TEST REPORT

Reference No.	:	WTS16S0961767E
FCC ID	:	2AJXM-RD70
Applicant	:	SUPERCOW TECHNOLOGY LIMITED
Address	:	FLAT C 23/F LUCKY PLAZA 315-321 LOCKHART ROAD WAN CHAI HONG KONG
Manufacturer	:	Alif Communications
Address	:	10/F, Southeast Ind'l Bldg, 611-619 Castle Peak Road, Tusen Wan, NT, Hong Kong
Product Name	:	Mobile Phone
Model No.	:	RD70
Brand	:	GALIF
Standards	:	FCC PART15 SUBPART B: 2015
Date of Receipt sample	:	Sep. 28, 2016
Date of Test	:	Sep. 29 – Oct. 27, 2016
Date of Issue	:	Oct. 28, 2016
Test Result	:	**Pass**

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.

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Compiled by:

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Approved by:

Philo Zhong / Manager

1 Test Summary

Test Item	Test Requirement	Class	Test Method	Test Result
Power Line Conducted Emission (150kHz to 30MHz)	FCC PART 15, SUBPART B: 2015	Class B	ANSI C63.4: 2014	Pass
Radiated Emission 30MHz to 1GHz)	FCC PART 15, SUBPART B: 2015	Class B	ANSI C63.4: 2014	Pass
Radiated Emission (Above 1GHz)	FCC PART 15, SUBPART B: 2015	Class B	ANSI C63.4: 2014	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

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3 Report Revision History

Report No.	Report Version	Description	Issue Date
WTS16S0961767E	NONE	Original	Oct. 28, 2016

4 General Information

4.1 General Description of E.U.T.

Product Name	: Mobile Phone
Model No.	: RD70
Model Description	: N/A
GSM Band(s)	: GSM 850/1900MHz
GPRS Class	: 12
WCDMA Band(s)	: N/A
LTE Bnad(s)	: N/A
Wi-Fi Specification	: N/A
Bluetooth Version	: Bluetooth v3.0+EDR
GPS	: N/A
NFC	: N/A
Hardware Version	: KC5115F.MAIN PCB(V4.2)
Software Version	:C32_signature_V01_0629
Storage Location	: Internal Storage

4.2 Details of E.U.T.

Technical Data	: Battery DC 3.7V, 800mAh
	DC 5.7V, 0.8A, charging from adapter (Adapter Input: 100-240V~50/60Hz 0.125A)
Adapter	: Manufacture: Shenzhen ZhengHengda Technology Co. Ltd.
	Model No.: ZHD-002

4.3 Standards Applicable for Testing

The tests were performed according to following standards:

FCC PART 15, SUBPART B: Electronic Code of Federal Regulations- Unintentional Radiators 2015

4.4 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, October 15, 2015.

- **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.

4.5 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

4.6 Abnormalities from Standard Conditions

None.

5 Equipment Used during Test

5.1 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	Apr.19,2016	Apr.18,2017
2.	LISN	R&S	ENV216	101215	Apr.19,2016	Apr.18,2017
3.	Cable	Top	TYPE16(3.5M)	-	Apr.19,2016	Apr.18,2017
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	Apr.19,2016	Apr.18,2017
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Apr.19,2016	Apr.18,2017
3.	Limiter	York	MTS-IMP-136	261115-001-0024	Apr.19,2016	Apr.18,2017
4.	Cable	LARGE	RF300	-	Apr.19,2016	Apr.18,2017
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	Apr.19,2016	Apr.18,2017
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Apr.19,2016	Apr.18,2017
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Apr.19,2016	Apr.18,2017
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Apr.19,2016	Apr.18,2017
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr.19,2016	Apr.18,2017
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Apr.19,2016	Apr.18,2017
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Apr.19,2016	Apr.18,2017
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	Apr.10,2016	Apr.09,2017
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	Apr.19,2016	Apr.18,2017
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Apr.19,2016	Apr.18,2017
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Apr.19,2016	Apr.18,2017

4	Cable	HUBER+SUHNER	CBL2	525178	Apr.19,2016	Apr.18,2017
RF Conducted Testing						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	Apr.19,2016	Apr.18,2017
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Apr.19,2016	Apr.18,2017
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	Apr.19,2016	Apr.18,2017

5.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
MacBook Air	APPLE	A1465	C17KTQDNF5N7
Power Supply	LPS DELTA ELECTRNICS UIANG CO,.LTD	ADP-45GD	-

5.3 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±3.64dB	(1)
Radiation Emission	30MHz~1000MHz	±5.03dB	(1)
	1GHz~18GHz	±5.47dB	(1)

