

# FCC REPORT

**Applicant:** Haier Information Technology(Shenzhen) Co., Ltd

**Address of Applicant:** ROOM B4 OF FLOOR 21, NO.3 TOWER BUILDING, CHINESE TECHNOLOGY RESEARCH PARK, CHINA TECHNOLOGY EXPLOITATION INSTITUTE, GAOXIN SOUTH FIRST STREET NO.009, NANSHAN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA

**Equipment Under Test (EUT)**

Product Name: laptop

Model No.: Y11C

Trade mark: Haier

**FCC ID:** 2ACZD-Y11C

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart B

**Date of sample receipt:** 12 June, 2017

**Date of Test:** 12 June, to 11 July, 2017

**Date of report issued:** 11 July, 2017

**Test Result:** Pass \*

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

Authorized Signature:



Bruce Zhang  
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

## 2 Version

Version No.	Date	Description
00	11 July, 2017	Original


**Tested by:**

  
Test Engineer

**Date:**

11 July, 2017

**Reviewed by:**

  
Project Engineer

**Date:**

11 July, 2017

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## 4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part 15.107	Pass
Radiated Emission	Part 15.109	Pass

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

## 5 General Information

### 5.1 Client Information

Applicant:	Haier Information Technology(Shenzhen) Co., Ltd
Address of Applicant:	ROOM B4 OF FLOOR 21, NO.3 TOWER BUILDING, CHINESE TECHNOLOGY RESEARCH PARK, CHINA TECHNOLOGY EXPLOITATION INSTITUTE, GAOXIN SOUTH FIRST STREET NO.009, NANSHAN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA
Manufacturer	Haier Information Technology(Shenzhen) Co., Ltd
Address of Manufacturer:	ROOM B4 OF FLOOR 21, NO.3 TOWER BUILDING, CHINESE TECHNOLOGY RESEARCH PARK, CHINA TECHNOLOGY EXPLOITATION INSTITUTE, GAOXIN SOUTH FIRST STREET NO.009, NANSHAN DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA
Factory:	CHUNGHSIN INTERNATIONAL ELECTRONICS CO., LTD.
Address of Factory:	618-2# Gongren West Road, Jiaojiang, Taizhou City, Zhejiang, PR.China

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

Product Name:	laptop																														
Model No.:	Y11C																														
Power supply:	Rechargeable Li-ion Battery DC7.6V-5000mAh																														
AC adapter :	Adapter(1): Model: PS36A120Y3000H Input: AC100-240V, 50/60Hz, 1.0A Output: DC 12.0V, 3.0A Adapter(2): Model: EE1230-105 Input: AC100-240V, 50/60Hz, 0.5A Output: DC 12.0V, 3.0A Adapter(3): Model: SOY-1200300 Input: AC100-240V, 50/60Hz, 1.2A Output: DC 12.0V, 3.0A																														
Remark:	Due to marketing reasons the Model Y11C has three configurations, between them PCB board circuit design, layout, structure and appearance are the same, only the following configuration is different: <table><tr><th>Type</th><th colspan="3">Manufacturers (Model)</th></tr><tr><th></th><th>1#</th><th>2#</th><th>3#</th></tr><tr><td>Memory</td><td>Micron(MT52L512M32D2PF-107WT)</td><td>ELPIDA(EDFA232A2MA-JD-F-R)</td><td>BIWIN (BW52L512M32D2PF-107)</td></tr><tr><td>LCD</td><td>K&amp;D(KD116N05-30NV-A008)</td><td>STARRY ELECTRONIC(20811160240024-03)</td><td>QianhaiLingxian(LX 116N02-30NV-A04)</td></tr><tr><td>Hard Disk</td><td>WD(WD10SPZX)</td><td>Seagate(ST1000LM048)</td><td>WD(WD10SPZX)</td></tr><tr><td>Battery</td><td>3XUN(5849112)</td><td>3Xun((5849112)</td><td>McNair(MLP5850110-2S)</td></tr><tr><td>Adapter</td><td>Flypower(PS36A120Y3000H)</td><td>ENGINE(EE1230-105)</td><td>SOY(SOY-1200300)</td></tr></table>			Type	Manufacturers (Model)				1#	2#	3#	Memory	Micron(MT52L512M32D2PF-107WT)	ELPIDA(EDFA232A2MA-JD-F-R)	BIWIN (BW52L512M32D2PF-107)	LCD	K&D(KD116N05-30NV-A008)	STARRY ELECTRONIC(20811160240024-03)	QianhaiLingxian(LX 116N02-30NV-A04)	Hard Disk	WD(WD10SPZX)	Seagate(ST1000LM048)	WD(WD10SPZX)	Battery	3XUN(5849112)	3Xun((5849112)	McNair(MLP5850110-2S)	Adapter	Flypower(PS36A120Y3000H)	ENGINE(EE1230-105)	SOY(SOY-1200300)
Type	Manufacturers (Model)																														
	1#	2#	3#																												
Memory	Micron(MT52L512M32D2PF-107WT)	ELPIDA(EDFA232A2MA-JD-F-R)	BIWIN (BW52L512M32D2PF-107)																												
LCD	K&D(KD116N05-30NV-A008)	STARRY ELECTRONIC(20811160240024-03)	QianhaiLingxian(LX 116N02-30NV-A04)																												
Hard Disk	WD(WD10SPZX)	Seagate(ST1000LM048)	WD(WD10SPZX)																												
Battery	3XUN(5849112)	3Xun((5849112)	McNair(MLP5850110-2S)																												
Adapter	Flypower(PS36A120Y3000H)	ENGINE(EE1230-105)	SOY(SOY-1200300)																												

### 5.3 Test Mode

Operating mode	Detail description
Full load mode	Keep the EUT in Full load(HDMI Output + U Disk and TF Card(exchange data) + Camera Recording + LAN + Adapter) mode(Worst case)
Full load mode	Keep the EUT in Full load(VGA Output + U Disk and TF Card(exchange data) + Camera Recording + LAN + Adapter) 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 Measurement Uncertainty

Items	Expanded Uncertainty (Confidence of 95%)
Conducted Emission (9kHz ~ 30MHz)	2.14 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	4.24 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	4.35 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	4.44 dB (k=2)
Radiated Emission (18GHz ~ 26.5GHz)	4.56 dB (k=2)

## 5.5 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
Skyworth	Color LCD TV	24E12HR	K026709	N/A
kingston	U Disk	DTSE9H/16GB	Data Traveler SE9	N/A
kingston	SD Card	SD4/16GB	N/A	N/A
HP	Printer	CB495A	05257893	DoC

## 5.6 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.

## 5.7 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  
 Website: <http://www.ccis-cb.com>  
 Tel: +86-755-23118282  
 Fax: +86-755-23116366  
 Email: [info@ccis-cb.com](mailto:info@ccis-cb.com)

## 5.8 Test Instruments list

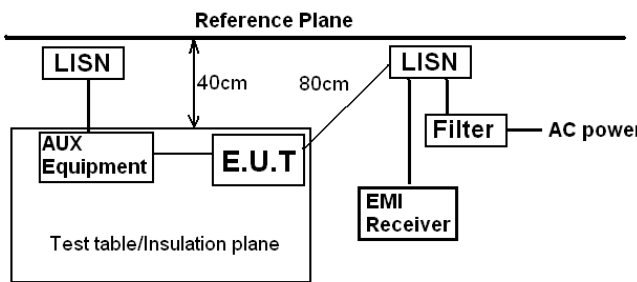
Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	3m SAC	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	08-23-2014	08-22-2017
2	BiConiLog Antenna	SCHWARZBECK	VULB9163	CCIS0005	02-25-2017	02-24-2018
3	Horn Antenna	SCHWARZBECK	BBHA9120D	CCIS0006	02-25-2017	02-24-2018
4	Pre-amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	02-25-2017	02-24-2018
5	Pre-amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	02-25-2017	02-24-2018
6	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP30	CCIS0023	02-25-2017	02-24-2018
7	EMI Test Receiver	Rohde & Schwarz	ESRP7	CCIS0167	02-25-2017	02-24-2018
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
9	Coaxial Cable	N/A	N/A	CCIS0018	02-25-2017	02-24-2018
10	Coaxial Cable	N/A	N/A	CCIS0020	02-25-2017	02-24-2018

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	02-25-2017	02-24-2018
3	LISN	CHASE	MN2050D	CCIS0074	02-25-2017	02-24-2018
4	Coaxial Cable	CCIS	N/A	CCIS0086	02-25-2017	02-24-2018
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A



