FCC REPORT

Applicant:	Grand Electronics, INC
Address of Applicant:	11650 Brentcross Dr Tomball, TX 77377 ,United States

Equipment Under Test (EUT)

Product Name:	Tablet
Model No.:	N7sPro, N7pro, N7pro plus, N7x, N7s, N7ultra, N7ultimate
Trade mark：	NeuTab, neutab.
FCC ID:	2AGNKN7SPRO
Applicablestandards:	FCC CFR Title 47 Part 15 Subpart B
Date of sample receipt:	15 Dec., 2015
Date of Test:	15 Dec., 2015 to 14 Jan., 2016
Date of report issued:	14 Jan., 2016
Test Result:	Pass*

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

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*14 Jan., 2016*	*Original*

Tested by: Steven Liu ***Date:*** *14 Jan., 2016*

Test Engineer

Reviewed by: Wimer Zhang ***Date:*** *14 Jan., 2016*

Project Engineer

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4 Test Summary

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

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

5 General Information

5.1 Client Information

Applicant:	Grand Electronics, INC
Address of Applicant:	11650 Brentcross Dr Tomball, TX 77377,United States
Manufacturer:	GRAND ELECTRI-TECH GLOBAL TRADING LIMITED
Address of Manufacturer:	UNIT 04, 7/F, BRIGHT WAY TOWER, NO. 33 MONG KOK ROAD, KOWLOON, HK.
Factory:	SHENZHEN JRAY HIGH TECHNOLOGYCO., LTD
Address of Factory:	1-4F, PerfectSciencePark, Shang Hang Lang, Big Wave, Longhua, Baoan Shenzhen

5.2 General Description of E.U.T.

Product Name:	Tablet
Model No.:	N7sPro, N7pro, N7pro plus, N7x, N7s, N7ultra, N7ultimate
Power supply:	Rechargeable Li-ion Battery DC3.7V-2500mAh
AC adapter :	Model: HT-003-050200 Input:100-240V AC, 50/60Hz 0.35A Max Output: 5V DC Max2000mA
Remark:	The model No.: N7sPro, N7pro, N7pro plus, N7x, N7s, N7ultra, N7ultimate were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being different model name.

5.3 Test Mode

Operating mode	Detail description
PC mode	Keep the EUT in Downloading mode(Worst case)
Charging+Recording mode	Keep the EUT in Charging+Recording mode
Charging+Playing mode	Keep the EUT in Charging+Playing mode
FM mode	Keep the EUT in FM receiver mode
GPS mode	Keep the EUT in GPS receiver mode
The sample was placed 0.8m above the ground plane of 3m 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 the 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.	

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
HP	Printer	CB495A	05257893	DoC
MERCURY	Wireless router	MW150R	12922104015	FCC ID
NAKAMICHI	Bluetooth earphone	T8	N/A	FCC ID

5.5 Laboratory Facility

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

- **FCC - Registration No.: 817957**

Shenzhen Zhongjian Nanfang Testing 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 out files. Registration 817957, February 27, 2012.

- **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing.The Registration No. is CNAS L6048.

5.6 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District,Shenzhen, Guangdong,China
Tel: +86-755-23118282
Fax: +86-755-23116366

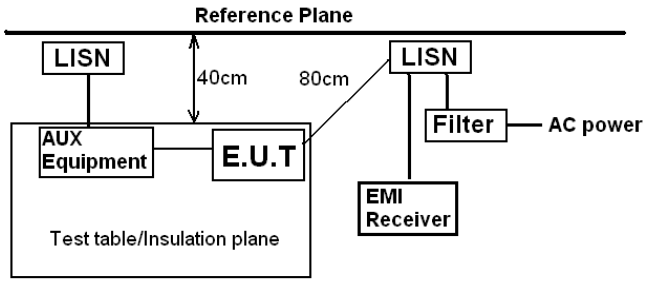
5.7 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
1	3m SAC	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	08-23-2014	08-22-2017
2	BiConiLog Antenna	SCHWARZBECK	VULB9163	CCIS0005	03-28-2015	03-28-2016
3	Horn Antenna	SCHWARZBECK	BBHA9120D	CCIS0006	03-28-2015	03-28-2016
4	Pre-amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	04-01-2015	03-31-2016
5	Pre-amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	04-01-2015	03-31-2016
6	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP30	CCIS0023	03-28-2015	03-28-2016
7	EMI Test Receiver	Rohde & Schwarz	ESRP7	CCIS0167	03-28-2015	03-28-2016