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

6 Emission Test Results

6.1 Power Line Conducted Emission, 150kHz to 30MHz

Test Requirement ..... : FCC PART 15, SUBPART B

Test Method ..... : ANSI C63.4 2014

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 t 56*	56 to 46
0.5 to 5	56	60
5 to 3	60	50

6.1.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 23°C

Humidity ..... : 53.6%RH

Atmospheric Pressure ..... : 101kPa

EUT Operation:

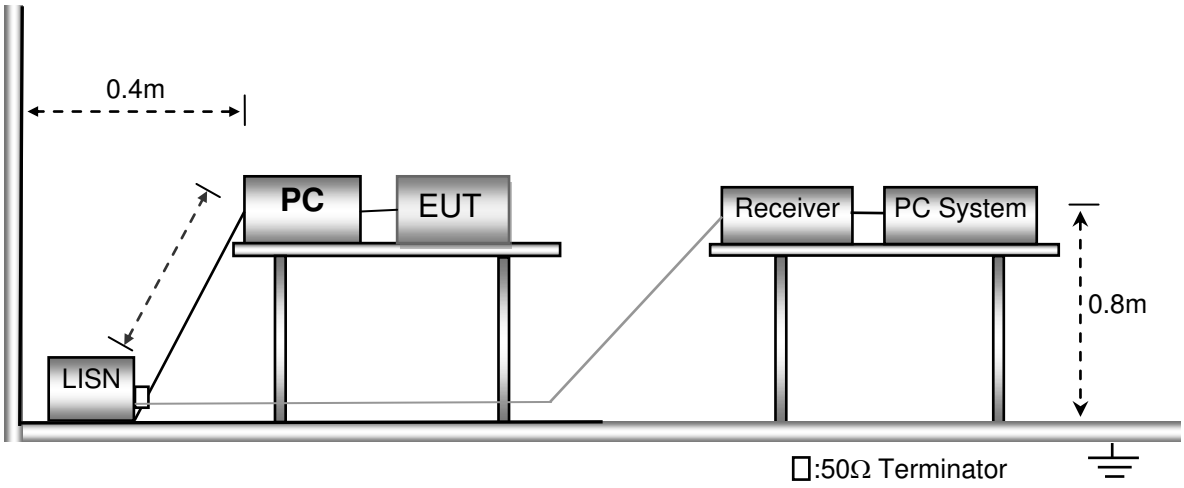
Input Voltage ..... : DC 5.7V by Adapter Input AC 120V/60Hz

Operating Mode ..... : Data transmitting mode, Earphone mode, Adapter mode

Remark ..... : The worse case Data transmitting mode is under the condition of AC 120V/60Hz adapter input and the data is shown as follow.

