TEST REPORT

Applicant:	SHENZHEN GIEC ELECTRONICS CO., LTD.
Address of Applicant:	24/F, Building A Xinian Center, No. 6021 Shennan Road, Shenzhen, Guangdong, China

Equipment Under Test (EUT)

Product Name:	Tablet PC
Model No.:	D9018, D9718, D928, D968, D9028, D9728, GK-MID9021, V9021D, GK-MID9022, V9022D, GK-MID9023, V9023D, GK-MID9024, GK-MID9025, GK-MID9026, GK-MID9027, GK-MID9028, GK-MID9029, GK-MID9030, DA-9018, D-9018, D-9718, D-928, D-968, GS918, GS-912, GS-913, GS-914, GS-915, GS-916, GS-917, GS-918, GS-919
FCC ID:	ZVRMIDD9018GK0001
Applicable standards:	FCC CFR Title 47 Part 15 Subpart B:2012
Date of sample receipt:	July 25, 2013
Date of Test:	July 25-31, 2013
Date of report issue:	August 01, 2013
Test Result :	PASS *

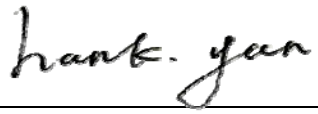
* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Version

Version No.	Date	Description
00	*August 01, 2013*	*Original*

Prepared By:  ***Date:*** *August 01, 2013*

Project Engineer

Check By:  ***Date:*** *August 01, 2013*

Reviewer

3 Contents

Page

4 Test Summary

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

PASS: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	SHENZHEN GIEC ELECTRONICS CO., LTD.
Address of Applicant:	24/F, Building A Xinian Center, No. 6021 Shennan Road, Shenzhen, Guangdong, China
Manufacturer :	SHENZHEN GIEC ELECTRONICS CO., LTD.
Address of Manufacturer :	24/F, Building A Xinian Center, No. 6021 Shennan Road, Shenzhen, Guangdong, China

5.2 General Description of EUT

Product Name:	Tablet PC
Model No.:	D9018, D9718, D928, D968, D9028, D9728, GK-MID9021, V9021D, GK-MID9022, V9022D, GK-MID9023, V9023D, GK-MID9024, GK-MID9025, GK-MID9026, GK-MID9027, GK-MID9028, GK-MID9029, GK-MID9030, DA-9018, D-9018, D-9718, D-928, D-968, GS918, GS-912, GS-913, GS-914, GS-915, GS-916, GS-917, GS-918, GS-919
Remark:	Only the Model No. D9018 was tested, since the electrical circuit design, PCB layout, Electrical Parts and Figure are identical to the basic model, except the model name and appearance color for commercial purpose.
Power supply:	Model No. :HK15-HASF0502000 Input: AC 100-240V 50/60Hz 0.3A Output: DC 5.0V 2A Or DC 3.7V Li-ion Battery

5.3 Test mode

Test mode:	
Playing mode	Keep the EUT in Playing mode
Video Record mode	Keep the EUT in Video Recording mode
HDMI mode	Keep the EUT in playing with HDMI output mode.
PC mode	Keep the EUT in exchanging data mode.

5.4 Test Facility

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

- **CNAS —Registration No.: CNAS L5775**

CNAS has accredited Global United Technology Services Co., Ltd. To ISO/IEC 17025 General Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

- **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, June 26, 2013.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.
Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China
Tel: 0755-27798480
Fax: 0755-27798960

5.6 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
HP	Printer	CB495A	05257893	DoC
Lenovo	PC Host	M6900	EA05257893	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC

5.7 Deviation from Standards

Biconical, log.per. antenna and horn antenna were used instead of dipole antenna.
Semi-anechoic Chamber was used as alternation of open air test sites, and all test suites were performed with radiated method in it.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