Conducted Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	08-23-2014	08-22-2017
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	03-28-2015	03-28-2016
3	LISN	CHASE	MN2050D	CCIS0074	03-28-2015	03-28-2016
4	Coaxial Cable	CCIS	N/A	CCIS0086	04-01-2015	03-31-2016

6 Test results andMeasurement Data

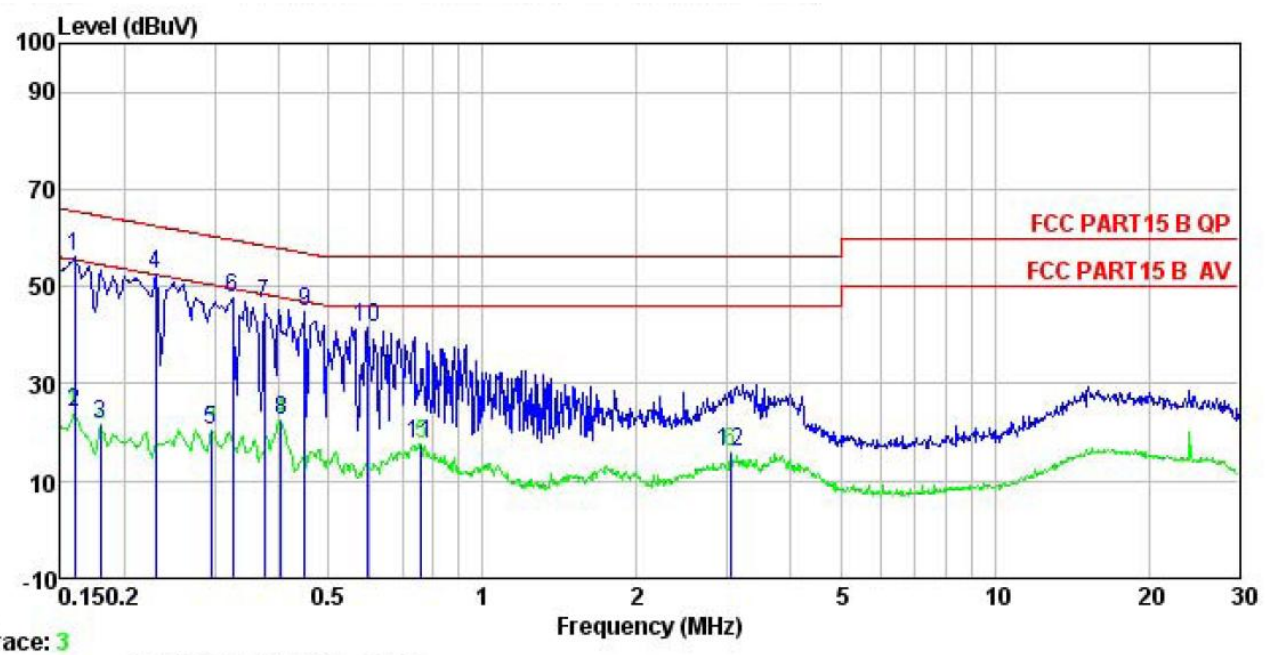
6.1 Conducted Emission

<table>
<tr><td>Test Requirement:</td><td colspan="3">FCC Part15 B Section 15.107</td></tr>
<tr><td>Test Method:</td><td colspan="3">ANSI C63.4:2009</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="3">150kHz to 30MHz</td></tr>
<tr><td>Class / Severity:</td><td colspan="3">Class B</td></tr>
<tr><td>Receiver setup:</td><td colspan="3">RBW=9kHz, VBW=30kHz</td></tr>
<tr><td>Limit:</td><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBµV)</td></tr>
<tr><td></td><td>Quasi-peak</td><td>Average</td></tr>
<tr><td></td><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td></td><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td></td><td>0.5-30</td><td>60</td><td>50</td></tr>
<tr><td></td><td colspan="3">* Decreases with the logarithm of the frequency.</td></tr>
<tr><td>Test setup:</td><td colspan="3"> 

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test procedure</td><td colspan="3">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: 2009 on conducted measurement.</td></tr>
<tr><td>Test environment:</td><td colspan="3">Temp.: 23°C Humid.: 56% Press.: 101kPa</td></tr>
<tr><td>Measurement Record:</td><td colspan="3">Uncertainty: ±3.28dB</td></tr>
<tr><td>Test Instruments:</td><td colspan="3">Refer to section 5.7 for details</td></tr>
<tr><td>Test mode:</td><td colspan="3">Refer to section 5.3 for details</td></tr>
<tr><td>Test results:</td><td colspan="3">Pass</td></tr>
</table>

Measurement data:

Line:

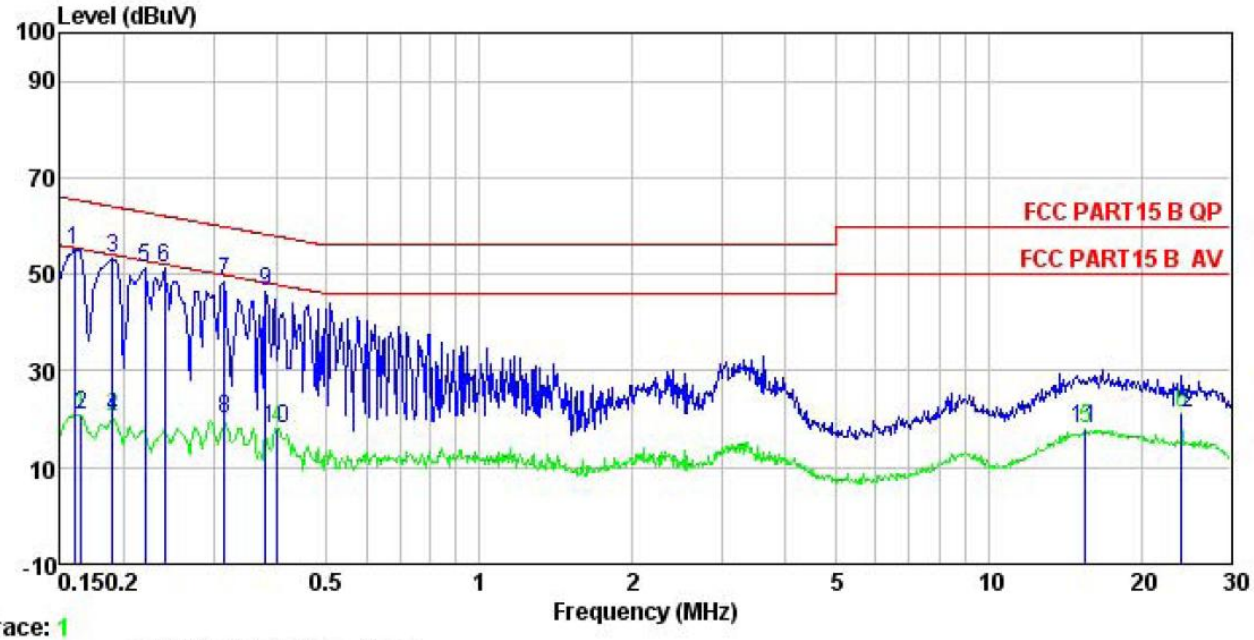


Trace: 3

Site : CCIS Shielding Room
Condition : FCC PART15 B QP LISN LINE
EUT : Tablet
Model : N7sPro
Test Mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 'C Huni:56% Atmos:101KPa
Test Engineer: STEVEN
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.160	45.05	0.27	10.78	56.10	65.47	-9.37	QP
2	0.160	12.87	0.27	10.78	23.92	55.47	-31.55	Average
3	0.180	10.70	0.28	10.77	21.75	54.50	-32.75	Average
4	0.230	41.29	0.27	10.75	52.31	62.44	-10.13	QP
5	0.296	9.49	0.26	10.74	20.49	50.37	-29.88	Average
6	0.325	36.69	0.27	10.73	47.69	59.57	-11.88	QP
7	0.375	35.54	0.28	10.72	46.54	58.39	-11.85	QP
8	0.404	11.55	0.28	10.72	22.55	47.77	-25.22	Average
9	0.449	33.81	0.29	10.74	44.84	56.89	-12.05	QP
10	0.595	30.38	0.25	10.77	41.40	56.00	-14.60	QP
11	0.759	6.66	0.23	10.80	17.69	46.00	-28.31	Average
12	3.041	4.82	0.27	10.92	16.01	46.00	-29.99	Average

Neutral:



Trace: 1

Site : CCIS Shielding Room
Condition : FCC PART15 B QP LISN NEUTRAL
EUT : Tablet
Model : N7sPro