6.1.2 Block Diagram of Test Setup

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

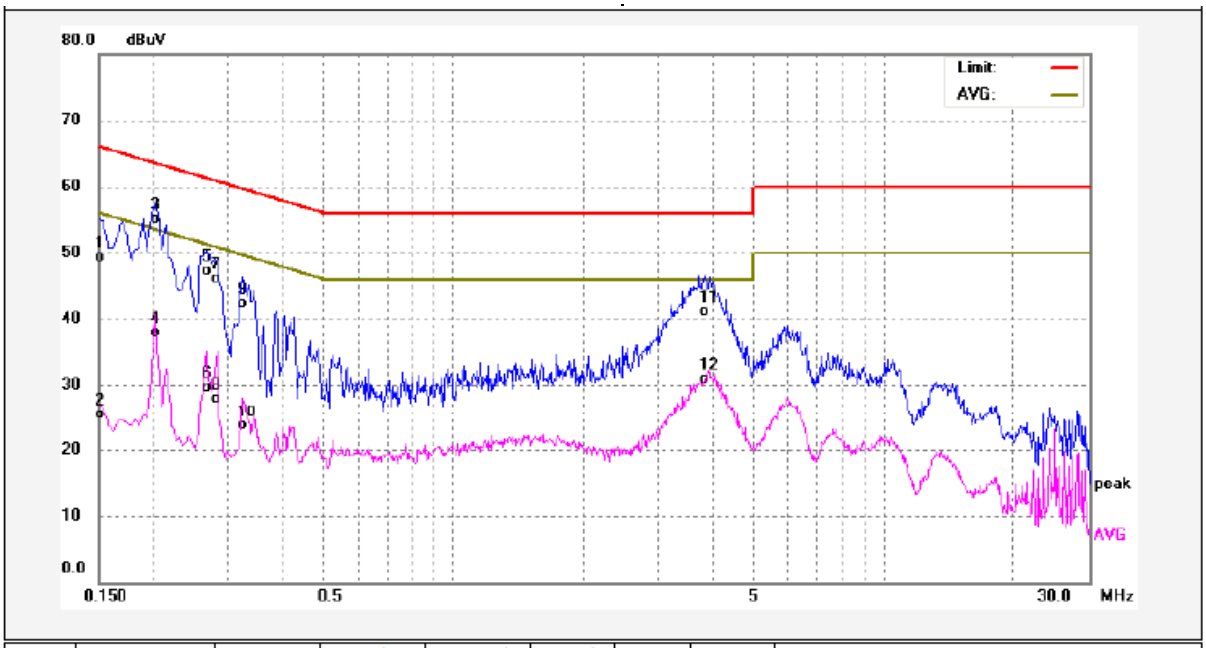


6.1.3 Measurement Data

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 below section 6.1.4, the EUT complied with the FCC PART 15, SUBPART B standards.

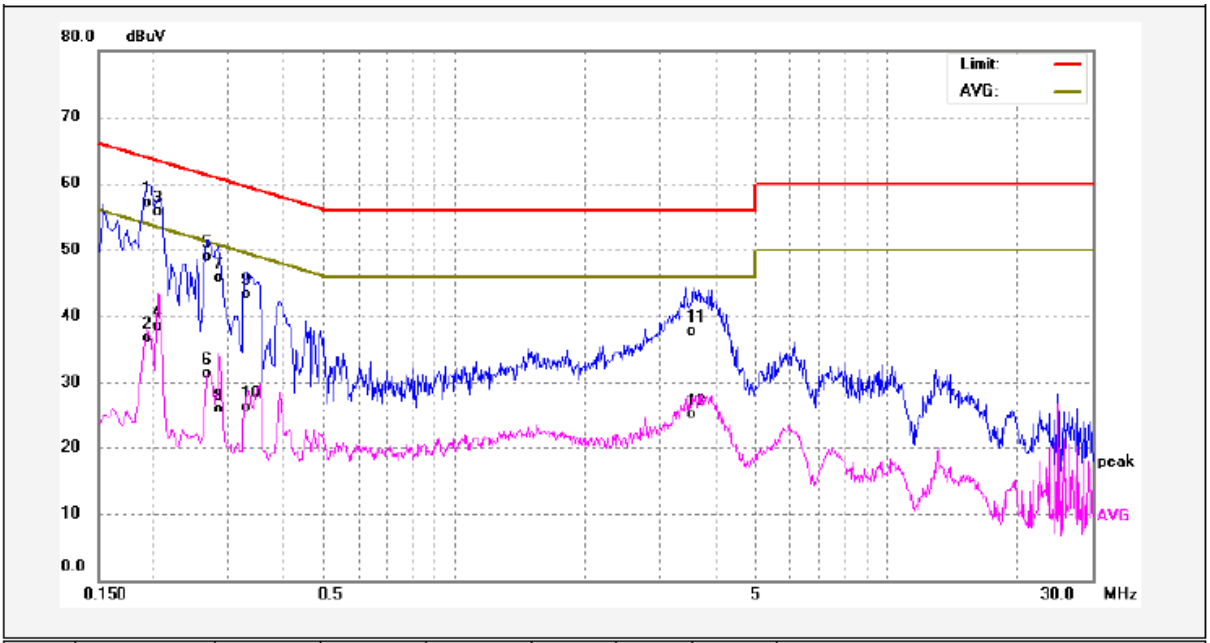
6.1.4 Power Line Conducted Emission Test Data

Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1524	39.10	10.29	49.39	65.86	-16.47	QP	
2	0.1524	15.30	10.29	25.59	55.86	-30.27	AVG	
3	0.2020	44.83	10.26	55.09	63.52	-8.43	QP	
4	0.2020	27.59	10.26	37.85	53.52	-15.67	AVG	
5	0.2660	37.02	10.27	47.29	61.24	-13.95	QP	
6	0.2660	19.41	10.27	29.68	51.24	-21.56	AVG	
7	0.2819	35.83	10.27	46.10	60.76	-14.66	QP	
8	0.2819	17.65	10.27	27.92	50.76	-22.84	AVG	
9	0.3220	31.97	10.28	42.25	59.65	-17.40	QP	
10	0.3220	13.44	10.28	23.72	49.65	-25.93	AVG	
11	3.8220	30.52	10.51	41.03	56.00	-14.97	QP	
12	3.8220	20.46	10.51	30.97	46.00	-15.03	AVG	

Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1940	46.81	10.26	57.07	63.86	-6.79	QP	
2	0.1940	26.44	10.26	36.70	53.86	-17.16	AVG	
3	0.2060	45.41	10.26	55.67	63.36	-7.69	QP	
4	0.2060	28.17	10.26	38.43	53.36	-14.93	AVG	
5	0.2660	38.61	10.27	48.88	61.24	-12.36	QP	
6	0.2660	21.08	10.27	31.35	51.24	-19.89	AVG	
7	0.2860	35.38	10.27	45.65	60.64	-14.99	QP	
8	0.2860	15.65	10.27	25.92	50.64	-24.72	AVG	
9	0.3300	33.06	10.29	43.35	59.45	-16.10	QP	
10	0.3300	16.07	10.29	26.36	49.45	-23.09	AVG	
11	3.5740	27.18	10.51	37.69	56.00	-18.31	QP	
12	3.5740	14.68	10.51	25.19	46.00	-20.81	AVG	

6.2 Radiation Emission, 30MHz to 1000MHz

Test Requirement ..... : FCC PART 15, SUBPART B

Test Method ..... : ANSI C63.4 2014

Test Result ..... : Pass

Frequency Range ..... : 30MHz to 1000MHz

Class. : Class B

Limit..... :

Frequency (MHz)	Distance (Meter)	Limit (dBμV/m)
		Quas -peak
30 to 88	3	40
88 to 216	3	43.5
216 to 960	3	46
960 to 1000	3	54

6.2.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 22.5°C

Humidity ..... : 52.6%RH

Atmospheric Pressure ..... : 101.2kPa

EUT Operation:

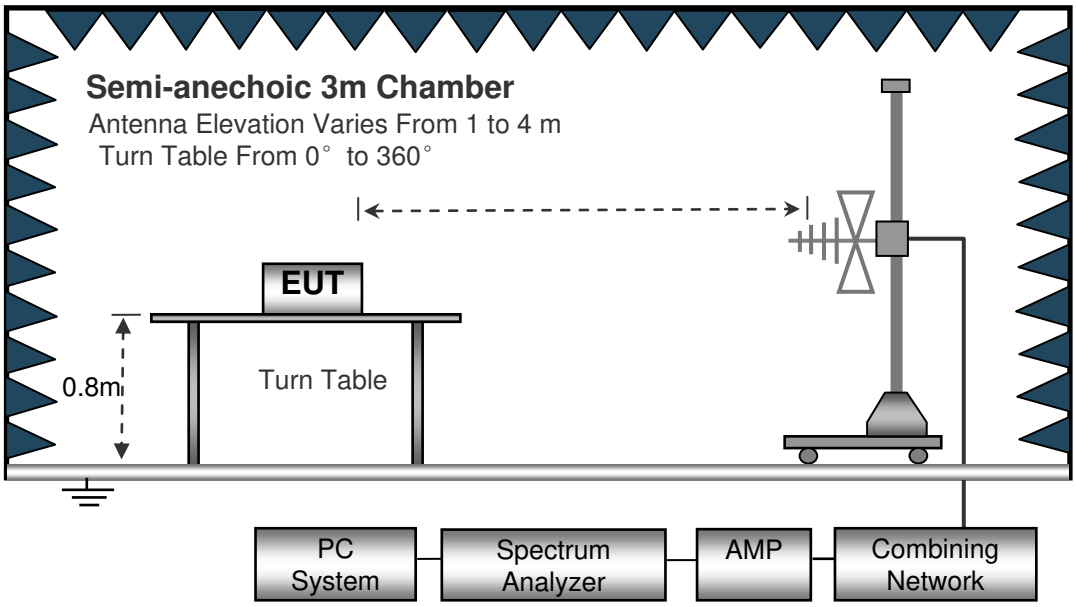
Input Voltage..... : DC 5.7V by Adapter Input AC 120V/60Hz

Operating Mode ..... : Data transmitting with PC mode, Earphone mode

Remark ..... : The worse case Data transmitting with PC mode is under the condition of AC 120V/60Hz adapter input and the data is shown as follow.

6.2.2 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.

