TEST REPORT

Applicant:	Shenzhen Sunchip Technology Co., Ltd
Address of Applicant:	201-301, Building A4, No. 90, Dayang Road, FuYong town, Bao'an District, Shenzhen, China
Manufacturer:	Shenzhen Sunchip Technology Co., Ltd
Address of Manufacturer:	201-301, Building A4, No. 90, Dayang Road, FuYong town, Bao'an District, Shenzhen, China

Equipment Under Test (EUT)

Product Name:	Sunchip VR Mobile All-in-One
Model No.:	V5K
FCC ID:	2ALNC-V5K
Applicable standards:	FCC CFR Title 47 Part 15 Subpart B:2016
Date of sample receipt:	March 16, 2017
Date of Test:	March 17-23, 2017
Date of report issued:	March 27, 2017
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*March 27, 2017*	*Original*

Prepared by: Bill. Yuan ***Date:*** *March 27, 2017*

Project Engineer

Reviewed by: Andy. Wu ***Date:*** *March 27, 2017*

Reviewer

3 Contents

4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part15.107	Pass
Radiated Emissions	Part15.109	Pass

Pass: The EUT comply with the essential requirements in the standard.

5 General Information

5.1 General Description of EUT

Product Name:	Sunchip VR Mobile All-in-One
Model No.:	V5K
Power supply:	Adapter: Model: FLD0710-5.0V2.50A Input voltage: AC 100-240V 50/60Hz 0.3A Output voltage: DC5V 2.5A Or DC3.8V 4000mAh Li-ion Battery

5.2 Test mode and Test voltage

Test mode:	
SD card play mode	Keep the EUT in SD card playing mode.
USB play mode	Keep the EUT in USB playing mode.
PC mode	Keep the EUT in exchanging data mode.
Test voltage:	
AC 120V/60Hz	

5.3 Description of Support Units

None.

5.4 Deviation from Standards

Manufacturer	Description	Model	Serial Number
Apple	PC	A1278	C1MN99ERDTY3
DELL	KEYBOARD	SK-8115	N/A
DELL	MOUSE	N/A	N/A

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen 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 files. Registration 600491, June 22, 2016.

● **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016

5.7 Test Location

The test was performed at:

Global United Technology Services Co., Ltd.
Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102
Tel: 0755-27798480
Fax: 0755-27798960

6 Test Instruments list

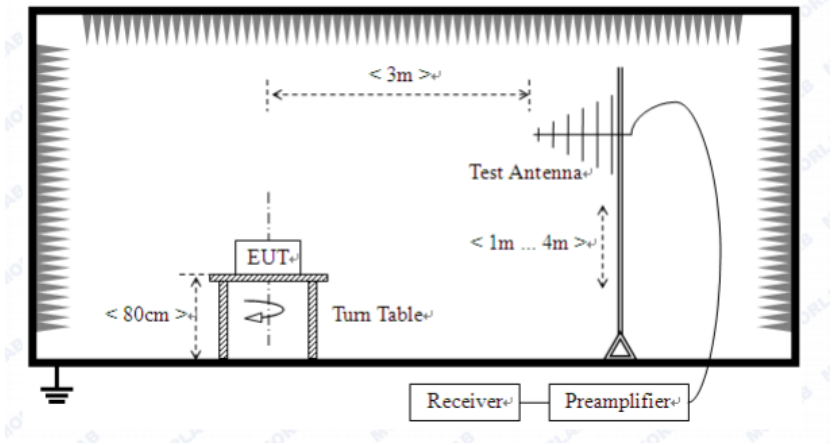
Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	ESU EMI Test Receiver	R&S	ESU26	GTS203	June.29 2016	June.28 2017
4	BiConiLog Antenna	SCHWARZBECK	VULB9163	GTS214	June.29 2016	June.28 2017
5	Double-ridged horn antenna	SCHWARZBECK	9120D	GTS208	June.29 2016	June.28 2017
6	Horn Antenna	ETS-LINDGREN	3160-09	GTS218	June.29 2016	June.28 2017
7	RF Amplifier	HP	8347A	GTS204	June.29 2016	June.28 2017
8	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	June.29 2016	June.28 2017
9	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
10	Coaxial Cable	GTS	N/A	GTS211	June.29 2016	June.28 2017
11	Coaxial Cable	GTS	N/A	GTS210	June.29 2016	June.28 2017
12	Coaxial Cable	GTS	N/A	GTS212	June.29 2016	June.28 2017
13	Thermo meter	N/A	N/A	GTS256	June.29 2016	June.28 2017