6 Test Instruments list

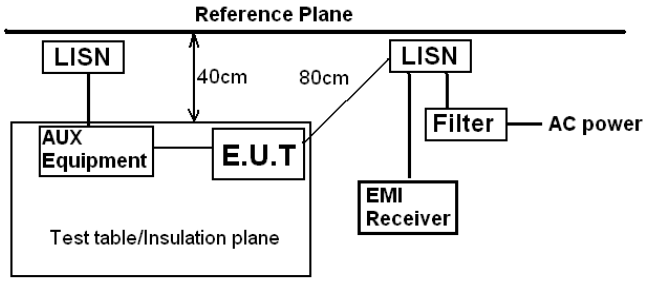
Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	Mar. 29 2013	Mar. 28 2014
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	ESU EMI Test Receiver	R&S	ESU26	GTS203	Jun. 29 2013	Jun. 29 2014
4	BiConiLog Antenna	SCHWARZBECK	VULB9163	GTS214	Jun. 29 2013	Jun. 29 2014
5	Double -ridged waveguide horn	SCHWARZBECK	9120D	GTS208	Jun. 29 2013	Jun. 29 2014
6	RF Amplifier	HP	8347A	GTS204	Jun. 29 2013	Jun. 29 2014
7	Preamplifier	HP	8349B	GTS206	Jun. 29 2013	Jun. 29 2014
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial cable	GTS	N/A	GTS210	Jul. 07 2013	Jul. 06 2014
10	Coaxial Cable	GTS	N/A	GTS211	Jul. 07 2013	Jul. 06 2014
11	Spectrum Analyzer	Agilent	E4440A	GTS533	Dec. 06, 2012	Dec.05, 2013
12	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 29 2013	Mar. 28 2014
13	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 28 2013	June 27 2014
14	Band filter	Amindeon	82346	GTS219	Mar. 30 2013	Mar. 29 2014
15	Thermo meter	N/A	N/A	GTS256	Jul. 01 2013	Jul. 01 2014

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	Sep. 08 2011	Sep. 07 2013
2	EMI Test Receiver	R&S	ESCS30	GTS223	Jun. 29 2013	Jun. 29 2014
3	Pulse Limiter	R&S	ESH3-Z2	GTS224	Jun. 29 2013	Jun. 29 2014
4	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	Jun. 29 2013	Jun. 29 2014
5	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	Jun. 29 2013	Jun. 29 2014
6	Coaxial Cable	GTS	N/A	GTS227	Jul. 07 2013	Jul. 06 2014
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Thermo meter	KTJ	TA328	GTS233	Jul. 01 2013	Jul. 01 2014