## 6 Test results and Measurement Data

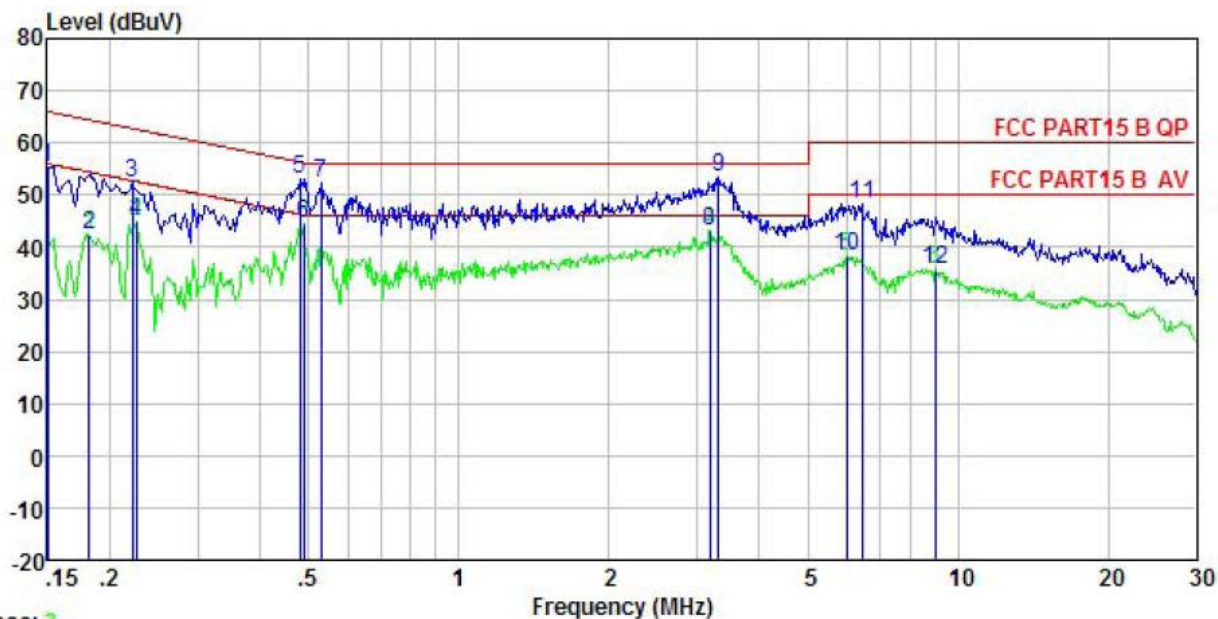
### 6.1 Conducted Emission

Test Requirement:	FCC Part 15 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 (dB $\mu$ V)				
		Quasi-peak		Average		
	0.15-0.5	66 to 56*		56 to 46*		
	0.5-5	56		46		
	0.5-30	60		50		
* Decreases with the logarithm of the frequency.						
Test setup:	<div><p style="text-align: center;"><b>Reference Plane</b></p><p>Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p></div>					
Test procedure	<div>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.</div> <div>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).</div> <div>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.</div>					
Test environment:	Temp.:	23 °C	Humid.:	56%	Press.:	101kPa
Test Instruments:	Refer to section 5.8 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					

**Measurement data:**

**Configuration: 1#**

Line:



Trace: 3

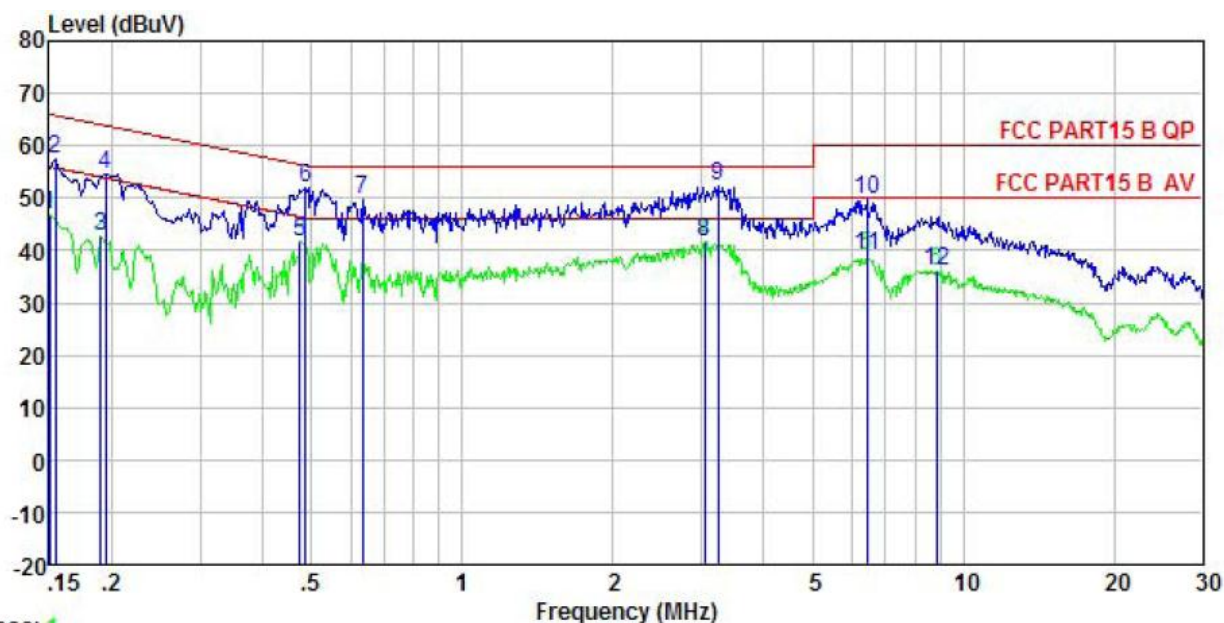
Site : CCIS Shielding Room  
 Condition : FCC PART15 B QP LISN LINE  
 EUT : Laptop  
 Model : Y11C  
 Test Mode : Full load mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: MT  
 Remark : 1# adapter:PS36A120Y3000H

	Freq	Read	LISN	Cable	Limit	Over	
	MHz	Level	Factor	Loss	Line	Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dB	
1	0.150	45.24	-0.56	10.78	55.46	66.00	-10.54 QP
2	0.182	32.22	-0.53	10.77	42.46	54.42	-11.96 Average
3	0.222	42.21	-0.52	10.76	52.45	62.74	-10.29 QP
4	0.226	34.56	-0.52	10.75	44.79	52.61	-7.82 Average
5	0.481	42.86	-0.49	10.75	53.12	56.32	-3.20 QP
6	0.489	34.41	-0.49	10.76	44.68	46.19	-1.51 Average
7	0.529	42.17	-0.49	10.76	52.44	56.00	-3.56 QP
8	3.190	32.54	-0.41	10.91	43.04	46.00	-2.96 Average
9	3.310	42.96	-0.39	10.91	53.48	56.00	-2.52 QP
10	5.993	27.41	-0.09	10.82	38.14	50.00	-11.86 Average
11	6.420	37.59	-0.04	10.81	48.36	60.00	-11.64 QP
12	9.011	24.84	0.09	10.90	35.83	50.00	-14.17 Average

**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.

Neutral:



Trace: 1

Site : CCIS Shielding Room  
 Condition : FCC PART15 B QP LISN NEUTRAL  
 EUT : Laptop  
 Model : Y11C  
 Test Mode : Full load mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: MT  
 Remark : 1# adapter:PS36A120Y3000H

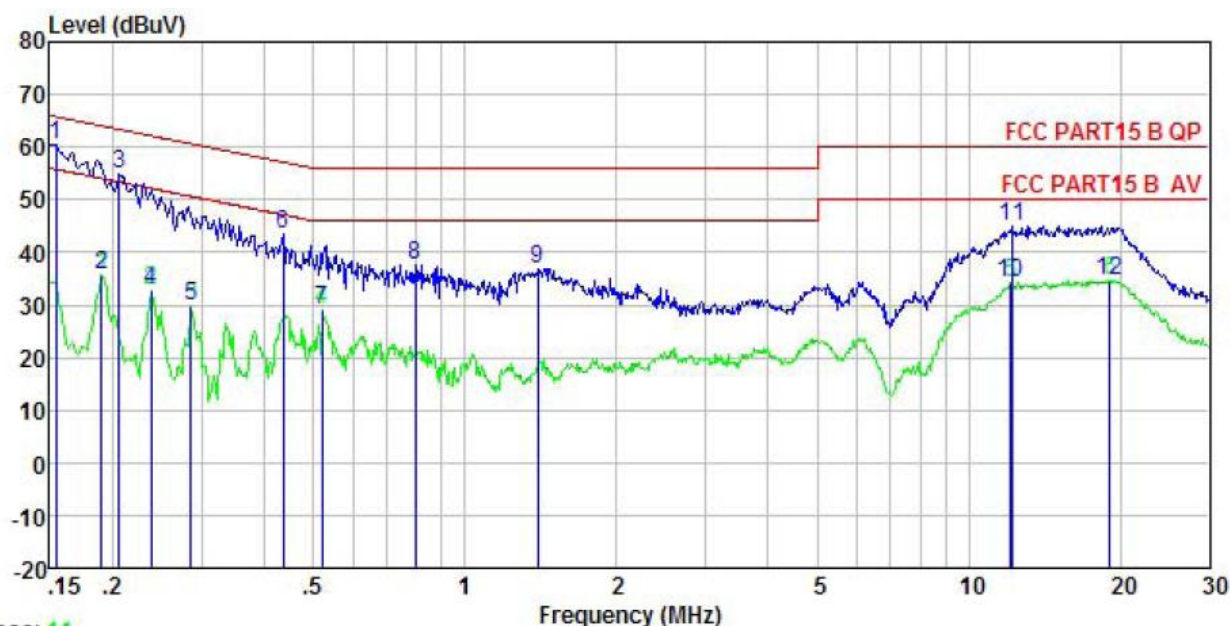
	Read	LISN	Cable	Limit	Over	
Freq	Level	Factor	Loss	Level	Line	Limit Remark
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dB	dBuV	dBuV	dB
1	0.150	36.45	-0.38	10.78	46.85	56.00 -9.15 Average
2	0.154	46.92	-0.38	10.78	57.32	65.78 -8.46 QP
3	0.190	32.32	-0.35	10.76	42.73	54.02 -11.29 Average
4	0.194	44.05	-0.34	10.76	54.47	63.84 -9.37 QP
5	0.474	31.26	-0.30	10.75	41.71	46.45 -4.74 Average
6	0.486	41.40	-0.30	10.76	51.86	56.23 -4.37 QP
7	0.634	39.29	-0.30	10.77	49.76	56.00 -6.24 QP
8	3.041	31.08	-0.20	10.92	41.80	46.00 -4.20 Average
9	3.241	41.52	-0.20	10.91	52.23	56.00 -3.77 QP
10	6.420	38.78	0.07	10.81	49.66	60.00 -10.34 QP
11	6.420	28.11	0.07	10.81	38.99	50.00 -11.01 Average
12	8.822	24.90	0.27	10.89	36.06	50.00 -13.94 Average

