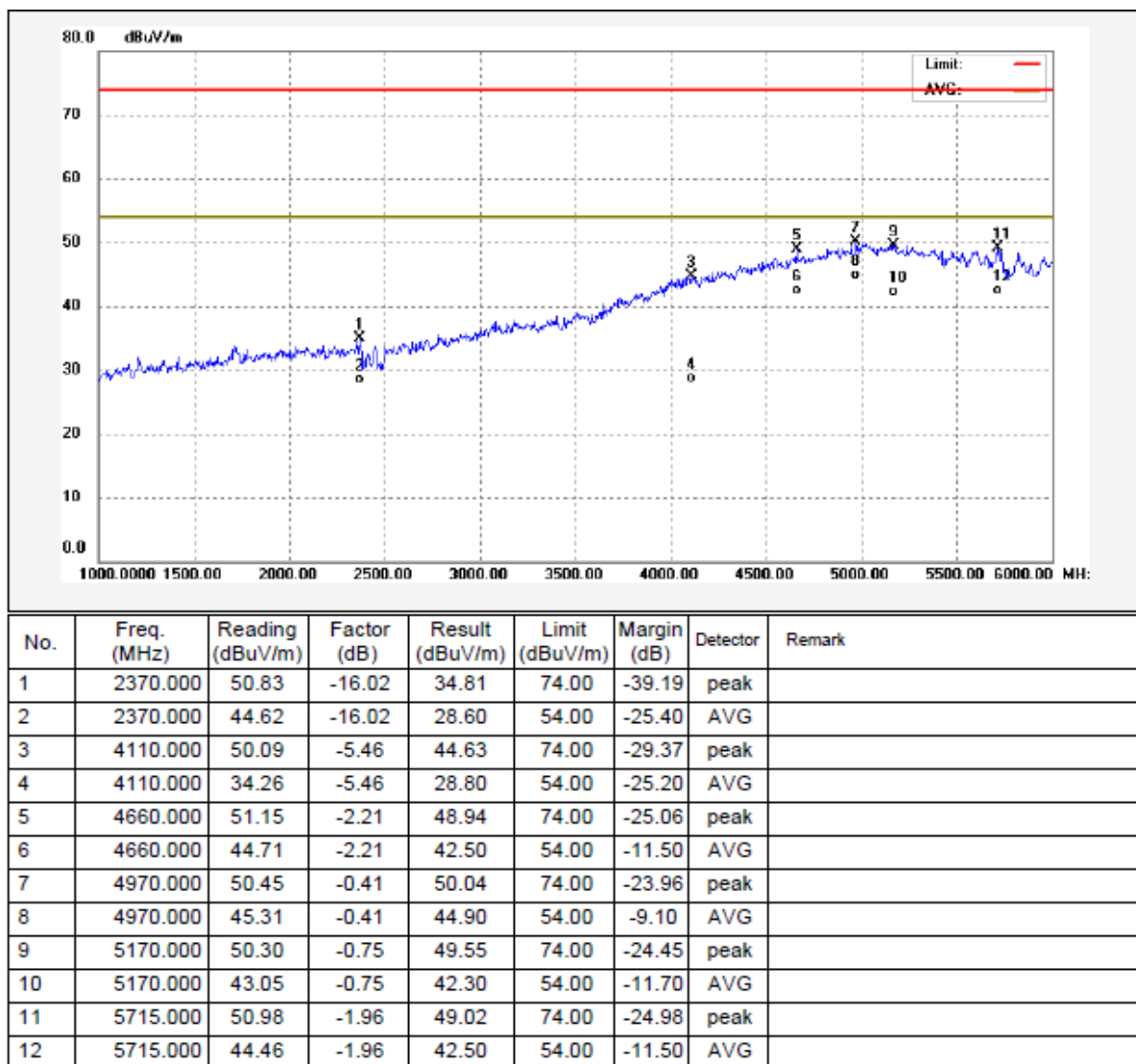
Antenna Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	4275.000	50.62	-4.48	46.14	74.00	-27.86	peak	
2	4275.000	43.98	-4.48	39.50	54.00	-14.50	AVG	
3	4440.000	50.98	-3.49	47.49	74.00	-26.51	peak	
4	4440.000	43.89	-3.49	40.40	54.00	-13.60	AVG	
5	4555.000	50.33	-2.82	47.51	74.00	-26.49	peak	
6	4555.000	44.52	-2.82	41.70	54.00	-12.30	AVG	
7	5000.000	50.63	-0.24	50.39	74.00	-23.61	peak	
8	5000.000	43.94	-0.24	43.70	54.00	-10.30	AVG	
9	5215.000	50.34	-0.89	49.45	74.00	-24.55	peak	
10	5215.000	43.49	-0.89	42.60	54.00	-11.40	AVG	
11	5480.000	50.68	-1.68	49.00	74.00	-25.00	peak	
12	5480.000	42.98	-1.68	41.30	54.00	-12.70	AVG	