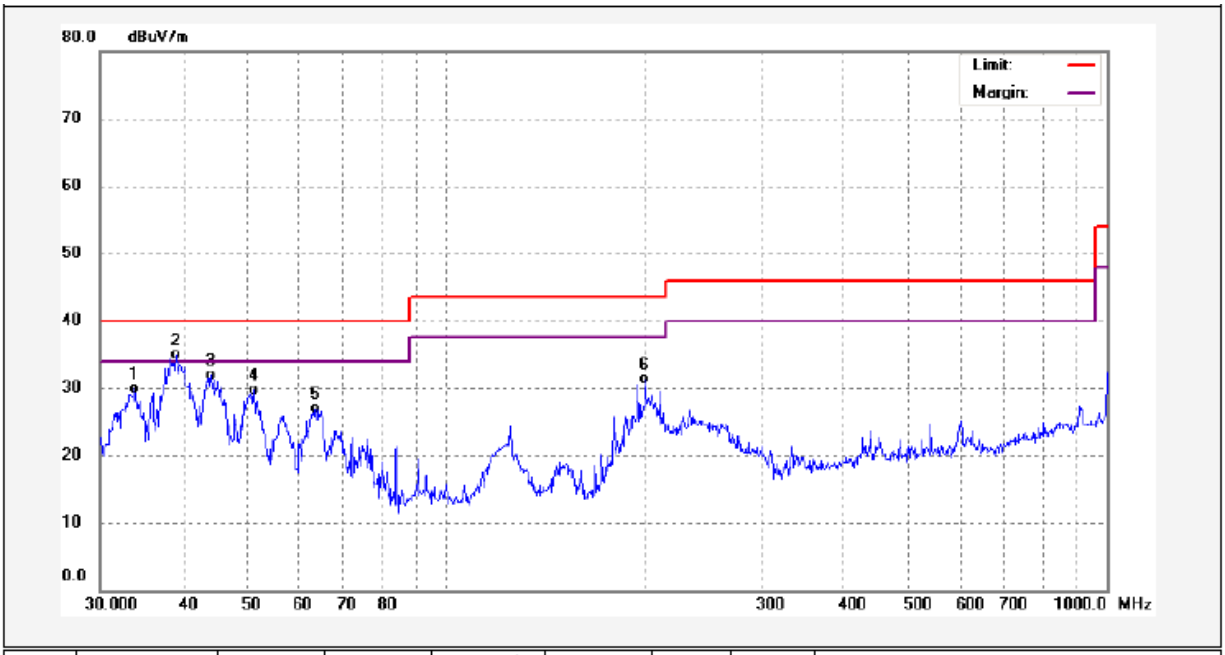


6.2.3 Measurement Data

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.

6.2.4 Radiated Emission Test Data, 30MHz to 1000MHz

Antenna Polarization: Vertical

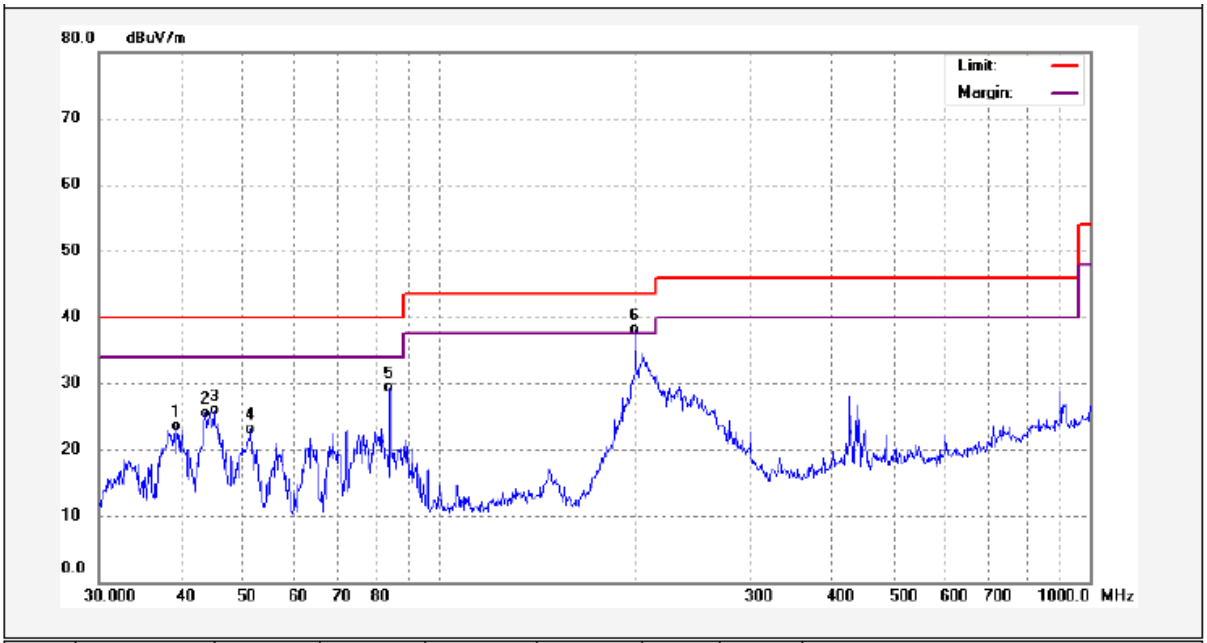


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	33.7986	46.17	-16.21	29.96	40.00	-10.04	QP	
2	39.0242	49.93	-15.07	34.86	40.00	-5.14	QP	
3	44.1200	47.27	-15.38	31.89	40.00	-8.11	QP	
4	51.1208	46.74	-17.04	29.70	40.00	-10.30	QP	
5	63.5356	46.16	-19.30	26.86	40.00	-13.14	QP	
6	199.9855	49.13	-17.76	31.37	43.50	-12.13	QP	