## 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.

## Configuration: 2#

Line:



Trace: 11

Site : CCIS Shielding Room  
 Condition : FCC PART15 B QP LISN LINE  
 EUT : laptop  
 Model : Y11C  
 Test Mode : Full load mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: MT  
 Remark : 2# adapter:EE1230-105

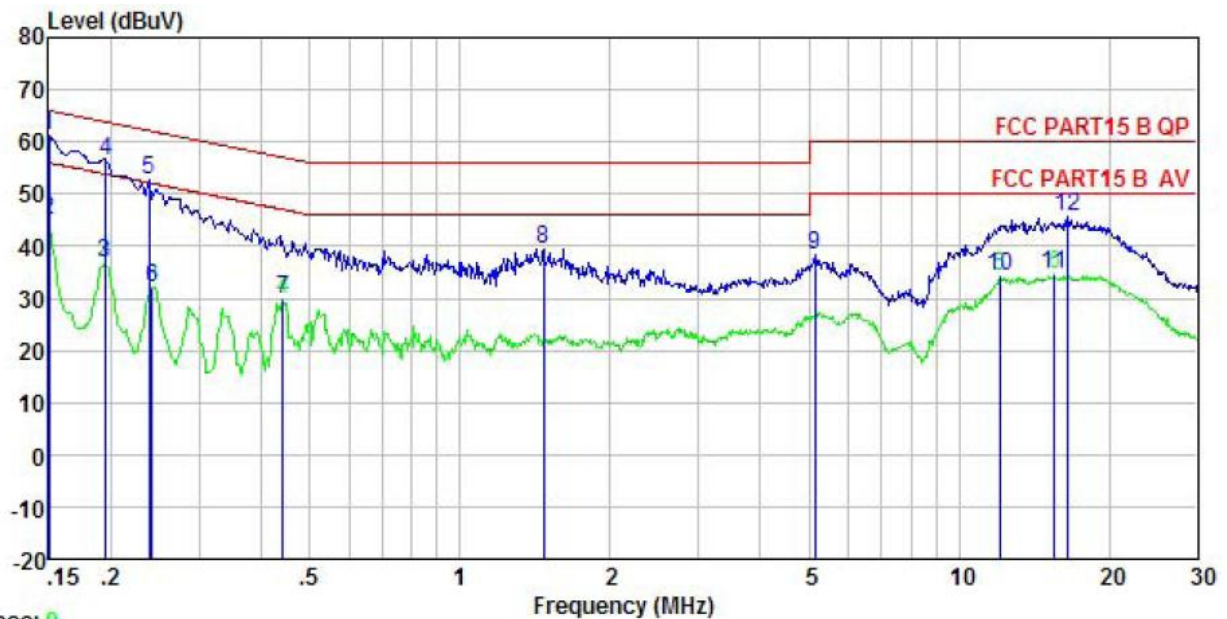
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	50.26	-0.56	10.78	60.48	65.78	-5.30	QP
2	0.190	25.59	-0.53	10.76	35.82	54.02	-18.20	Average
3	0.206	44.55	-0.52	10.76	54.79	63.36	-8.57	QP
4	0.238	22.44	-0.52	10.75	32.67	52.17	-19.50	Average
5	0.286	19.71	-0.51	10.74	29.94	50.63	-20.69	Average
6	0.435	33.20	-0.50	10.73	43.43	57.15	-13.72	QP
7	0.521	18.90	-0.49	10.76	29.17	46.00	-16.83	Average
8	0.796	27.12	-0.48	10.81	37.45	56.00	-18.55	QP
9	1.396	26.53	-0.46	10.91	36.98	56.00	-19.02	QP
10	12.124	23.49	-0.26	10.92	34.15	50.00	-15.85	Average
11	12.188	34.27	-0.27	10.92	44.92	60.00	-15.08	QP
12	19.021	24.32	-0.51	10.92	34.73	50.00	-15.27	Average

### 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.



Neutral:



Trace: 9

Site : CCIS Shielding Room  
 Condition : FCC PART15 B QP LISN NEUTRAL  
 EUT : laptop  
 Model : Y11C  
 Test Mode : Full load mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: MT  
 Remark : 2# adapter:EE1230-105

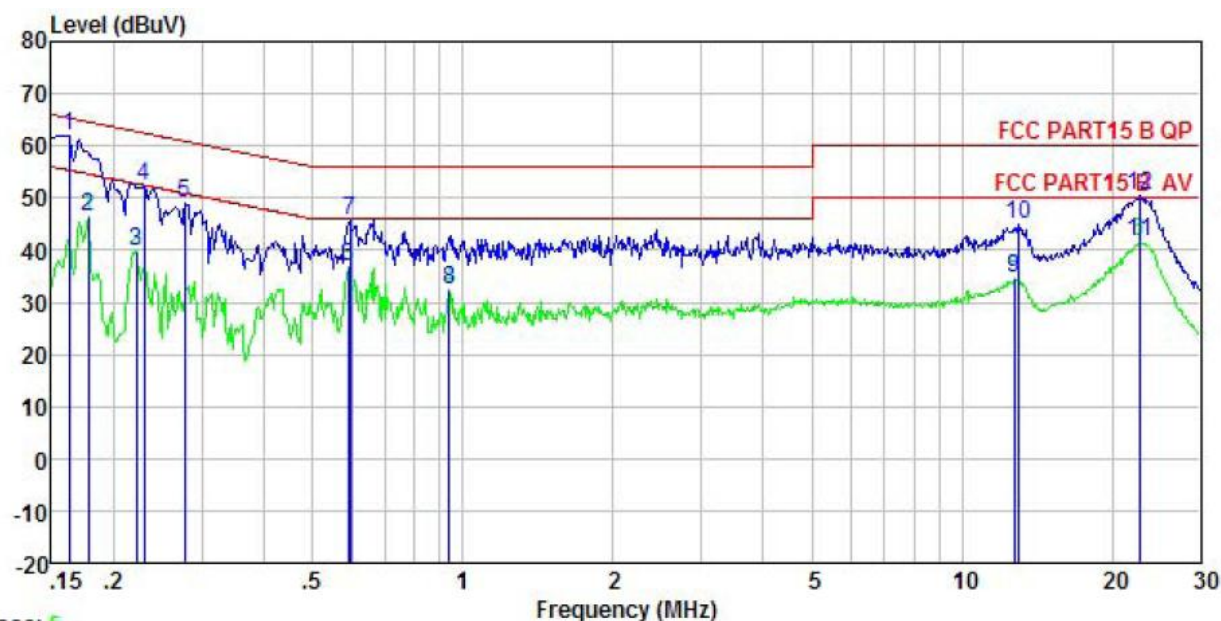
	Freq	Read	LISN	Cable	Limit	Over	
	MHz	Level	Factor	Loss	Level	Limit	Remark
		dBuV	dB	dB	dBuV	dBuV	dB
1	0.150	50.81	-0.38	10.78	61.21	66.00	-4.79 QP
2	0.150	34.55	-0.38	10.78	44.95	56.00	-11.05 Average
3	0.194	26.43	-0.34	10.76	36.85	53.84	-16.99 Average
4	0.195	46.06	-0.34	10.76	56.48	63.80	-7.32 QP
5	0.238	42.10	-0.33	10.75	52.52	62.17	-9.65 QP
6	0.242	21.67	-0.33	10.75	32.09	52.04	-19.95 Average
7	0.442	19.23	-0.31	10.74	29.66	47.02	-17.36 Average
8	1.472	28.71	-0.27	10.92	39.36	56.00	-16.64 QP
9	5.139	27.62	-0.18	10.85	38.29	60.00	-21.71 QP
10	12.060	23.16	0.03	10.92	34.11	50.00	-15.89 Average
11	15.552	23.94	-0.33	10.90	34.51	50.00	-15.49 Average
12	16.486	35.00	-0.37	10.91	45.54	60.00	-14.46 QP

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.