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2014	May.15 2019
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 29 2016	June. 28 2017
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 29 2016	June. 28 2017
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 29 2016	June. 28 2017
5	Coaxial Cable	GTS	N/A	GTS227	June. 29 2016	June. 28 2017
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 29 2016	June. 28 2017

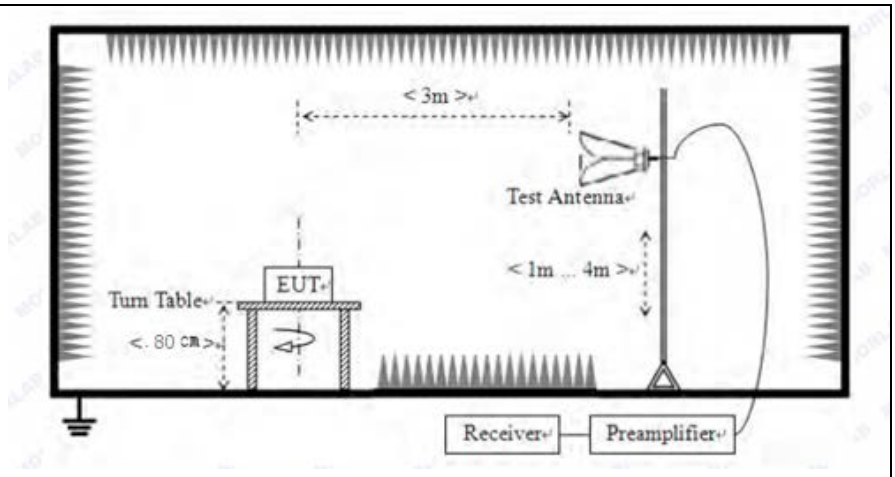
General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (dd-mm-yy)**	**Cal.Due date (dd-mm-yy)**
1	Barometer	ChangChun	DYM3	GTS257	June. 29 2016	June. 28 2017

7 Test Results and Measurement Data

7.1 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td colspan="5">FCC Part15 B Section 15.109</td></tr>
<tr><td>Test Method:</td><td colspan="5">ANSI C63.4:2014</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="5">30MHz to 25000MHz</td></tr>
<tr><td>Test site:</td><td colspan="5">Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td colspan="5"><table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120kHz</td><td>300kHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table></td></tr>
<tr><td>Limit:</td><td colspan="5"><table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td>30MHz-88MHz</td><td>40.00</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.50</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.00</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.00</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.00</td><td>Average Value</td></tr>
<tr><td>74.00</td><td>Peak Value</td></tr>
</table></td></tr>
<tr><td>Test setup:</td><td colspan="5">Below 1GHz
 