Factor= antenna factor + cable loss - preamplifier factor

Result = Reading + Factor

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	39.4371	38.51	-14.97	23.54	40.00	-16.46	QP	
2	43.6584	40.75	-15.25	25.50	40.00	-14.50	QP	
3	45.0583	42.07	-16.08	25.99	40.00	-14.01	QP	
4	51.3004	40.09	-17.08	23.01	40.00	-16.99	QP	
5	83.8155	50.49	-21.27	29.22	40.00	-10.78	QP	
6	199.9855	55.80	-17.76	38.04	43.50	-5.46	QP	

Factor= antenna factor + cable loss - preamplifier factor

Result = Reading + Factor

6.3 Radiation Emission, Above 1000MHz

Test Requirement ..... : FCC PART 15, SUBPART B

Test Method ..... : ANSI C63.4 2014

Test Result ..... : Pass

Frequency Range ..... : 1GHz~18GHz

Class. : Class B

Limit. ..... :

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

6.3.1 E.U.T. Operation

Operating Environment:

Temperature..... : 22.4°C

Humidity ..... : 52.3%RH

Atmospheric Pressure..... : 101.3kPa

EUT Operation:

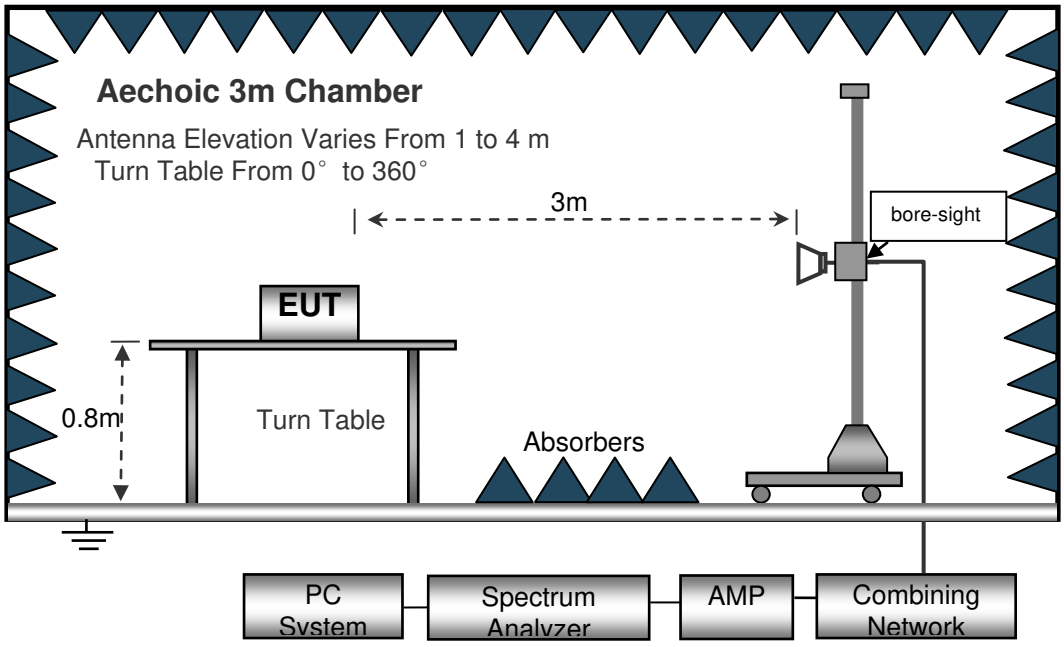
Input Voltage ..... : DC 5.7V by Adapter Input AC 120V/60Hz

Operating Mode ..... : Data transmitting with PC mode, Earphone mode

Remark..... : The worse case Data transmitting mode is under the condition of AC 120V/60Hz adapter input and the data is shown as follow.

6.3.2 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.