Test Mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 ℃ Huni:56% Atmos:101KPa
Test Engineer: STEVEN
Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.160	43.98	0.25	10.78	55.01	65.47	-10.46	QP
2	0.165	9.85	0.25	10.77	20.87	55.21	-34.34	Average
3	0.190	42.36	0.25	10.76	53.37	64.02	-10.65	QP
4	0.190	9.41	0.25	10.76	20.42	54.02	-33.60	Average
5	0.220	40.34	0.25	10.76	51.35	62.83	-11.48	QP
6	0.240	40.29	0.25	10.75	51.29	62.08	-10.79	QP
7	0.315	37.30	0.26	10.74	48.30	59.84	-11.54	QP
8	0.315	8.89	0.26	10.74	19.89	49.84	-29.95	Average
9	0.379	35.27	0.25	10.72	46.24	58.30	-12.06	QP
10	0.400	7.24	0.25	10.72	18.21	47.86	-29.65	Average
11	15.552	6.81	0.25	10.90	17.96	50.00	-32.04	Average
12	24.015	9.72	0.48	10.88	21.08	50.00	-28.92	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.

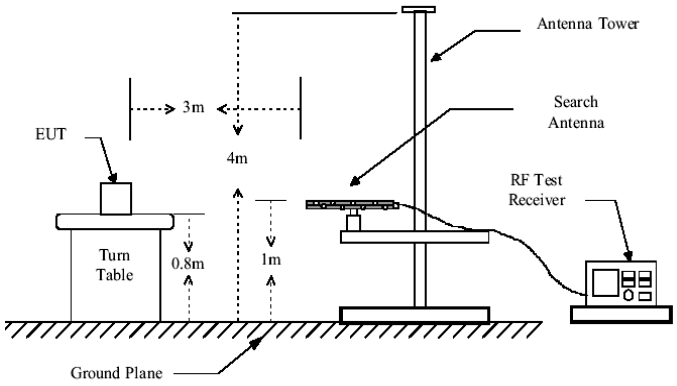
6.2 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109				
Test Method:	ANSI C63.4:2009				
Test Frequency Range:	30MHz to 6000MHz				
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
		RMS	1MHz	3MHz	Average Value