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	Jul. 27 2013	Jul. 26 2014

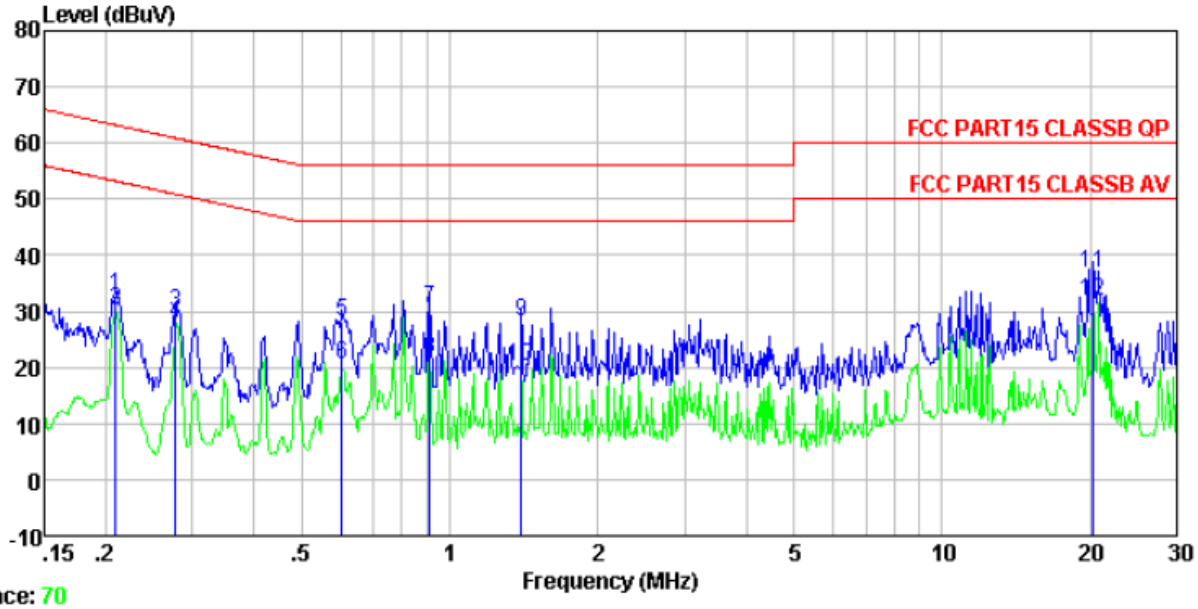
7 Test Results and Measurement Data

7.1 Conducted Emissions

Test Requirement:	FCC Part15 B Section 15.107
Test Method:	ANSI C63.4:2003
Test Frequency Range:	150KHz to 30MHz
Class / Severity:	Class B
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto
Limit:	Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 * Decreases with the logarithm of the frequency.
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.). This provides 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 refer 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: 2003 on conducted measurement.
Test Instruments:	Refer to section 6 for details
Test mode:	Pre-scan all modes in section 5.3, and found the PC mode which is the worst mode, so only the data of worst mode was show on the test report.
Test results:	Pass

Measurement Data

Line:

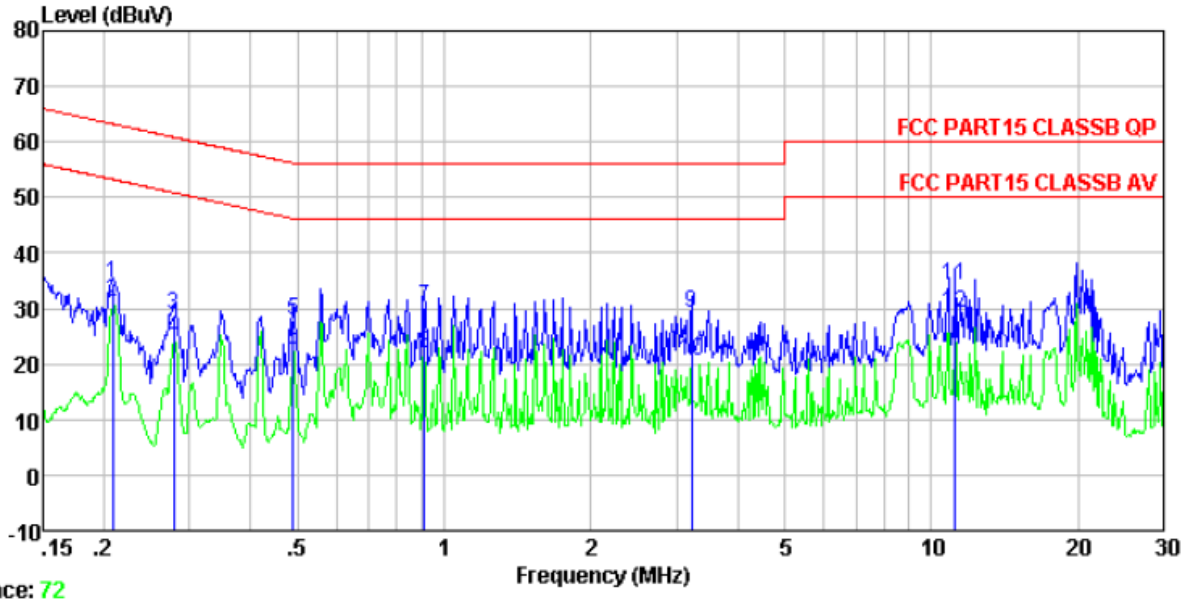


Trace: 70

Condition : FCC PART15 CLASSB QP LISN-2012 LINE
Job.No : 01000RF
Test mode : PC Mode
Test Engineer: Yang