## Configuration: 3#

Line:



Trace: 5

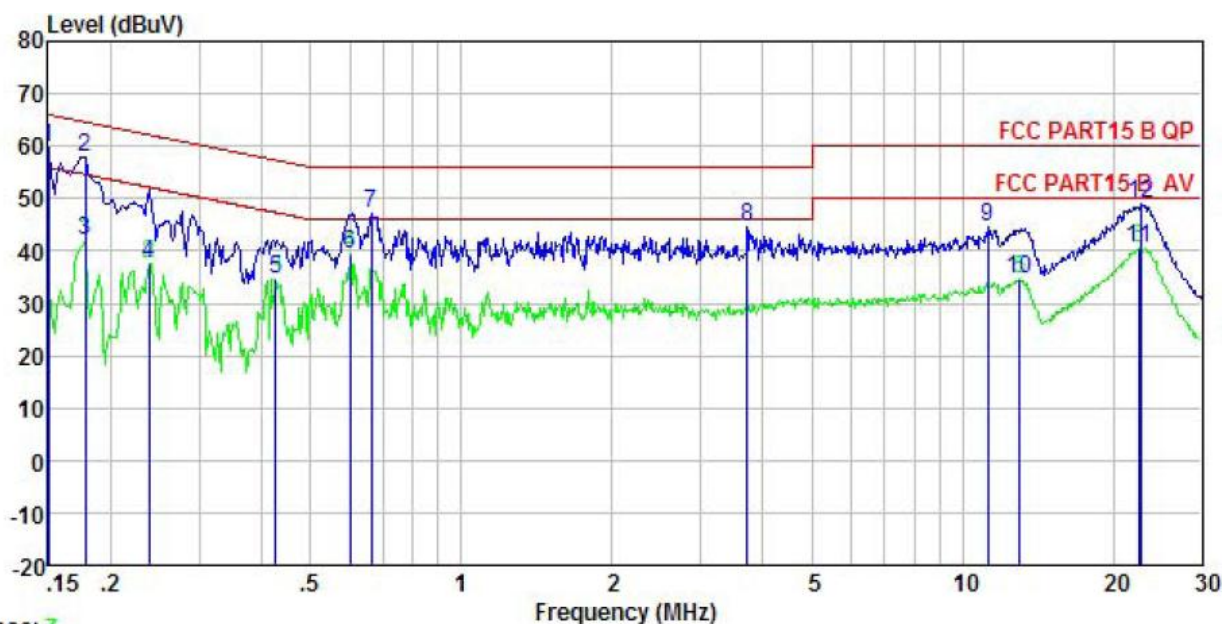
Site : CCIS Shielding Room  
 Condition : FCC PART15 B QP LISN LINE  
 EUT : laptop  
 Model : Y11C  
 Test Mode : Full load mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: MT  
 Remark : 3# adapter:SOY-1200300

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.162	51.74	-0.55	10.77	61.96	65.34	-3.38	QP
2	0.178	36.27	-0.54	10.77	46.50	54.59	-8.09	Average
3	0.222	29.49	-0.52	10.76	39.73	52.74	-13.01	Average
4	0.230	42.01	-0.52	10.75	52.24	62.44	-10.20	QP
5	0.277	38.66	-0.51	10.74	48.89	60.90	-12.01	QP
6	0.589	26.43	-0.49	10.76	36.70	46.00	-9.30	Average
7	0.595	35.28	-0.48	10.77	45.57	56.00	-10.43	QP
8	0.938	22.08	-0.49	10.85	32.44	46.00	-13.56	Average
9	12.716	23.91	-0.36	10.92	34.47	50.00	-15.53	Average
10	12.920	34.42	-0.39	10.92	44.95	60.00	-15.05	QP
11	22.655	31.17	-0.59	10.90	41.48	50.00	-8.52	Average
12	22.775	40.12	-0.60	10.90	50.42	60.00	-9.58	QP

### 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.

Neutral:



Trace: 7

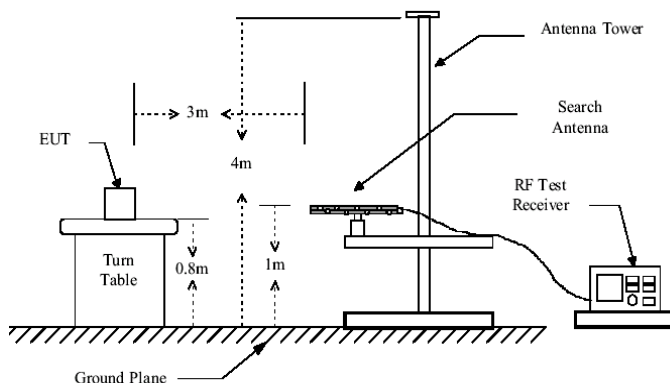
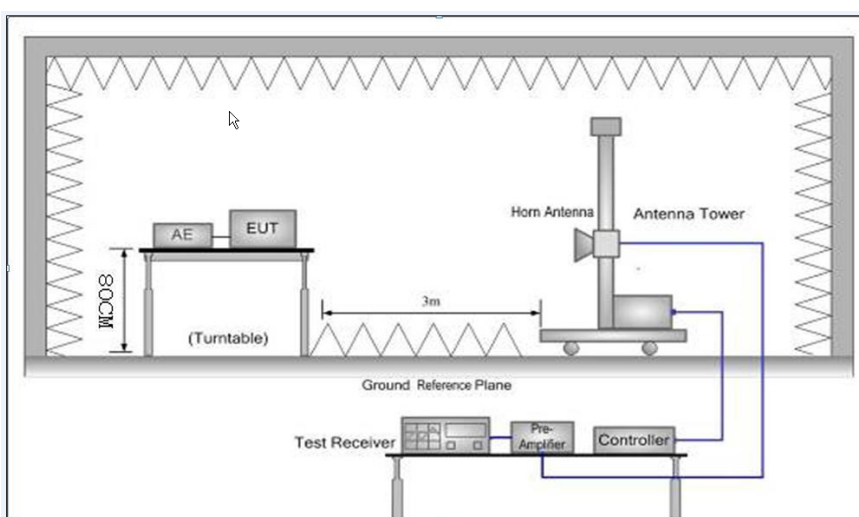
Site : CCIS Shielding Room  
 Condition : FCC PART15 B QP LISN NEUTRAL  
 EUT : laptop  
 Model : Y11C  
 Test Mode : Full load mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: MT  
 Remark : 3# adapter:SOY-1200300

	Freq	Read	LISN	Cable	Limit	Over	
	MHz	Level	Factor	Loss	Level	Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB
1	0.150	49.40	-0.38	10.78	59.80	66.00	-6.20 QP
2	0.178	47.52	-0.36	10.77	57.93	64.59	-6.66 QP
3	0.178	31.63	-0.36	10.77	42.04	54.59	-12.55 Average
4	0.238	27.29	-0.33	10.75	37.71	52.17	-14.46 Average
5	0.426	24.35	-0.31	10.73	34.77	47.33	-12.56 Average
6	0.601	28.94	-0.30	10.77	39.41	46.00	-6.59 Average
7	0.661	36.81	-0.30	10.77	47.28	56.00	-8.72 QP
8	3.720	34.01	-0.20	10.90	44.71	56.00	-11.29 QP
9	11.257	33.58	0.14	10.93	44.65	60.00	-15.35 QP
10	12.988	23.65	-0.08	10.91	34.48	50.00	-15.52 Average
11	22.416	30.16	-0.62	10.90	40.44	50.00	-9.56 Average
12	22.655	38.56	-0.63	10.90	48.83	60.00	-11.17 QP

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.

## 6.2 Radiated Emission

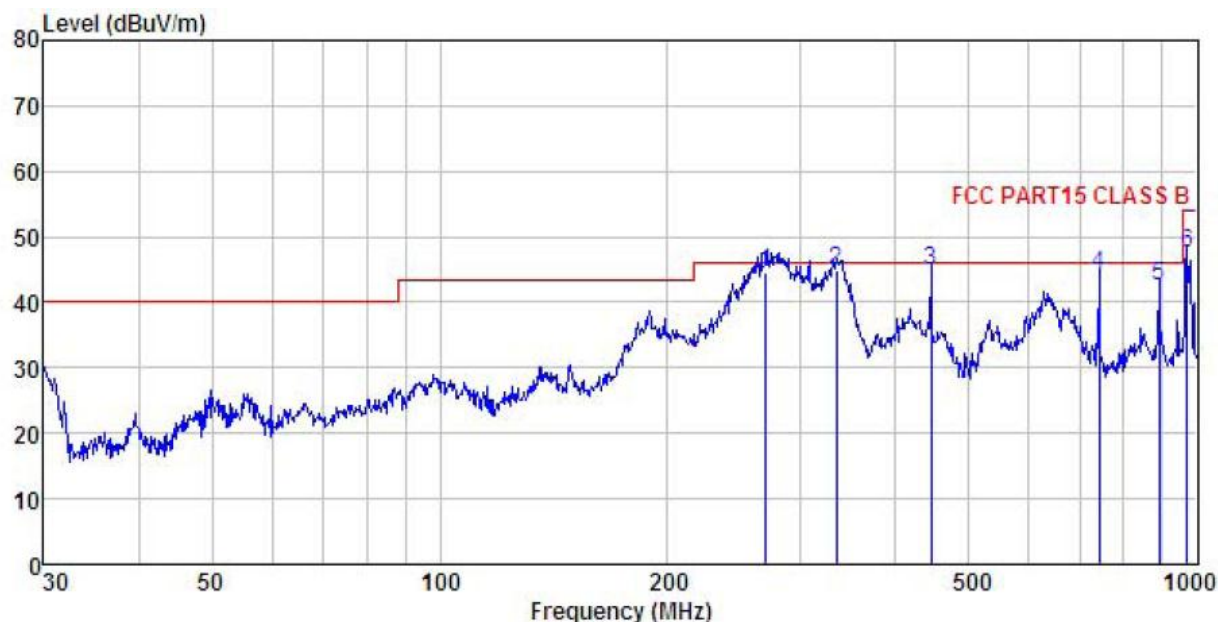
Test Requirement:	FCC Part 15 B Section 15.109				
Test Method:	ANSI C63.4:2014				
Test Frequency Range:	30MHz to 26000MHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 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				
					