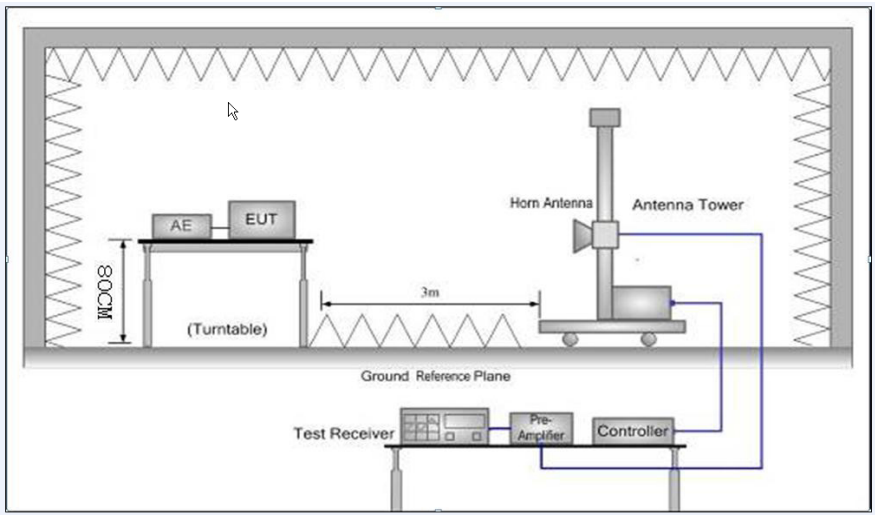
Limit:	Frequency	Limit (dBuV/m @3m)	Remark
	30MHz-88MHz	40.0	Quasi-peak Value
	88MHz-216MHz	43.5	Quasi-peak Value
	216MHz-960MHz	46.0	Quasi-peak Value
	960MHz-1GHz	54.0	Quasi-peak Value
	Above 1GHz	54.0	Average Value
		74.0	Peak Value

Test setup:

Below 1GHz



Above 1GHz

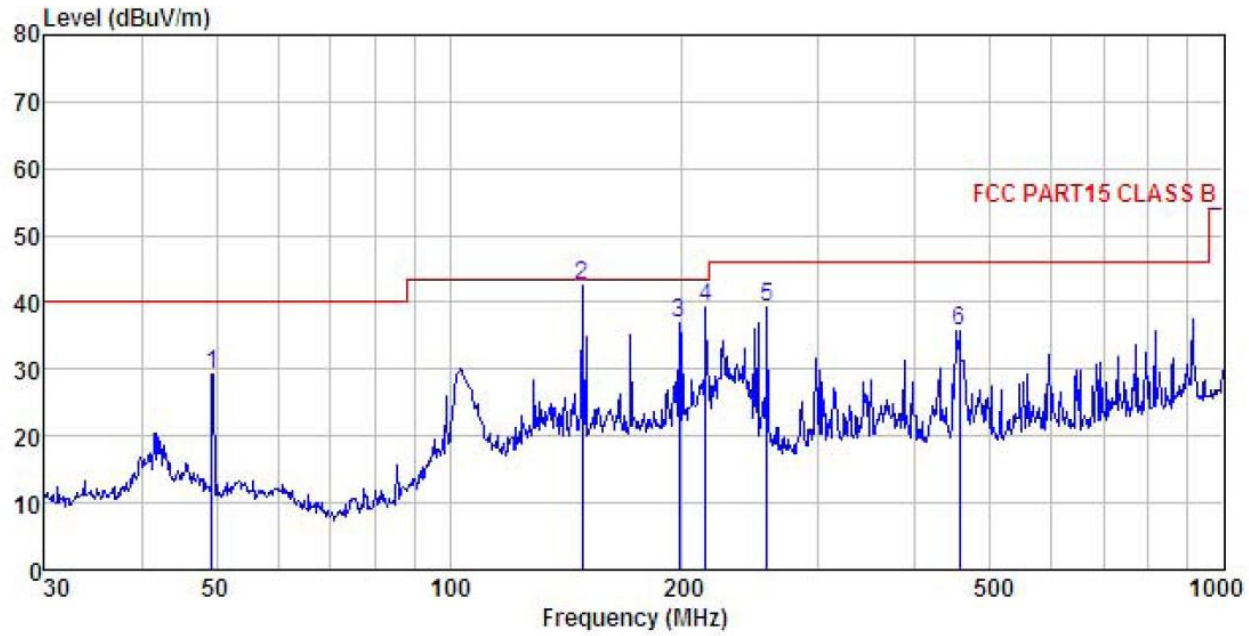


Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the groundat a 3 meter semi-anechoic camber. The table was rotated 360 degrees todetermine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas mounted 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 thenthe antenna was tuned to heights from 1 meter to 4 meters and the rotatabletable 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 SpecifiedBandwidth 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.:	55%	Press.:	101kPa
Measurement Record:					Uncertainty: ±4.88dB	
Test Instruments:	Refer to section 5.7 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					

Measurement Data

Below 1GHz

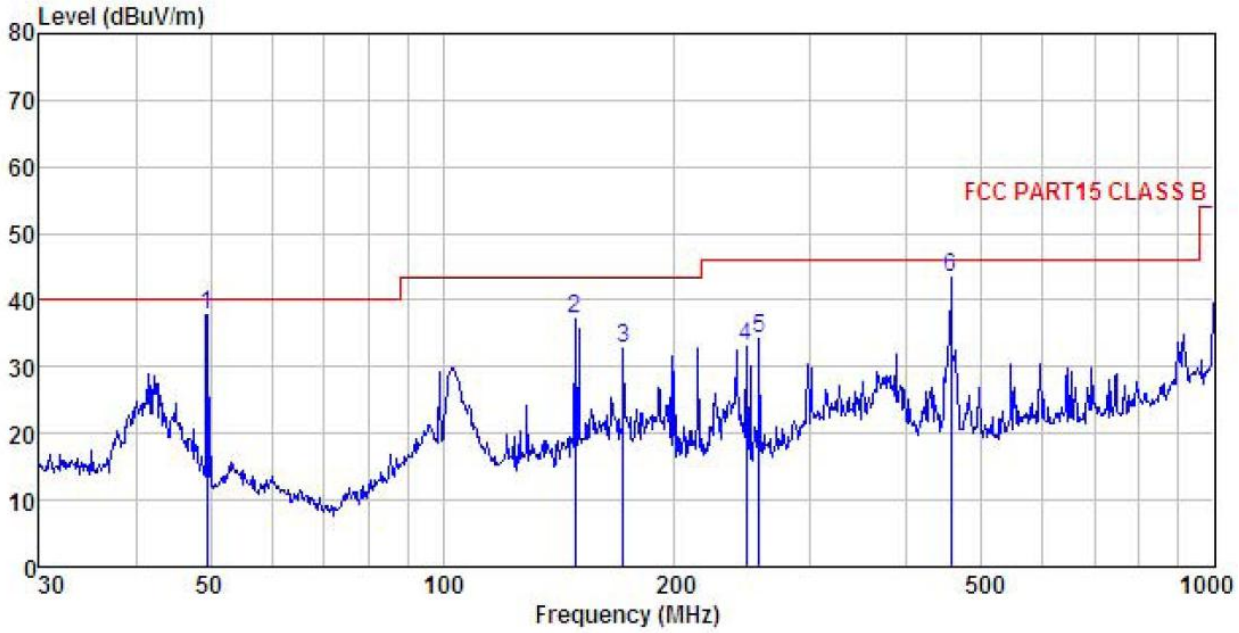
Horizontal:



Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL
EUT : Tablet
Model : N7sPro
Test mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: steven
Remark :