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.209	32.90	-0.23	0.10	32.77	63.23	-30.46	QP
2	0.209	30.35	-0.23	0.10	30.22	53.23	-23.01	Average
3	0.277	29.91	-0.22	0.10	29.79	60.90	-31.11	QP
4	0.277	28.09	-0.22	0.10	27.97	50.90	-22.93	Average
5	0.604	28.43	-0.20	0.10	28.33	56.00	-27.67	QP
6	0.604	20.55	-0.20	0.10	20.45	46.00	-25.55	Average
7	0.909	30.47	-0.21	0.10	30.36	56.00	-25.64	QP
8	0.909	21.58	-0.21	0.10	21.47	46.00	-24.53	Average
9	1.396	28.17	-0.22	0.10	28.05	56.00	-27.95	QP
10	1.396	20.33	-0.22	0.10	20.21	46.00	-25.79	Average
11	20.270	37.34	-0.63	0.21	36.92	60.00	-23.08	QP
12	20.270	32.15	-0.63	0.21	31.73	50.00	-18.27	Average

Neutral:



Trace: 72

Condition : FCC PART15 CLASSB QP LISN-2012 NEUTRAL
Job.No : 01000RF
Test mode : PC Mode
Test Engineer: Yang

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.208	34.50	-0.09	0.10	34.51	63.27	-28.76	QP
2	0.208	31.14	-0.09	0.10	31.15	53.27	-22.12	Average
3	0.279	28.93	-0.09	0.10	28.94	60.85	-31.91	QP
4	0.279	24.54	-0.09	0.10	24.55	50.85	-26.30	Average
5	0.489	27.98	-0.08	0.10	28.00	56.19	-28.19	QP
6	0.489	22.52	-0.08	0.10	22.54	46.19	-23.65	Average
7	0.909	30.05	-0.09	0.10	30.06	56.00	-25.94	QP
8	0.909	21.96	-0.09	0.10	21.97	46.00	-24.03	Average
9	3.224	29.18	-0.13	0.10	29.15	56.00	-26.85	QP
10	3.224	20.62	-0.13	0.10	20.59	46.00	-25.41	Average
11	11.198	34.43	-0.31	0.20	34.32	60.00	-25.68	QP
12	11.198	29.21	-0.31	0.20	29.10	50.00	-20.90	Average

Remark：If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level =Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

7.2 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109
Test Method:	ANSI C63.4:2003
Test Frequency Range:	30MHz to 6GHz
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)
Receiver setup:	

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	Peak	1MHz	10Hz	Average Value

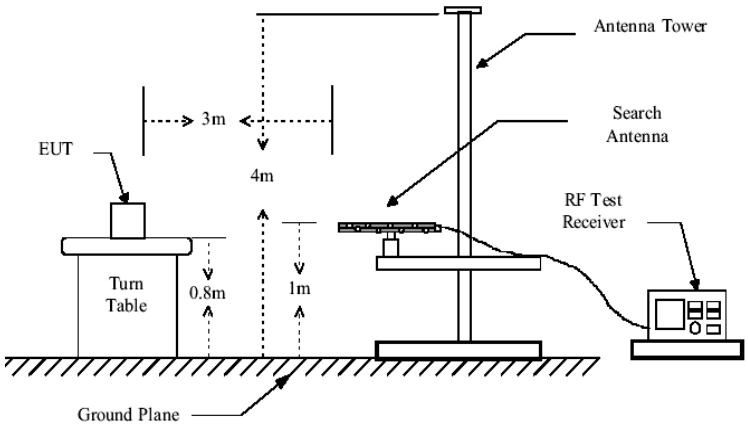
Limit:

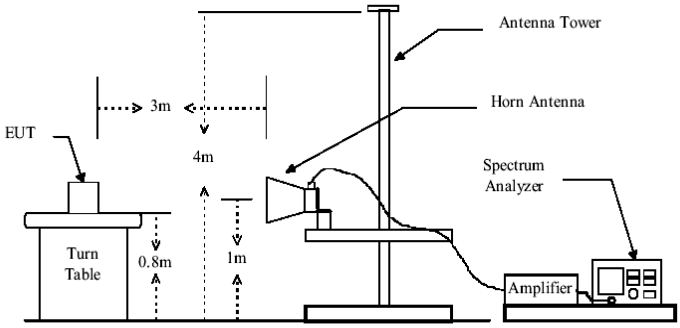
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. 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 rota 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 setup: Below 1GHz