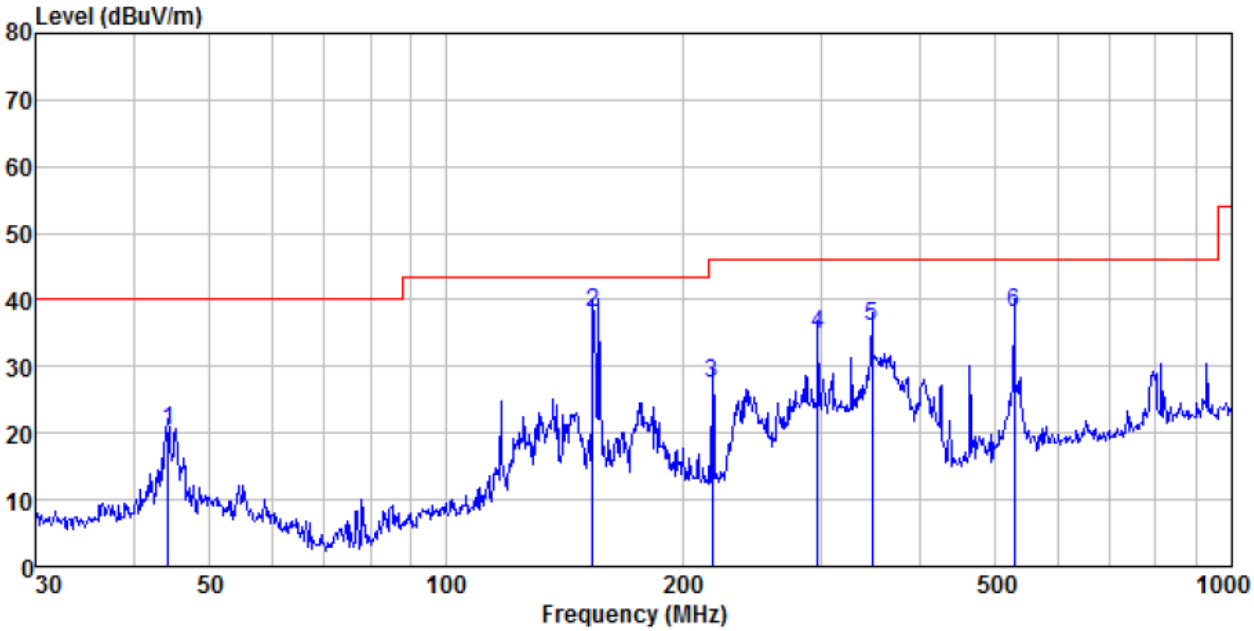
Above 1GHz</td></tr>
</table>

	
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1 012mbar
Measurement Record:	Uncertainty: ± 4.50dB
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details,only show the worst case.
Test results:	Pass