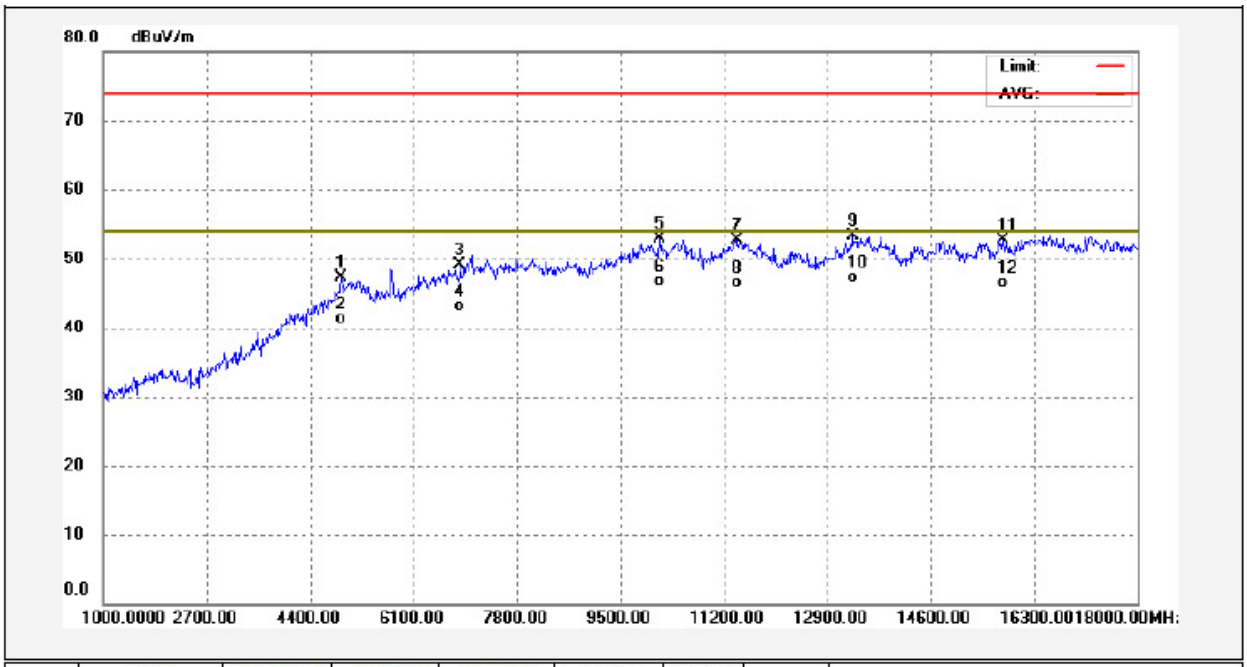


6.3.3 Measurement Data

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

6.3.4 Radiated Emission Test Data, Above 1000MHz

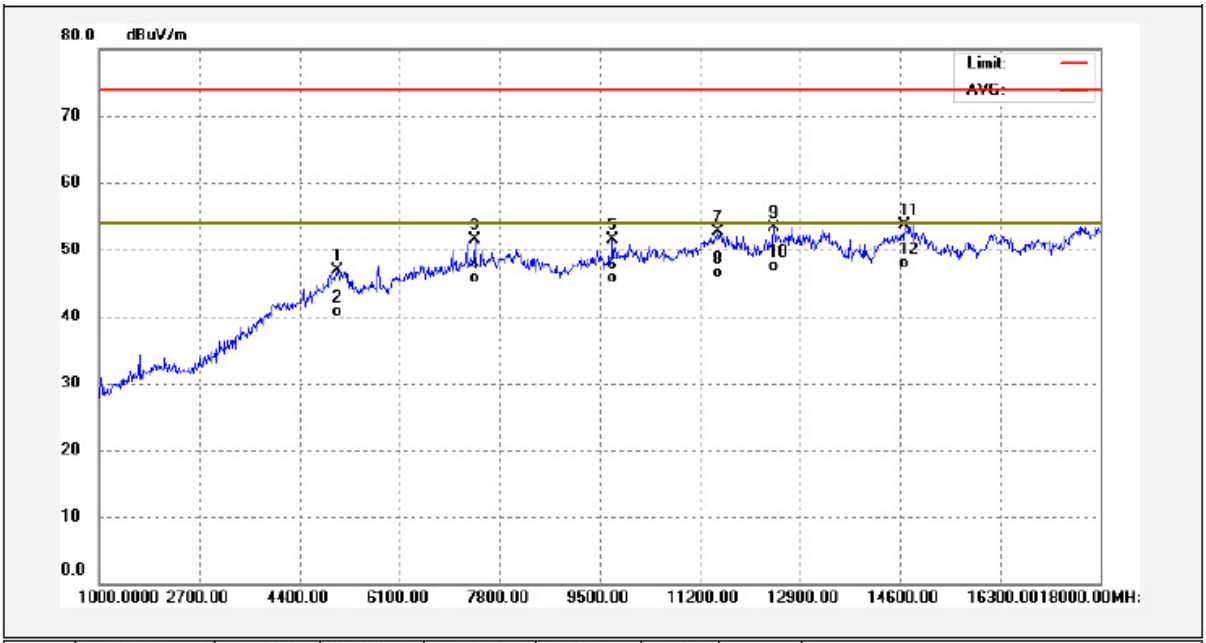
Antenna Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	4910.000	48.77	-1.56	47.21	74.00	-26.79	peak	
2	4910.000	42.91	-1.56	41.35	54.00	-12.65	AVG	
3	6865.000	48.29	0.75	49.04	74.00	-24.96	peak	
4	6865.000	42.42	0.75	43.17	54.00	-10.83	AVG	
5	10146.000	49.32	3.55	52.87	74.00	-21.13	peak	
6	10146.000	43.19	3.55	46.74	54.00	-7.26	AVG	
7	11404.000	46.04	6.66	52.70	74.00	-21.30	peak	
8	11404.000	39.92	6.66	46.58	54.00	-7.42	AVG	
9	13308.000	45.45	7.76	53.21	74.00	-20.79	peak	
10	13308.000	39.57	7.76	47.33	54.00	-6.67	AVG	
11	15790.000	43.68	9.02	52.70	74.00	-21.30	peak	
12	15790.000	37.53	9.02	46.55	54.00	-7.45	AVG	