<table>
<tr><td></td><td> 

Above 1GHz

</td></tr>
<tr><td>Test environment:</td><td>Temp.: 25 °C Humid.: 52% Press.: 1 012mbar</td></tr>
<tr><td>Measurement Record:</td><td>Uncertainty: ± 4.5dB</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 6 for details</td></tr>
<tr><td>Test mode:</td><td>Pre-scan all modes in section 5.3, and found the PC mode which is the worst mode, so only the data of worst mode was show on the test report.</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

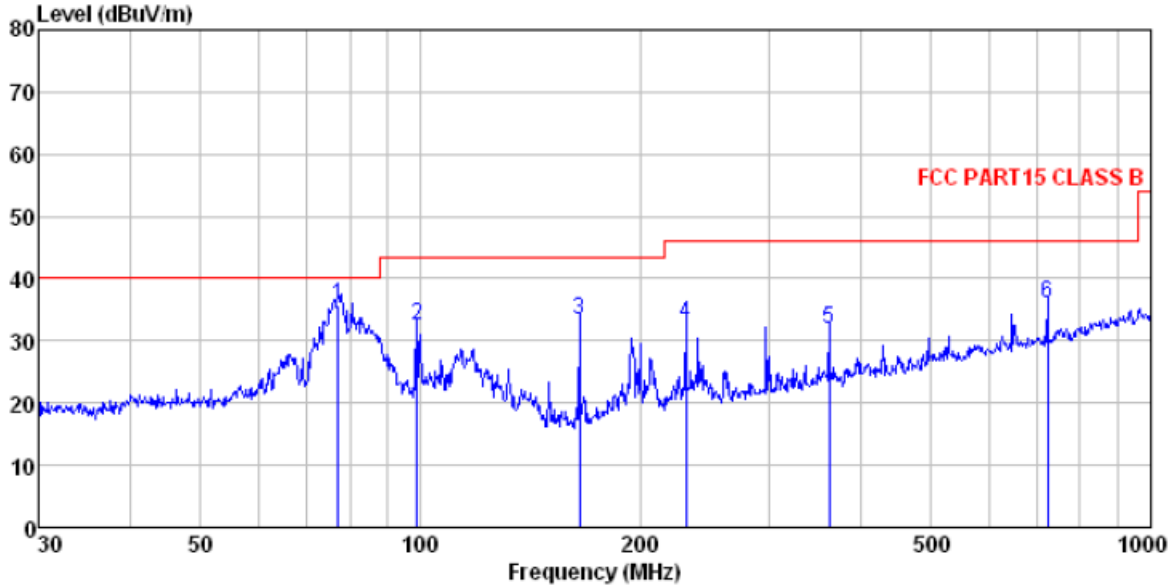
Note:
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