Measurement Data

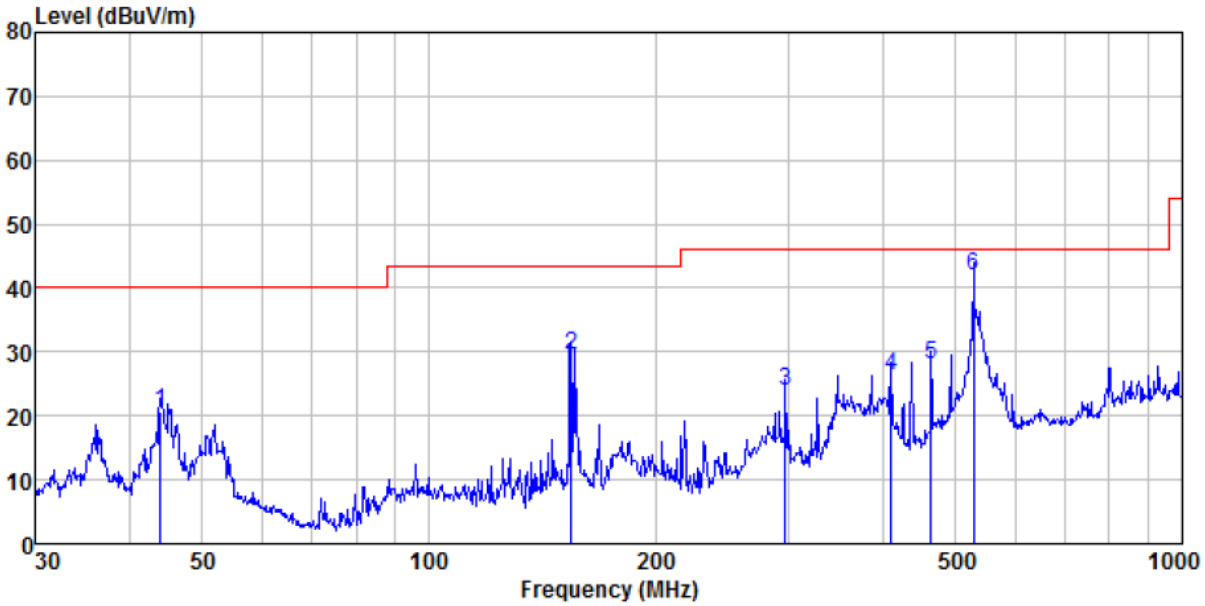
Below 1GHz

Test mode:	PC mode	Antenna Polarity:	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
44.275	37.34	12.25	0.71	30.02	20.28	40.00	-19.72	QP
153.739	58.05	7.85	1.59	29.39	38.10	43.50	-5.40	QP
218.309	44.13	10.78	1.95	29.38	27.48	46.00	-18.52	QP
297.224	49.01	13.40	2.35	29.99	34.77	46.00	-11.23	QP
348.027	48.73	14.44	2.61	29.75	36.03	46.00	-9.97	QP
528.246	45.87	18.03	3.43	29.30	38.03	46.00	-7.97	QP

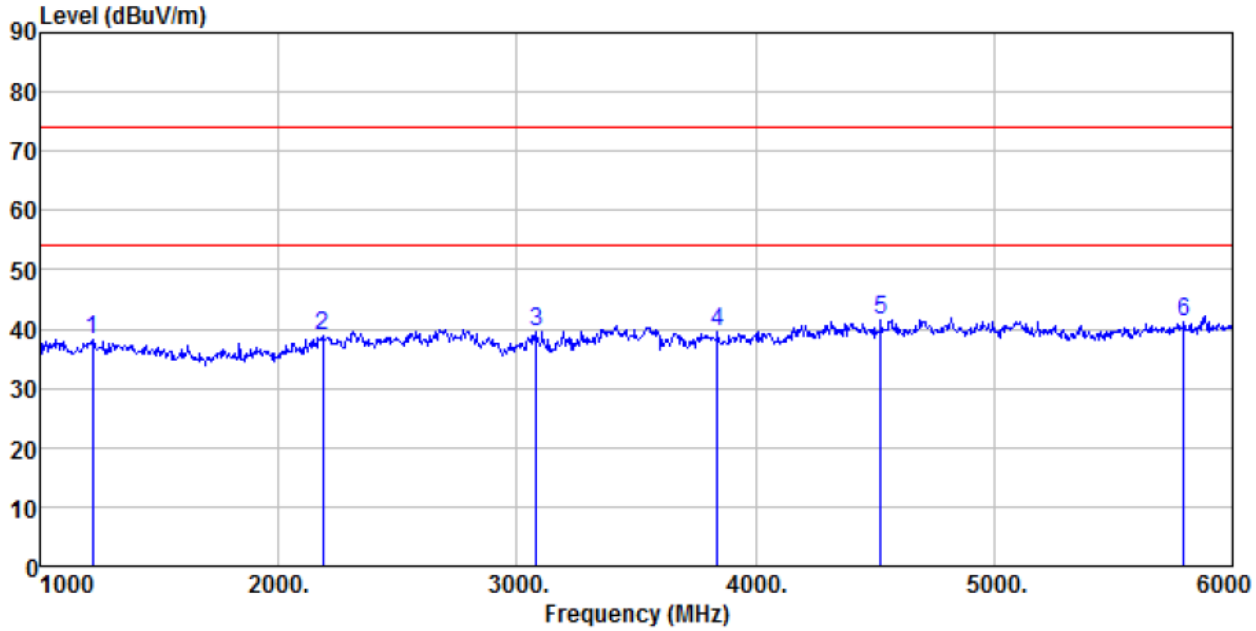
Test mode:	PC mode	Antenna Polarity:	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
43.966	37.83	12.25	0.71	30.02	20.77	40.00	-19.23	QP
154.279	49.50	7.85	1.59	29.39	29.55	43.50	-13.95	QP
297.224	38.05	13.40	2.35	29.99	23.81	46.00	-22.19	QP
410.383	37.17	15.68	2.91	29.48	26.28	46.00	-19.72	QP
463.970	37.58	16.77	3.15	29.37	28.13	46.00	-17.87	QP
528.246	49.78	18.03	3.43	29.30	41.94	46.00	-4.06	QP