Test setup:	Above 1GHz				
					



Test Procedure:	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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.</li> </ol>					
Test environment:	Temp.:	25 °C	Humid.:	55%	Press.:	1 01kPa
Test Instruments:	Refer to section 5.8 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					
Remark:	All of the observed value above 6GHz were the noise floor , which were no recorded					

**Measurement Data:****Configuration: 1#****Below 1GHz**

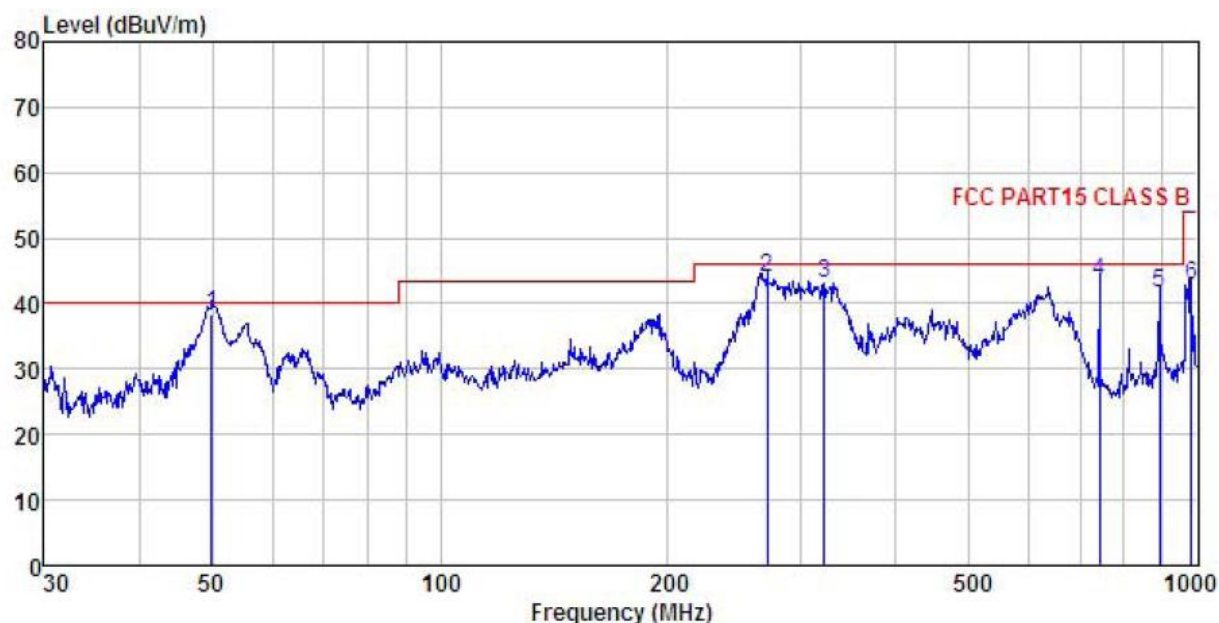
Horizontal:



Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) HORIZONTAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : adapter:PS36A120Y3000H

	Freq	ReadAntenna	Cable	Preamp	Limit	Over	
	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m
1	269.428	57.83	12.53	2.86	28.50	44.72	46.00
2	333.687	56.22	14.00	3.05	28.52	44.75	46.00
3	444.851	54.85	15.60	3.19	28.86	44.78	46.00
4	742.259	48.80	19.55	4.33	28.51	44.17	46.00
5	890.728	45.84	20.85	3.80	27.90	42.59	46.00
6	968.934	49.30	21.52	4.31	27.61	47.52	54.00

Vertical:

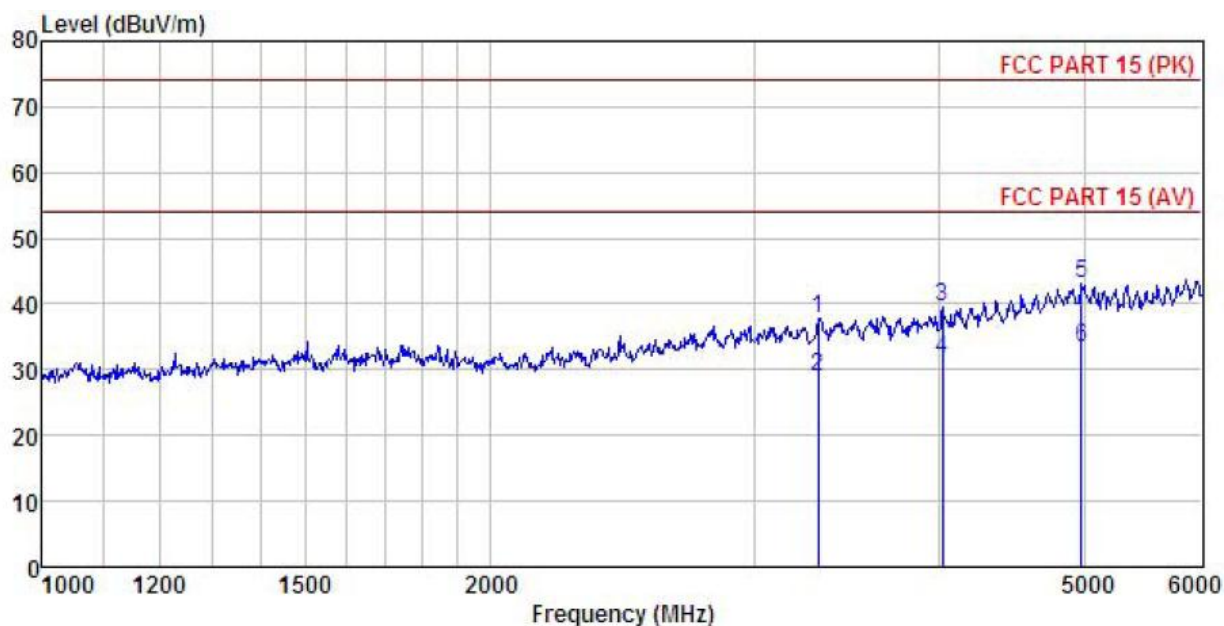


Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) VERTICAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : adapter:PS36A120Y3000H

	Freq	Read	Antenna	Cable	Preamp	Limit	Over	
	MHz	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	49.881	52.52	14.40	1.26	29.82	38.36	40.00	-1.64 QP
2	270.375	56.97	12.53	2.86	28.50	43.86	46.00	-2.14 QP
3	321.061	55.02	13.57	3.01	28.50	43.10	46.00	-2.90 QP
4	742.259	48.08	19.55	4.33	28.51	43.45	46.00	-2.55 QP
5	890.728	44.87	20.85	3.80	27.90	41.62	46.00	-4.38 QP
6	982.620	44.33	21.60	4.38	27.53	42.78	54.00	-11.22 QP

**Above 1GHz**

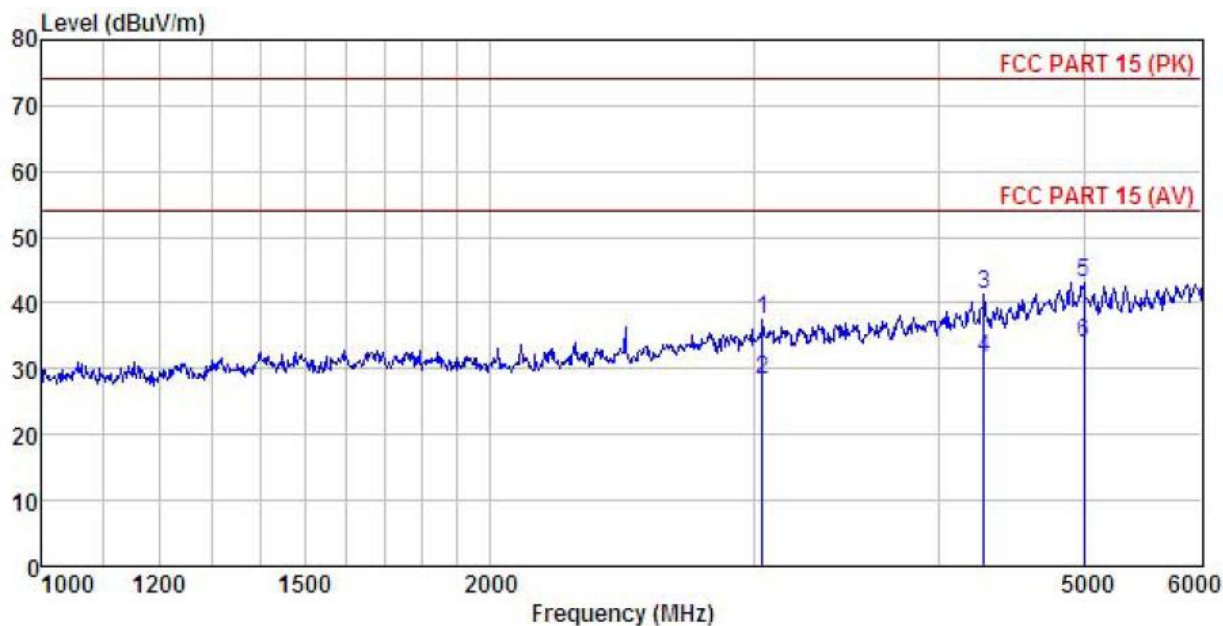
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : adapter:PS36A120Y3000H