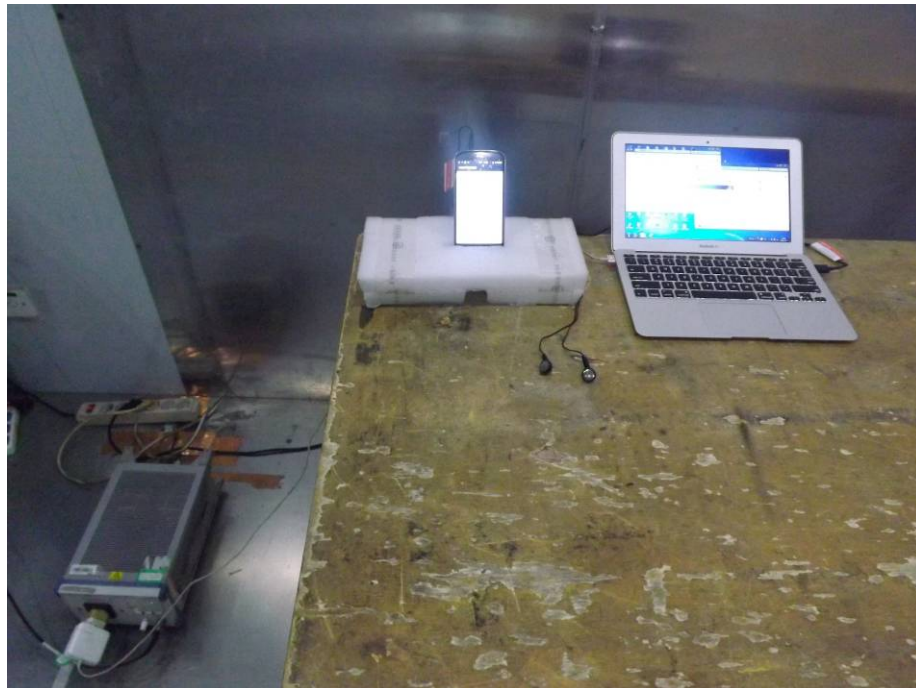


Antenna Polarization: Horizontal

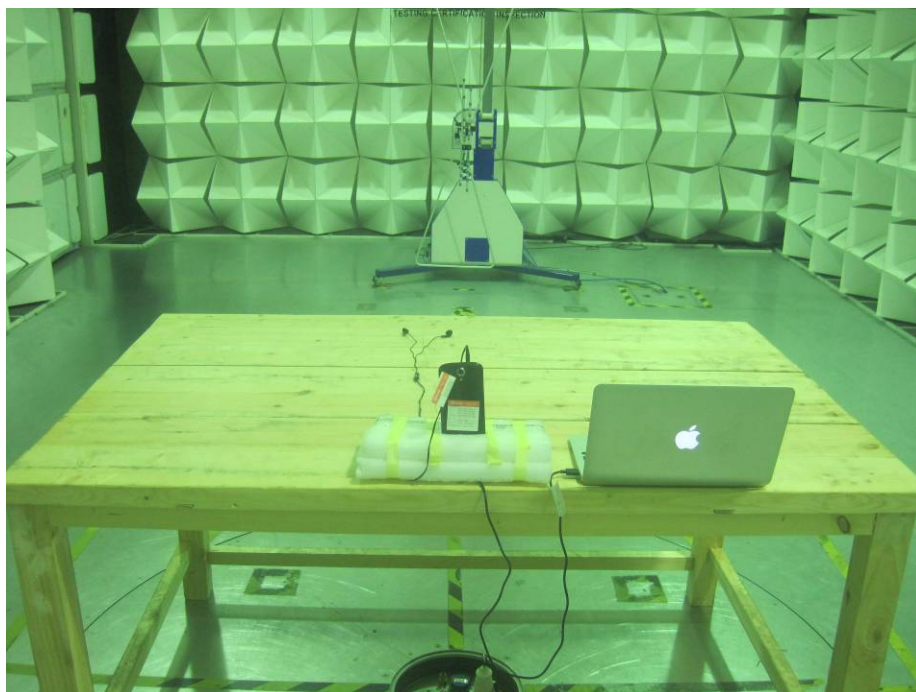


## 6 Photographs – Test Setup

### 6.1 Photograph –Power Line Conducted Emission Test Setup at Test Site 1#



### 6.2 Photograph – Radiated Emission Test Setup for 30~1000MHz at Test Site 2#



### 6.3 Photograph – Radiated Emission Test Setup for Above 1GHz at Test Site 1#



=====End of Report=====