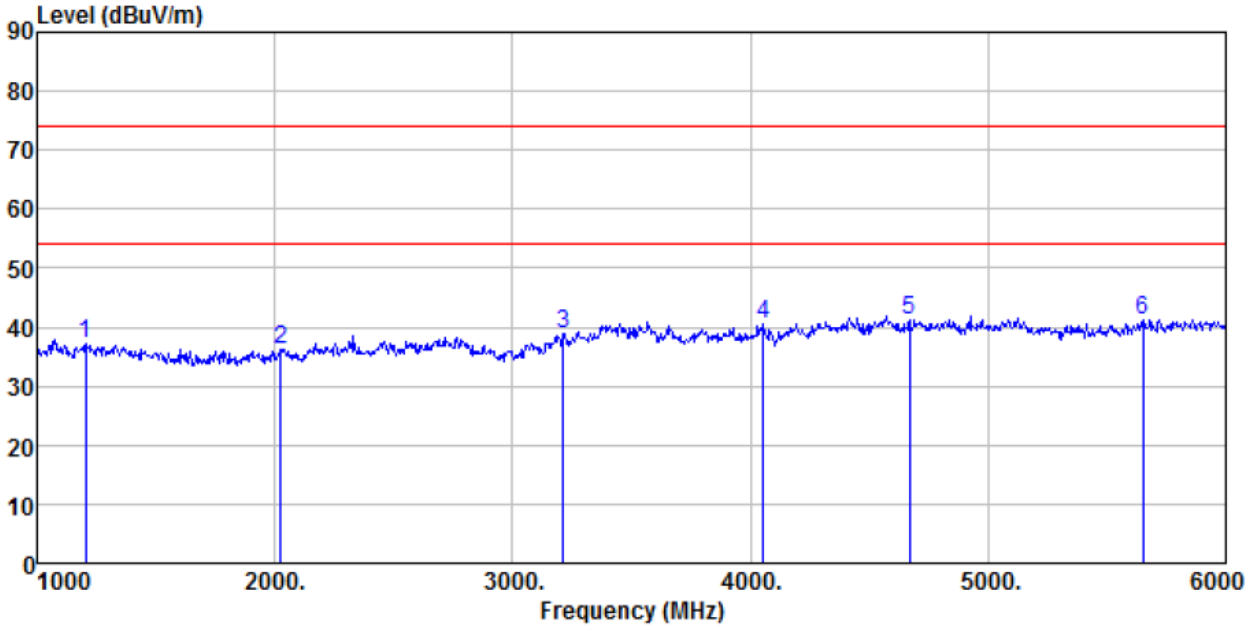
Above 1GHz

Test mode:	PC mode	Antenna Polarity:	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1220.000	41.39	25.43	4.48	33.13	38.17	74.00	-35.83	Peak
2185.000	40.25	27.85	5.17	34.25	39.02	74.00	-34.98	Peak
3080.000	38.12	28.68	6.10	33.24	39.66	74.00	-34.34	Peak
3840.000	34.77	29.42	7.60	32.36	39.43	74.00	-34.57	Peak
4525.000	33.62	31.37	8.36	31.95	41.40	74.00	-32.60	Peak
5795.000	31.03	32.63	9.93	32.25	41.34	74.00	-32.66	Peak

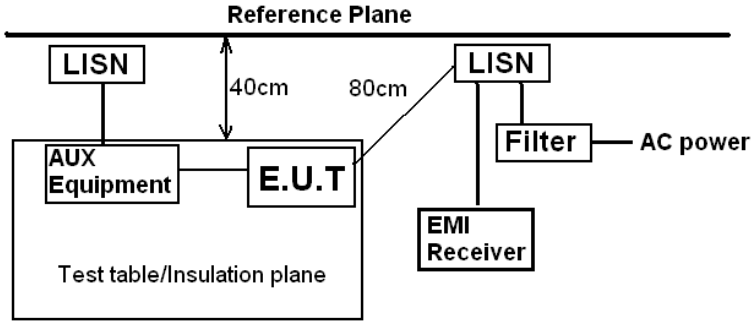
Test mode:	PC mode	Antenna Polarity:	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1205.000	40.50	25.37	4.47	33.10	37.24	74.00	-36.76	Peak
2025.000	39.50	26.29	4.99	34.44	36.34	74.00	-37.66	Peak
3215.000	36.92	28.68	6.39	33.08	38.91	74.00	-35.09	Peak
4055.000	34.85	29.81	7.92	32.11	40.47	74.00	-33.53	Peak
4670.000	33.01	31.61	8.48	32.02	41.08	74.00	-32.92	Peak
5650.000	31.58	32.36	9.72	32.34	41.32	74.00	-32.68	Peak