Freq		ReadAntenna	Cable	Preamp		Limit	Over	
	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
3315.761	46.34	27.39	5.54	41.37	37.90	74.00	-36.10	Peak
3315.761	37.47	27.39	5.54	41.37	29.03	54.00	-24.97	Average
4016.478	46.82	28.43	6.13	41.81	39.57	74.00	-34.43	Peak
4016.478	38.81	28.43	6.13	41.81	31.56	54.00	-22.44	Average
4979.933	46.36	31.71	6.92	41.87	43.12	74.00	-30.88	Peak
4979.933	36.69	31.71	6.92	41.87	33.45	54.00	-20.55	Average

Vertical:



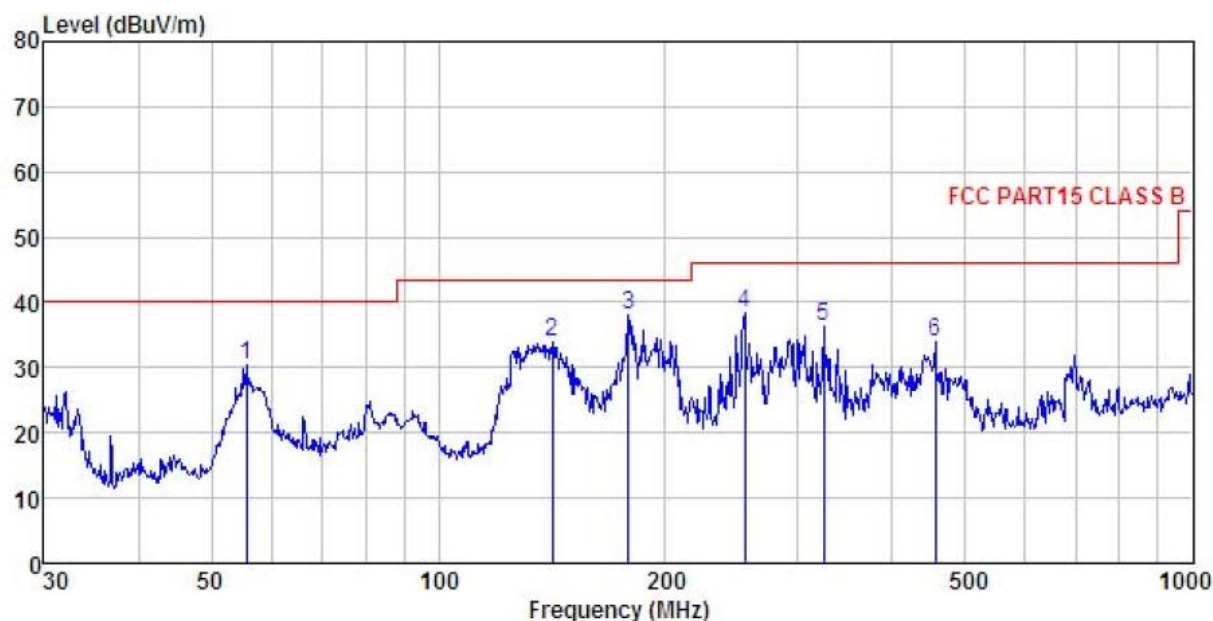
Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : adapter:PS36A120Y3000H

	Freq	ReadAntenna	Cable	Preamp	Limit	Over	
	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m
1	3042.509	46.33	27.22	5.37	41.49	37.43	74.00
2	3042.509	37.15	27.22	5.37	41.49	28.25	54.00
3	4284.092	47.67	28.91	6.52	41.87	41.23	74.00
4	4284.092	38.11	28.91	6.52	41.87	31.67	54.00
5	4997.811	46.16	31.80	6.94	41.88	43.02	74.00
6	4997.811	37.12	31.80	6.94	41.88	33.98	54.00



**Configuration: 2#****Below 1GHz**

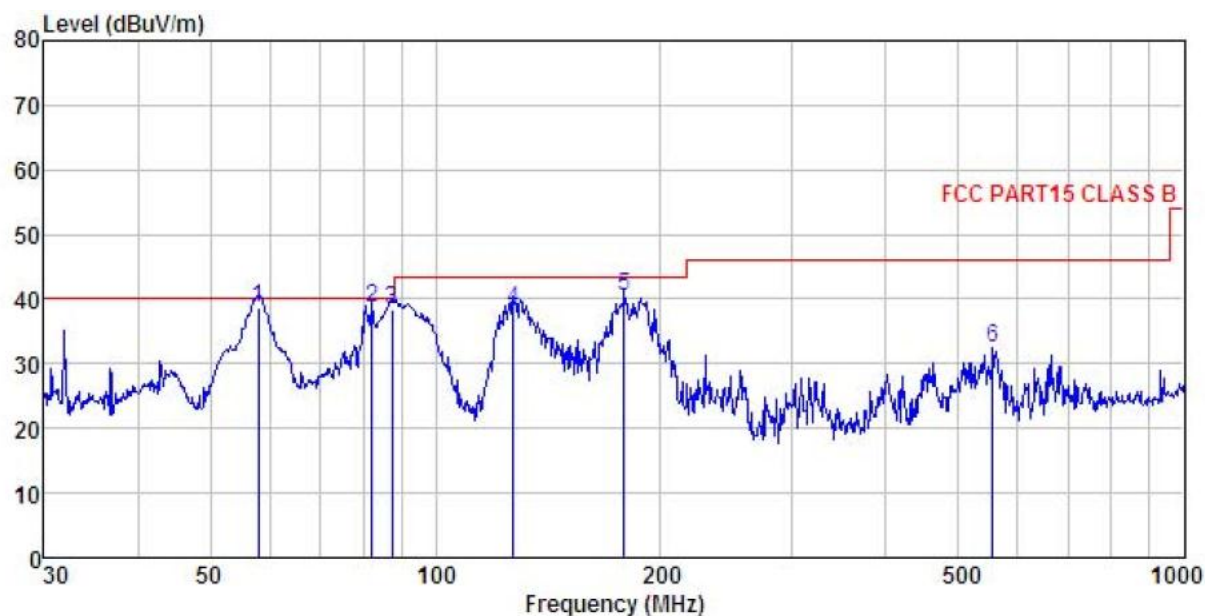
Horizontal:



Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) HORIZONTAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : adapter:EE1230-105 2#

	Freq	ReadAntenna	Cable	Preamp	Limit	Over	
	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m
1	55.609	45.35	13.44	1.36	29.80	30.35	40.00
2	141.826	52.35	8.34	2.42	29.26	33.85	43.50
3	178.758	54.80	9.50	2.72	28.98	38.04	43.50
4	254.728	51.85	12.27	2.82	28.53	38.41	46.00
5	324.456	48.10	13.58	3.02	28.51	36.19	46.00
6	455.906	44.03	15.58	3.25	28.88	33.98	46.00

Vertical:

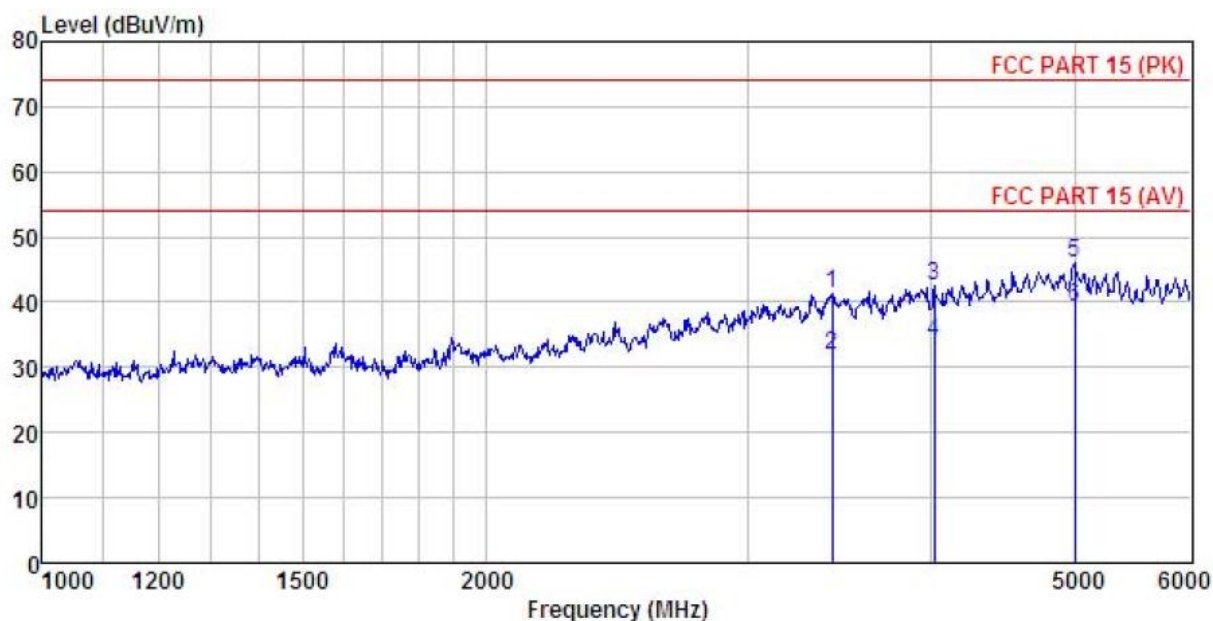


Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) VERTICAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : adapter:EE1230-105 2#