Measurement Data

Below 1GHz

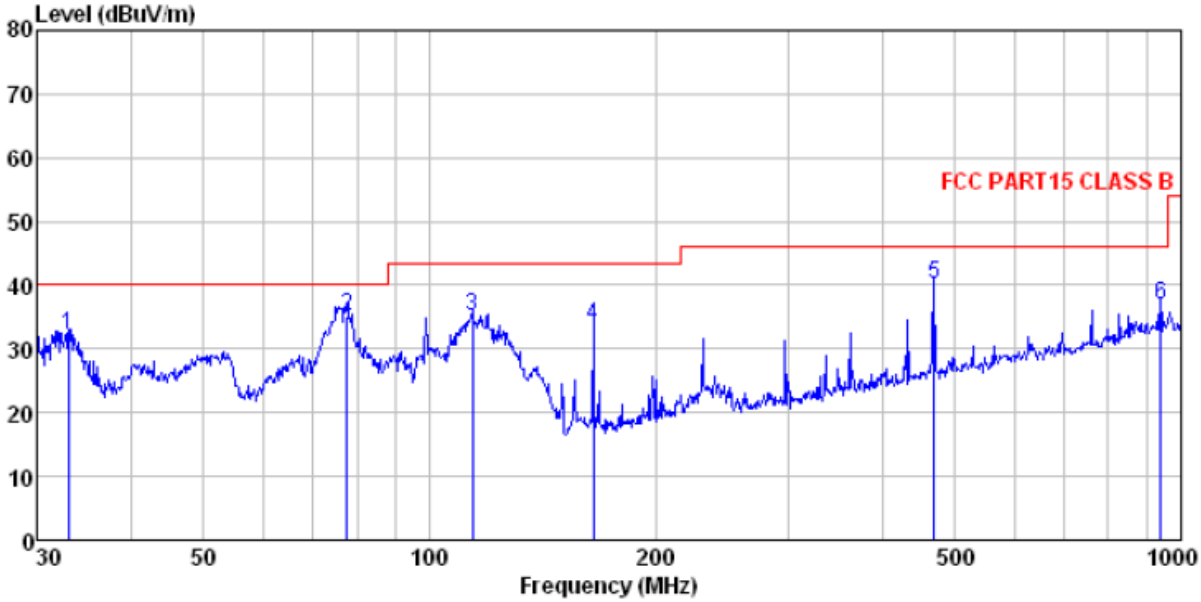
Horizontal:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163-2013M HORIZONTAL
Job No. : 1000RF
Test Mode : PC mode
Test Engineer: Hank

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	77.051	56.41	10.14	1.00	31.80	35.75	40.00	-4.25	QP
2	98.833	48.05	15.10	1.18	31.76	32.57	43.50	-10.93	QP
3	164.908	52.94	10.82	1.66	32.03	33.39	43.50	-10.11	QP
4	230.907	49.31	13.67	2.02	32.15	32.85	46.00	-13.15	QP
5	362.985	44.75	16.45	2.68	31.99	31.89	46.00	-14.11	QP
6	721.726	41.92	21.10	4.17	31.22	35.97	46.00	-10.03	QP

Vertical:

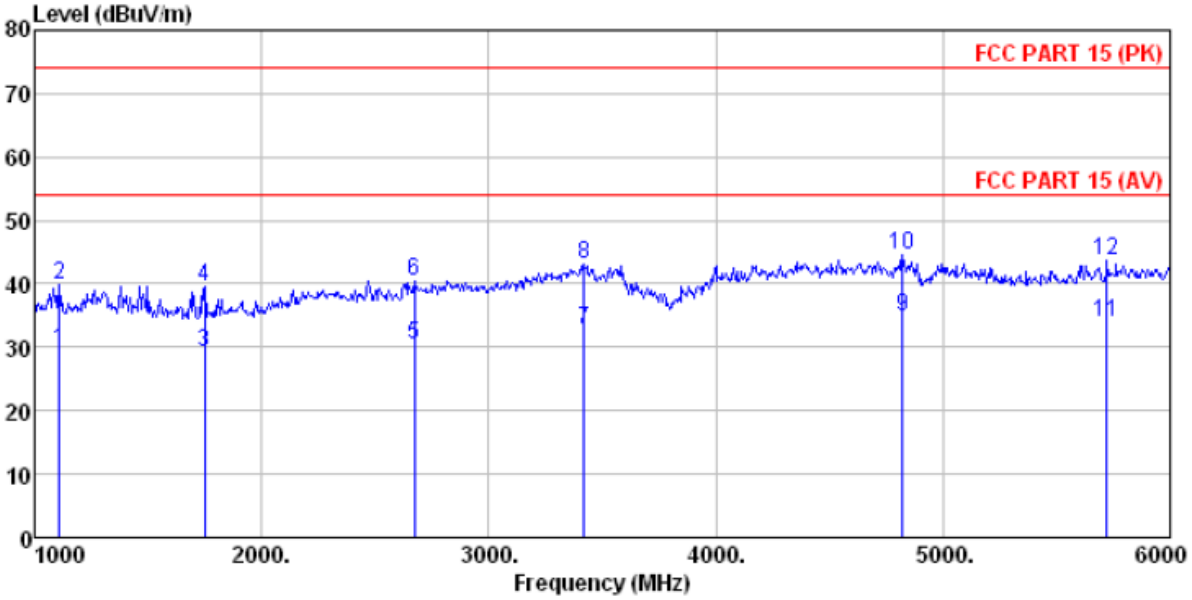


Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163-2013M VERTICAL
Job No. : 1000RF
Test Mode : PC mode
Test Engineer: Hank

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	33.095	49.25	14.31	0.59	32.06	32.09	40.00	-7.91	QP
2	77.593	55.71	10.20	1.01	31.79	35.13	40.00	-4.87	QP
3	114.114	52.07	13.52	1.31	31.83	35.07	43.50	-8.43	QP
4	164.908	53.07	10.82	1.66	32.03	33.52	43.50	-9.98	QP
5	468.876	50.66	17.83	3.18	31.65	40.02	46.00	-5.98	QP
6	938.833	39.66	23.34	4.99	31.20	36.79	46.00	-9.21	QP

Above 1GHz

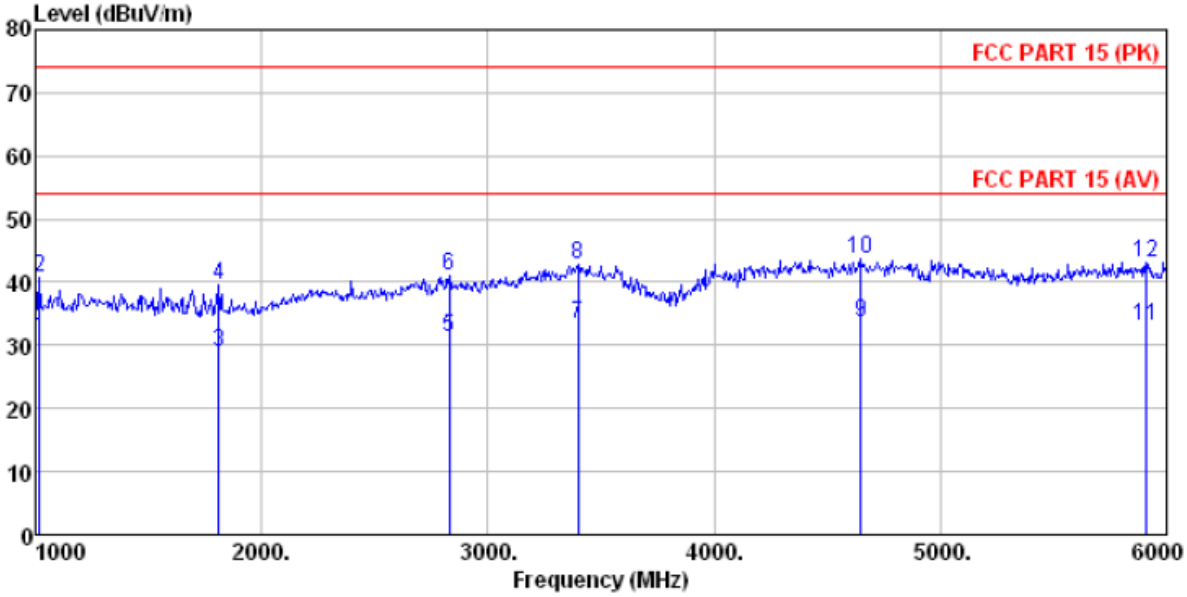
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL
Job No. : 1000RF
Test mode : PC mode
Test Engineer: Hank