	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	49.359	45.10	13.29	0.60	29.83	29.16	40.00	-10.84	QP
2	148.441	62.26	8.25	1.31	29.23	42.59	43.50	-0.91	QP
3	197.893	53.69	10.57	1.38	28.84	36.80	43.50	-6.70	QP
4	214.514	55.53	11.03	1.46	28.74	39.28	43.50	-4.22	QP
5	257.422	54.00	12.06	1.64	28.53	39.17	46.00	-6.83	QP
6	455.906	46.88	15.58	2.27	28.88	35.85	46.00	-10.15	QP

Vertical:

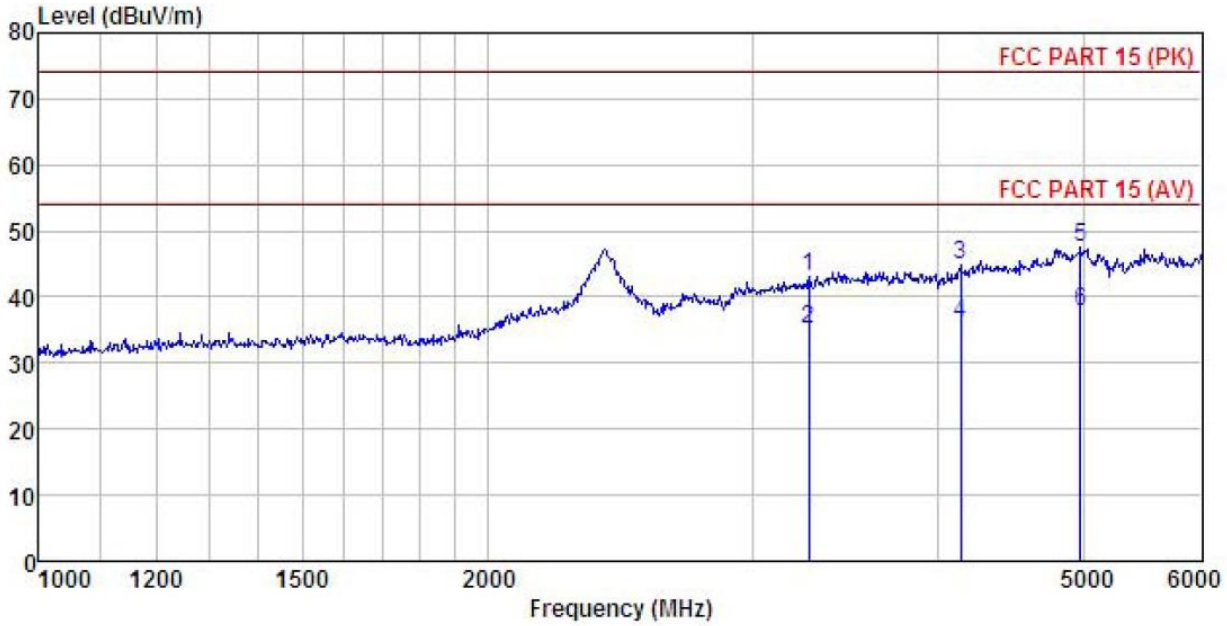


Site : 3m chamber
Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL
EUT : Tablet
Model : N7sPro
Test mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: steven
Remark :

	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	49.533	53.82	13.28	0.61	29.82	37.89	40.00	-2.11	QP
2	148.441	56.89	8.25	1.31	29.23	37.22	43.50	-6.28	QP
3	171.393	51.51	9.03	1.35	29.04	32.85	43.50	-10.65	QP
4	247.682	48.05	12.07	1.61	28.55	33.18	46.00	-12.82	QP
5	257.422	48.94	12.06	1.64	28.53	34.11	46.00	-11.89	QP
6	455.906	54.39	15.58	2.27	28.88	43.36	46.00	-2.64	QP