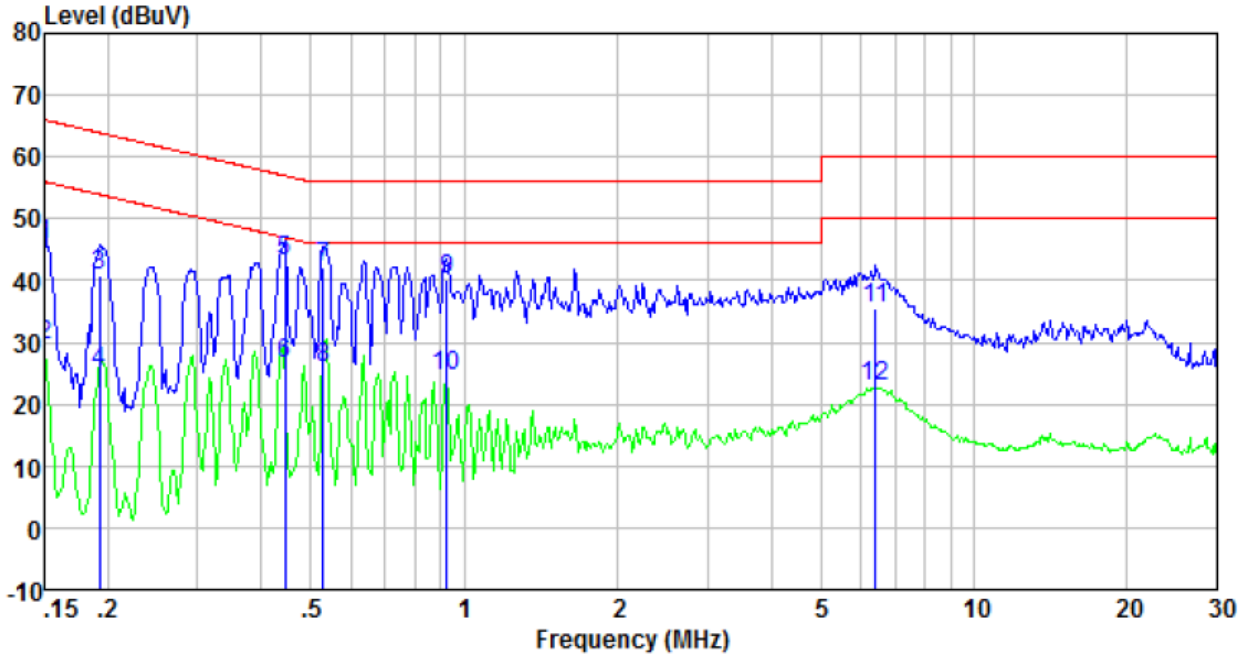
Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
For above 6GHz , no emission found. Only report worse case from 30MHz to 6GHz.

7.2 Conducted Emissions

Test Requirement:	FCC Part15 B Section 15.107
Test Method:	ANSI C63.4:2014
Test Frequency Range:	150kHz to 30MHz
Class / Severity:	Class B
Receiver setup:	RBW=9kHz, VBW=30kHz
Limit:	Frequency range (MHz) / Limit (dBµV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 0.5-30: 60 / 50
Test setup:	 *Remark:* *E.U.T: Equipment Under Test* *LISN: Line Impedence Stabilization Network* *Test table height=0.8m*
Test procedure	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.
Test environment:	Temp.: 25 °C / Humid.: 52% / Press.: 1 012mbar
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.2 for details,only show the worst case.
Test results:	Pass