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1108.000	33.13	24.79	4.39	32.92	29.39	54.00	-24.61	Average
2	1108.000	43.61	24.79	4.39	32.92	39.87	74.00	-34.13	Peak
3	1750.000	33.22	25.07	4.83	34.03	29.09	54.00	-24.91	Average
4	1750.000	43.69	25.07	4.83	34.03	39.56	74.00	-34.44	Peak
5	2674.000	30.41	28.04	5.65	33.70	30.40	54.00	-23.60	Average
6	2674.000	40.51	28.04	5.65	33.70	40.50	74.00	-33.50	Peak
7	3418.000	30.24	28.67	6.80	32.85	32.86	54.00	-21.14	Average
8	3418.000	40.40	28.67	6.80	32.85	43.02	74.00	-30.98	Peak
9	4822.000	26.63	31.79	8.61	32.10	34.93	54.00	-19.07	Average
10	4822.000	36.33	31.79	8.61	32.10	44.63	74.00	-29.37	Peak
11	5722.000	23.83	32.53	9.81	32.29	33.88	54.00	-20.12	Average
12	5722.000	33.58	32.53	9.81	32.29	43.63	74.00	-30.37	Peak

Vertical:

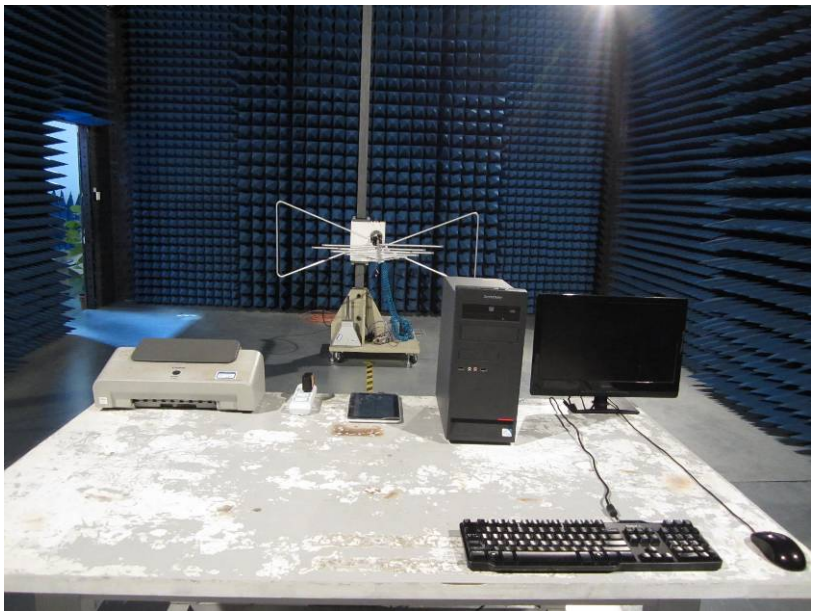


Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL
Job No. : 1000RF
Test mode : PC mode
Test Engineer: Hank

	Freq	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1018.000	34.85	24.55	4.31	32.78	30.93	54.00	-23.07	Average
2	1018.000	44.79	24.55	4.31	32.78	40.87	74.00	-33.13	Peak
3	1810.000	33.05	25.31	4.86	34.14	29.08	54.00	-24.92	Average
4	1810.000	43.52	25.31	4.86	34.14	39.55	74.00	-34.45	Peak
5	2830.000	30.54	28.39	5.78	33.51	31.20	54.00	-22.80	Average
6	2830.000	40.41	28.39	5.78	33.51	41.07	74.00	-32.93	Peak
7	3400.000	30.82	28.60	6.76	32.87	33.31	54.00	-20.69	Average
8	3400.000	40.32	28.60	6.76	32.87	42.81	74.00	-31.19	Peak
9	4648.000	25.72	31.59	8.47	32.01	33.77	54.00	-20.23	Average
10	4648.000	35.67	31.59	8.47	32.01	43.72	74.00	-30.28	Peak
11	5908.000	22.44	32.78	10.09	32.18	33.13	54.00	-20.87	Average
12	5908.000	32.44	32.78	10.09	32.18	43.13	74.00	-30.87	Peak

8 Test Setup Photo

Radiated Emission



Conducted Emission

9 EUT Constructional Details

Reference to the test report No. GTSE13070100001

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