	Freq	Level	ReadAntenna Factor	Cable Loss	Preamp Factor	Level	Limit	Over	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	57.999	53.95	13.12	1.37	29.78	38.66	40.00	-1.34	QP
2	82.359	57.31	9.34	1.76	29.62	38.79	40.00	-1.21	QP
3	87.418	55.72	10.18	1.96	29.58	38.28	40.00	-1.72	QP
4	127.218	56.17	9.28	2.25	29.35	38.35	43.50	-5.15	QP
5	178.758	57.17	9.50	2.72	28.98	40.41	43.50	-3.09	QP
6	554.825	40.33	17.24	3.89	29.09	32.37	46.00	-13.63	QP

**Above 1GHz**

Horizontal:

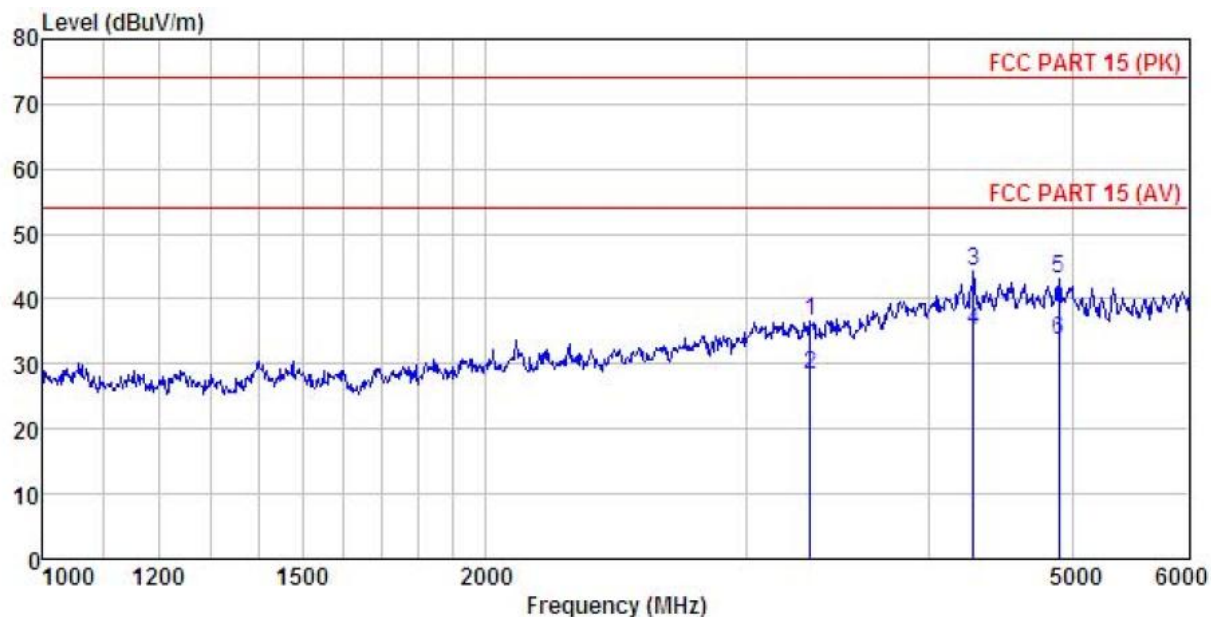


Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : 2#

	ReadAntenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	3424.443	49.57	27.46	5.66	41.38	41.31	74.00 -32.69 Peak
2	3424.443	40.18	27.46	5.66	41.38	31.92	54.00 -22.08 Average
3	4016.478	49.82	28.43	6.13	41.81	42.57	74.00 -31.43 Peak
4	4016.478	41.23	28.43	6.13	41.81	33.98	54.00 -20.02 Average
5	4997.811	49.06	31.80	6.94	41.88	45.92	74.00 -28.08 Peak
6	4997.811	42.27	31.80	6.94	41.88	39.13	54.00 -14.87 Average



Vertical:

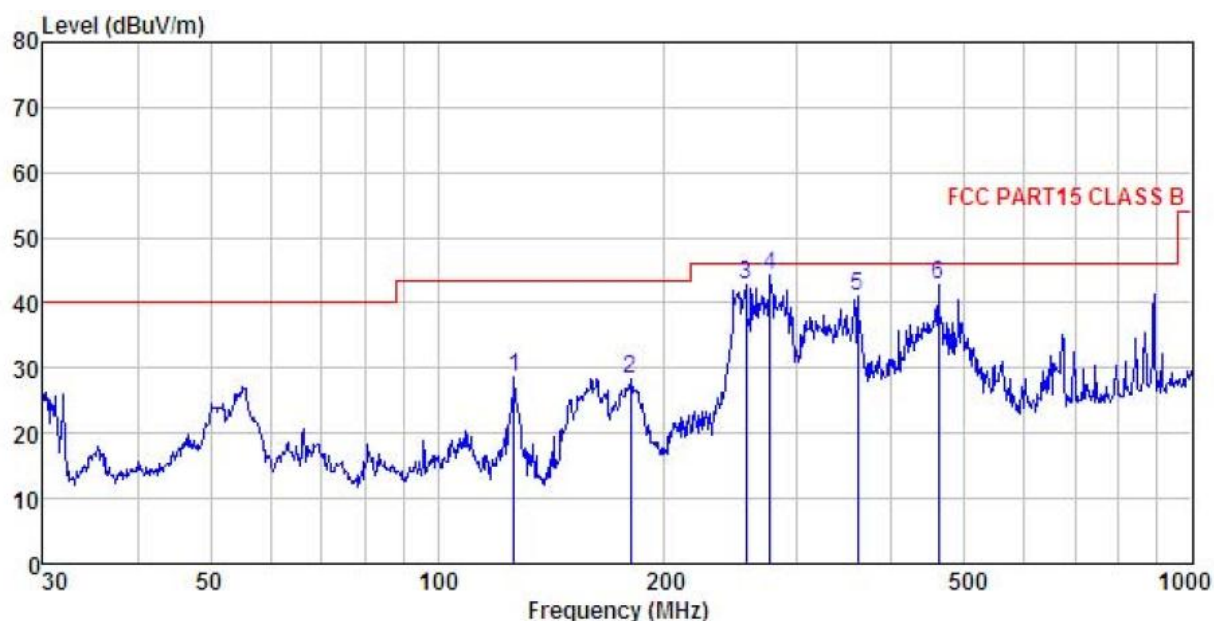


Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : 2#

	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	3321.707	45.13	27.40	5.54	41.37	36.70	74.00	-37.30	Peak
2	3321.707	36.69	27.40	5.54	41.37	28.26	54.00	-25.74	Average
3	4284.092	50.67	28.91	6.52	41.87	44.23	74.00	-29.77	Peak
4	4284.092	41.57	28.91	6.52	41.87	35.13	54.00	-18.87	Average
5	4900.271	46.68	31.28	6.87	41.85	42.98	74.00	-31.02	Peak
6	4900.271	37.49	31.28	6.87	41.85	33.79	54.00	-20.21	Average