Factor= antenna factor + cable loss - preamplifier factor
Result = Reading + Factor

Antenna Polarization: Horizontal



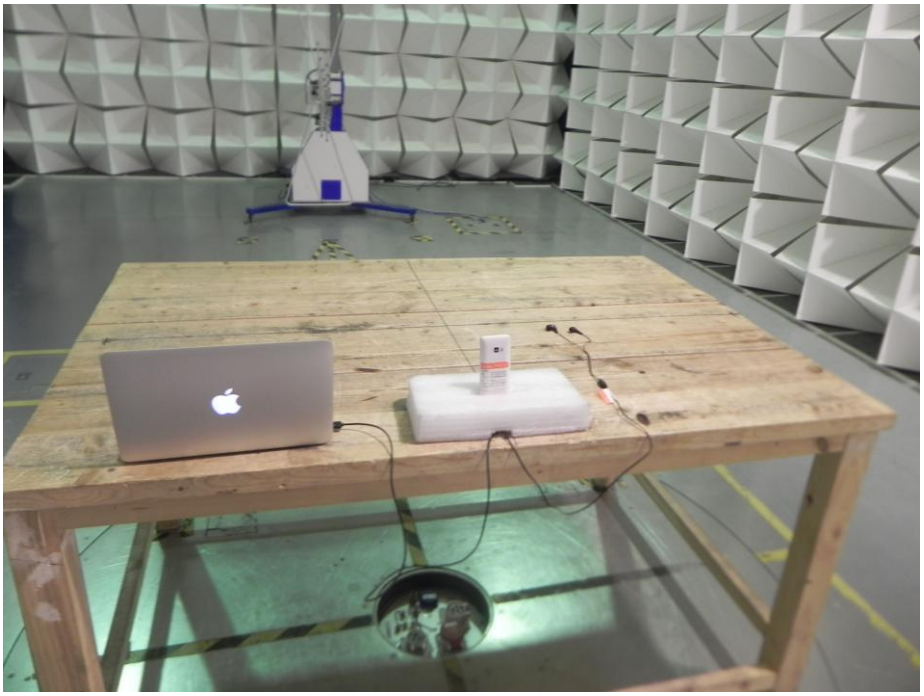
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	5046.000	47.84	-1.00	46.84	74.00	-27.16	peak	
2	5046.000	41.72	-1.00	40.72	54.00	-13.28	AVG	
3	7375.000	50.29	1.26	51.55	74.00	-22.45	peak	
4	7375.000	44.42	1.26	45.68	54.00	-8.32	AVG	
5	9721.000	48.57	2.91	51.48	74.00	-22.52	peak	
6	9721.000	42.71	2.91	45.62	54.00	-8.38	AVG	
7	11506.000	45.60	7.06	52.66	74.00	-21.34	peak	
8	11506.000	39.47	7.06	46.53	54.00	-7.47	AVG	
9	12458.000	47.97	5.37	53.34	74.00	-20.66	peak	
10	12458.000	42.08	5.37	47.45	54.00	-6.55	AVG	
11	14668.000	43.34	10.34	53.68	74.00	-20.32	peak	
12	14668.000	37.47	10.34	47.81	54.00	-6.19	AVG	

Factor= antenna factor + cable loss - preamplifier factor
Result = Reading + Factor

7 Photographs – Test Setup FCC ID 2AJXM-RD70

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

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



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

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