Above 1GHz

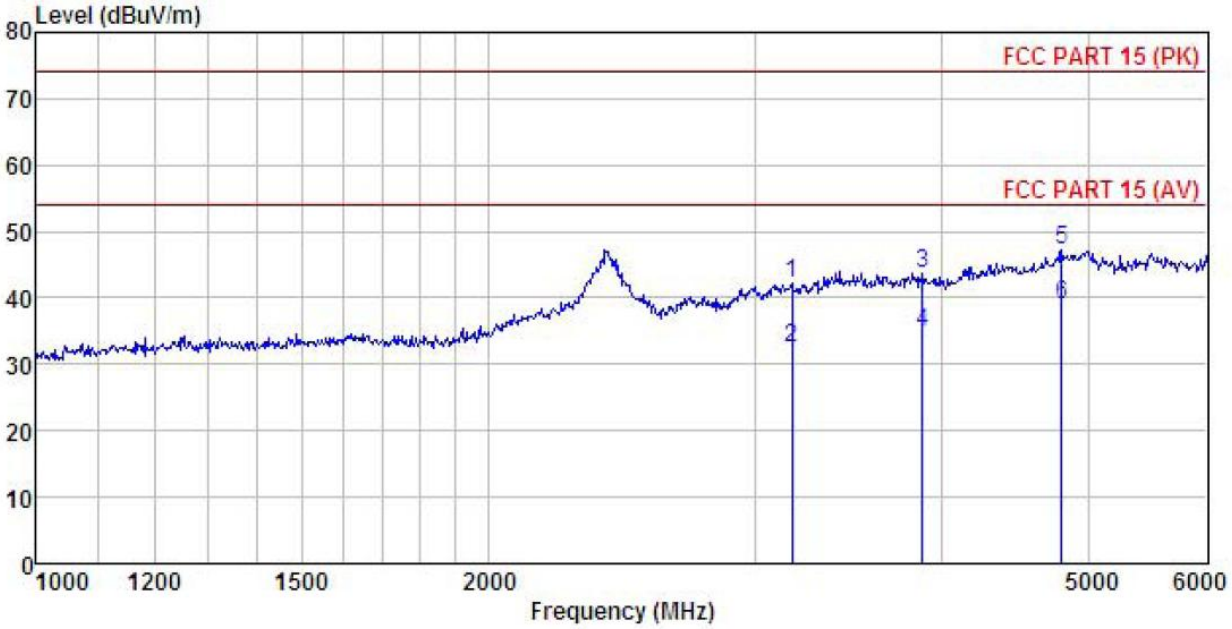
Horizontal:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL
EUT : Tablet
Model : N7sPro
Test mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: steven
Remark :

	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	3277.252	46.24	28.41	8.38	39.93	43.10	74.00	-30.90	Peak
2	3277.252	38.24	28.41	8.38	39.93	35.10	54.00	-18.90	Average
3	4139.249	45.91	30.12	9.79	41.01	44.81	74.00	-29.19	Peak
4	4139.249	37.14	30.12	9.79	41.01	36.04	54.00	-17.96	Average
5	4979.731	44.99	31.74	10.75	40.00	47.48	74.00	-26.52	Peak
6	4979.731	35.17	31.74	10.75	40.00	37.66	54.00	-16.34	Average

Vertical:



Site : 3m chamber
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL
EUT : Tablet
Model : N7sPro
Test mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5℃ Huni:55%
Test Engineer: steven
Remark :

	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	3176.788	45.95	28.82	8.18	40.69	42.26	74.00	-31.74	Peak
2	3176.788	36.26	28.82	8.18	40.69	32.57	54.00	-21.43	Average
3	3881.802	45.37	29.73	9.42	40.84	43.68	74.00	-30.32	Peak
4	3881.802	36.48	29.73	9.42	40.84	34.79	54.00	-19.21	Average
5	4798.981	45.26	31.53	10.57	40.27	47.09	74.00	-26.91	Peak
6	4798.981	37.15	31.53	10.57	40.27	38.98	54.00	-15.02	Average