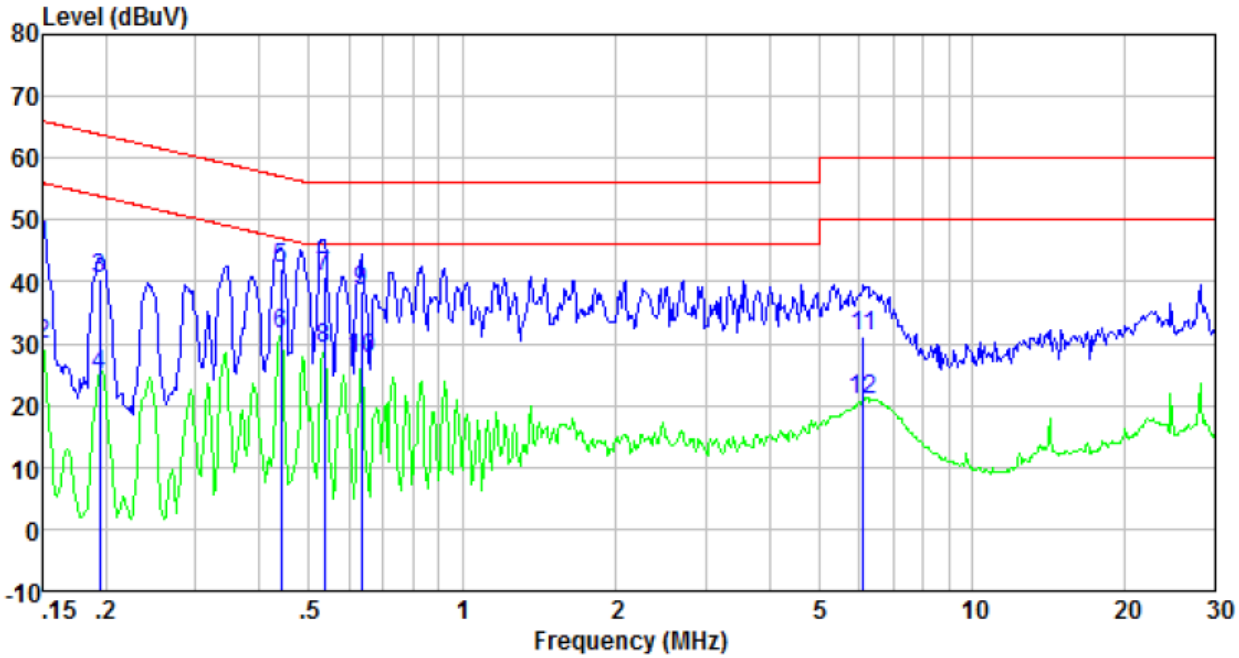
Measurement Data

Test mode:	PC mode	Phase Polarity:	Line



Freq MHz	Reading level dBuV	lISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.15	45.28	0.42	0.12	45.82	66.00	-20.18	QP
0.15	28.83	0.42	0.12	29.37	56.00	-26.63	Average
0.19	40.40	0.43	0.13	40.96	63.93	-22.97	QP
0.19	24.59	0.43	0.13	25.15	53.93	-28.78	Average
0.44	42.71	0.40	0.11	43.22	56.98	-13.76	QP
0.44	26.06	0.40	0.11	26.57	46.98	-20.41	Average
0.53	41.65	0.36	0.11	42.12	56.00	-13.88	QP
0.53	25.56	0.36	0.11	26.03	46.00	-19.97	Average
0.92	39.75	0.26	0.13	40.14	56.00	-15.86	QP
0.92	24.14	0.26	0.13	24.53	46.00	-21.47	Average
6.42	35.27	0.21	0.16	35.64	60.00	-24.36	QP
6.42	22.43	0.21	0.16	22.80	50.00	-27.20	Average