**Configuration: 3#****Below 1GHz**

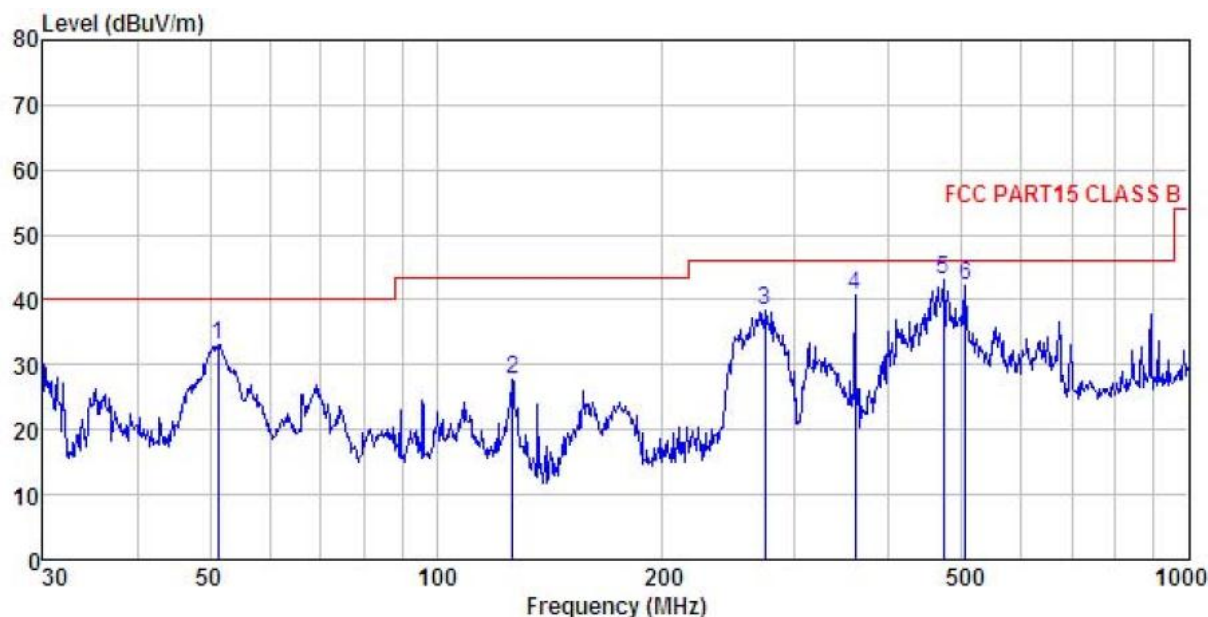
Horizontal:



Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) HORIZONTAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : 3#

	Freq	Read	Antenna	Cable	Preamp	Limit	Over	
		Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	126.329	46.39	9.28	2.24	29.35	28.56	43.50	-14.94 QP
2	180.017	45.16	9.50	2.73	28.97	28.42	43.50	-15.08 QP
3	256.521	56.18	12.30	2.83	28.53	42.78	46.00	-3.22 QP
4	276.124	57.34	12.66	2.88	28.49	44.39	46.00	-1.61 QP
5	360.448	51.95	14.64	3.10	28.61	41.08	46.00	-4.92 QP
6	460.727	52.83	15.55	3.29	28.89	42.78	46.00	-3.22 QP

Vertical:

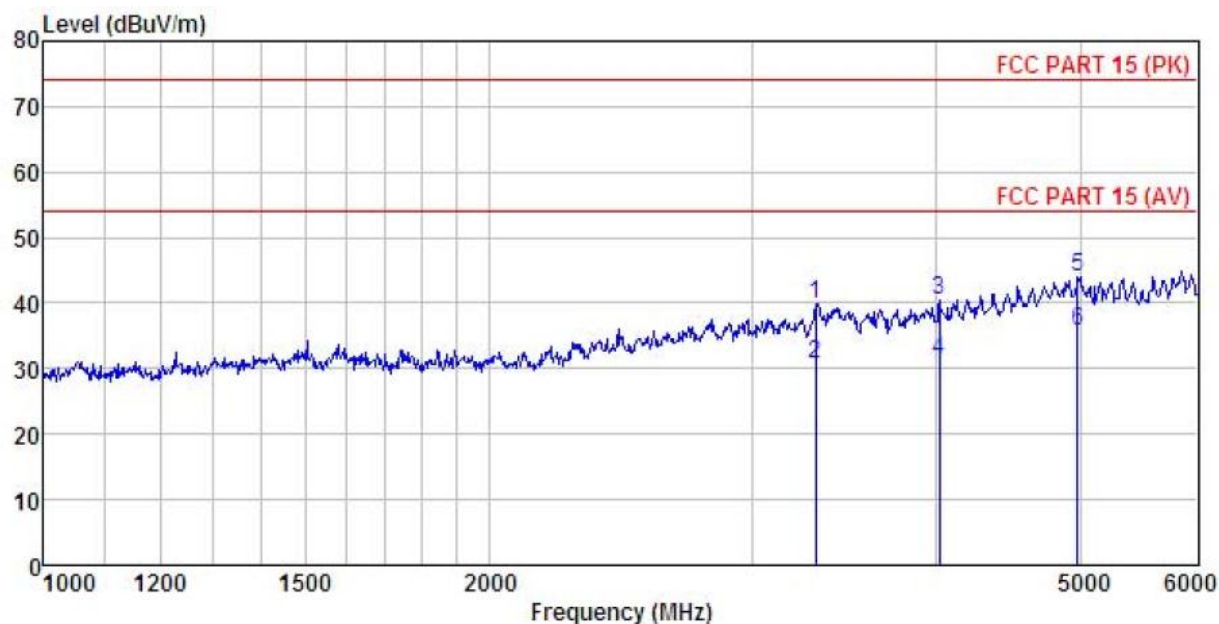


Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(30M2G) VERTICAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : 3#

	Freq	Read	Antenna	Cable	Preamp	Limit	Over	
	MHz	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	51.301	47.41	14.08	1.27	29.81	32.95	40.00	-7.05 QP
2	126.329	45.58	9.28	2.24	29.35	27.75	43.50	-15.75 QP
3	273.234	51.54	12.57	2.87	28.50	38.48	46.00	-7.52 QP
4	360.448	51.51	14.64	3.10	28.61	40.64	46.00	-5.36 QP
5	472.176	53.14	15.52	3.38	28.91	43.13	46.00	-2.87 QP
6	504.706	50.71	16.70	3.65	28.97	42.09	46.00	-3.91 QP

**Above 1GHz**

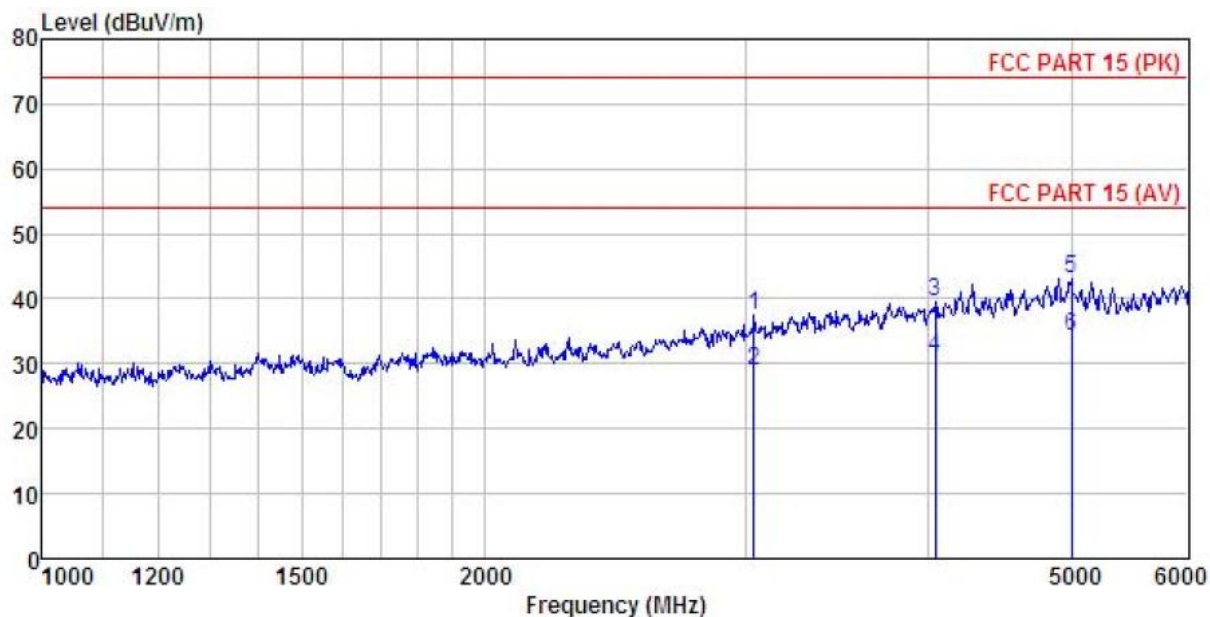
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) HORIZONTAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : 3#

	Freq	ReadAntenna	Cable Preamp		Limit	Over	
	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m
1	3315.761	48.34	27.39	5.54	41.37	39.90	74.00
2	3315.761	39.12	27.39	5.54	41.37	30.68	54.00
3	4016.478	47.82	28.43	6.13	41.81	40.57	74.00
4	4016.478	38.56	28.43	6.13	41.81	31.31	54.00
5	4979.933	47.36	31.71	6.92	41.87	44.12	74.00
6	4979.933	39.01	31.71	6.92	41.87	35.77	54.00

Vertical:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(1G18G) VERTICAL  
 EUT : laptop  
 Model : Y11C  
 Test mode : Full loading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%  
 Test Engineer: MT  
 REMARK : 3#

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	
		Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3042.509	46.33	27.22	5.37	41.49	37.43	74.00	-36.57	Peak
2	3042.509	37.81	27.22	5.37	41.49	28.91	54.00	-25.09	Average
3	4038.126	46.72	28.49	6.16	41.81	39.56	74.00	-34.44	Peak
4	4038.126	38.16	28.49	6.16	41.81	31.00	54.00	-23.00	Average
5	4997.811	46.16	31.80	6.94	41.88	43.02	74.00	-30.98	Peak
6	4997.811	37.48	31.80	6.94	41.88	34.34	54.00	-19.66	Average