Test mode:	PC mode	Phase Polarity:	Neutral

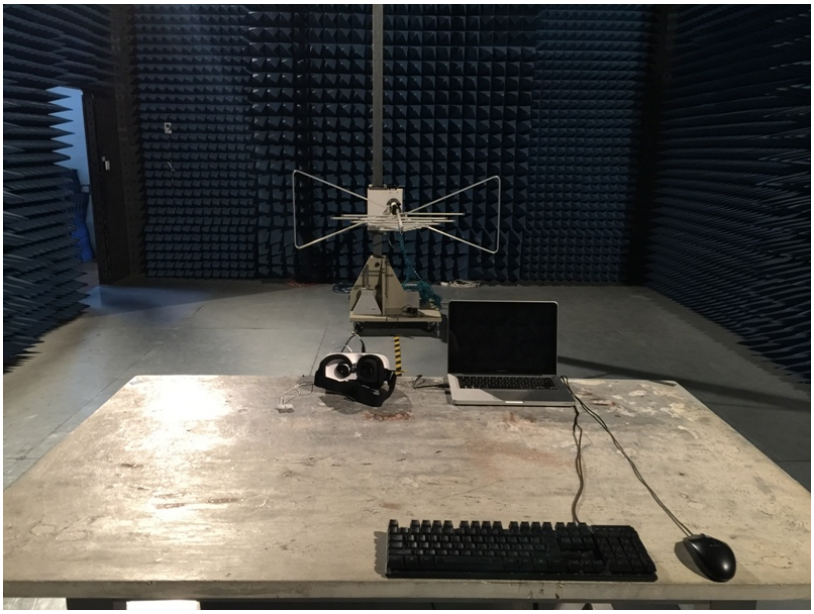


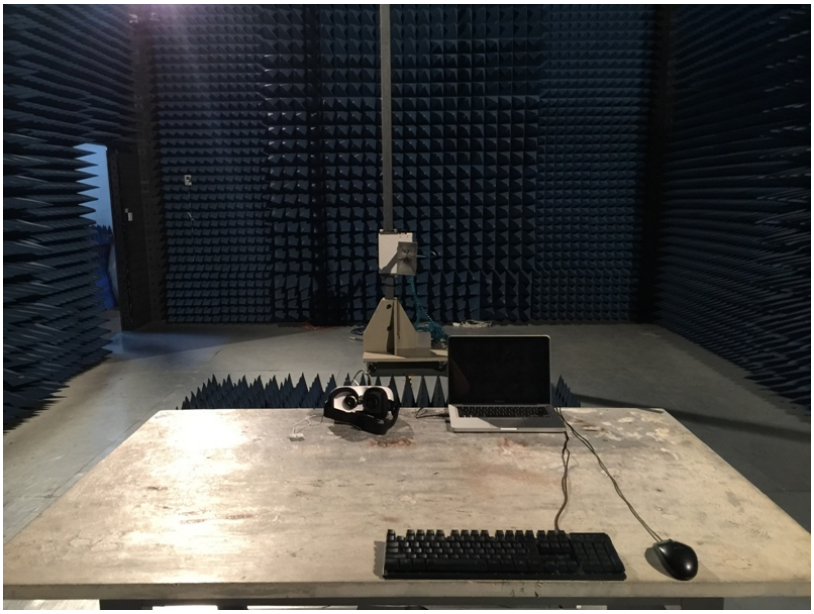
Freq MHz	Reading level dBuV	lISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.15	45.26	0.41	0.12	45.79	66.00	-20.21	QP
0.15	29.19	0.41	0.12	29.72	56.00	-26.28	Average
0.19	40.01	0.41	0.13	40.55	63.84	-23.29	QP
0.19	24.48	0.41	0.13	25.02	53.84	-28.82	Average
0.44	41.82	0.38	0.11	42.31	57.07	-14.76	QP
0.44	31.18	0.38	0.11	31.67	47.07	-15.40	Average
0.53	40.43	0.32	0.11	40.86	56.00	-15.14	QP
0.53	28.61	0.32	0.11	29.04	46.00	-16.96	Average
0.63	38.23	0.26	0.13	38.62	56.00	-17.38	QP
0.63	27.16	0.26	0.13	27.55	46.00	-18.45	Average
6.12	30.94	0.21	0.16	31.31	60.00	-28.69	QP
6.12	20.40	0.21	0.16	20.77	50.00	-29.23	Average

Notes:
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

8 Test Setup Photo

Radiated Emission:





Conducted Emission

9 EUT Constructional Details

Reference to the test report No. GTS201703000086F01

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