

FCC REPORT

Applicant: B mobile HK Limited

Address of Applicant: Ground floor, 144 Un Chau Street, Sham Shui Po, Hong Kong

Equipment Under Test (EUT)

Product Name: B-MOBILE

Model No.: QW120,QW130,QW140

FCC ID: ZSW-QW120-130-140

Applicable standards: FCC CFR Title 47 Part 15 Subpart B: 2011

Date of sample receipt: 03 Apr., 2013

Date of Test: 04 Apr., to 23 Apr.,2013

Date of report issued: 23 Apr.,2013

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.

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2 Version

Version No.	Date	Description
00	23 Apr.,2013	Original

Prepared by:

Lisa chen

Report Clerk

Date:

22 Apr.,2013

Reviewed by:

Wimer Zhang

Project Engineer

Date:

22 Apr.,2013

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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:	B mobile HK Limited
Address of Applicant:	Ground floor, 144 Un Chau Street, Sham Shui Po, Hong Kong
Manufacturer:	FORTUNE SHIP TECHNOLOGY (HK) LIMITED
Address of Manufacturer:	ROOM A 11/F, HO LEE COMMERCIAL BUILDING, 38-44 D'AGUILAR STREET, CENTRAL, HONG KONG
Factory:	SHENZHEN EASIECOM ELECTRONIC CO.,LTD
Address of Factory:	Floor3,Building A,Sailian Industrial Park,Fourth Industrial Zone,Shuitian Community,Shiyan Street,Baoan District,Shenzhen.

5.2 General Description of E.U.T.

Product Name:	B-MOBILE
Model No.:	QW120,QW130,QW140
AC adapter:	Input:100-240V AC,50/60Hz 0.2A Output:5.0V DC MAX500Ma
Power supply:	Rechargeable Li-ion Battery DC3.7V/1450mAh
Remark:	The model No. QW120, QW130 and QW140 are identical in the same PCB layout, electrical circuit design and components used. The differences between them are model name, appearance of color and QW120 and QW130 have an additional volume key. We selected QW120 to perform the full tests.

5.3 Operating Modes

Operating mode	Detail description
Downloading mode	Keep the EUT in Downloading mode(Worst case)
Playing mode	Keep the EUT in Playing mode
Recording mode	Keep the EUT in Recording mode
FM mode	Keep the EUT in FM receiver mode
TV mode	Keep the EUT in TV 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

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: 0755-23118282
Fax: 0755-23116366

5.7 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr.01 2013	Mar. 31 2014
3	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	June 04 2012	June 03 2013
4	Double-ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2012	May. 29 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2013	Mar. 31 2014
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2013	Mar. 31 2014
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2013	Mar. 31 2014
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2013	Mar. 31 2014
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2013	Mar. 31 2014
11	Amplifier(10kHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2013	Mar. 31 2014
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 08 2013
13	Spectrum analyzer	Rohde & Schwarz	FSP	CCIS0023	May 29 2012	May 28 2013
14	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
15	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 25 2012	May. 24 2013
3	LISN	CHASE	MN2050D	CCIS0074	Apr. 01 2013	Mar. 31 2014
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2013	Mar. 31 2014

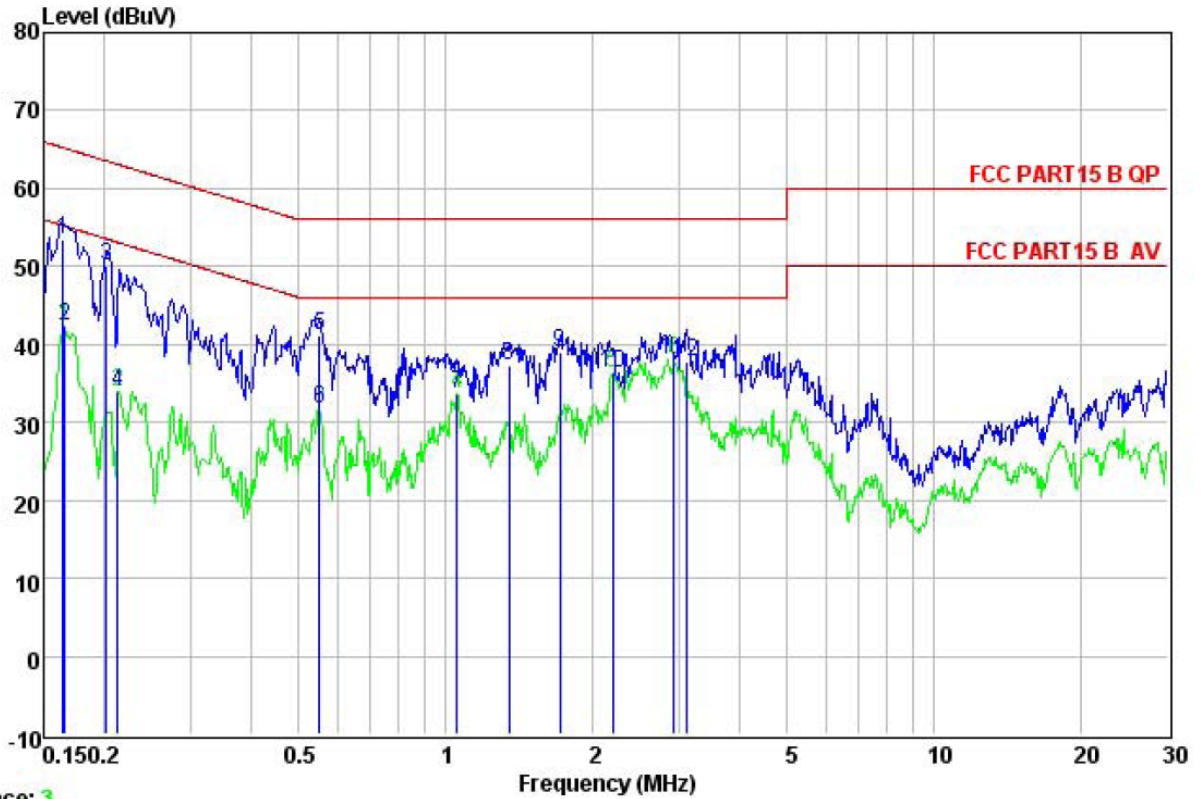
6 Test result and Measurement Data

6.1 Conducted Emission

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														
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBμV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>0.5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	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
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:	<p>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test procedure	<ol style="list-style-type: none"> 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: 2003 on conducted measurement. 														
Test environment:	Temp.: 23 °C Humid.: 56% Press.: 1 01kPa														
Measurement Record:	Uncertainty: 3.28dB														
Test Instruments:	Refer to section 5.7 for details														
Test mode:	Pre-scan all test mode in the section 5.3, and found the blew mode which it is worse case mode.														
Test results:	Pass														

Measurement data:

Line:

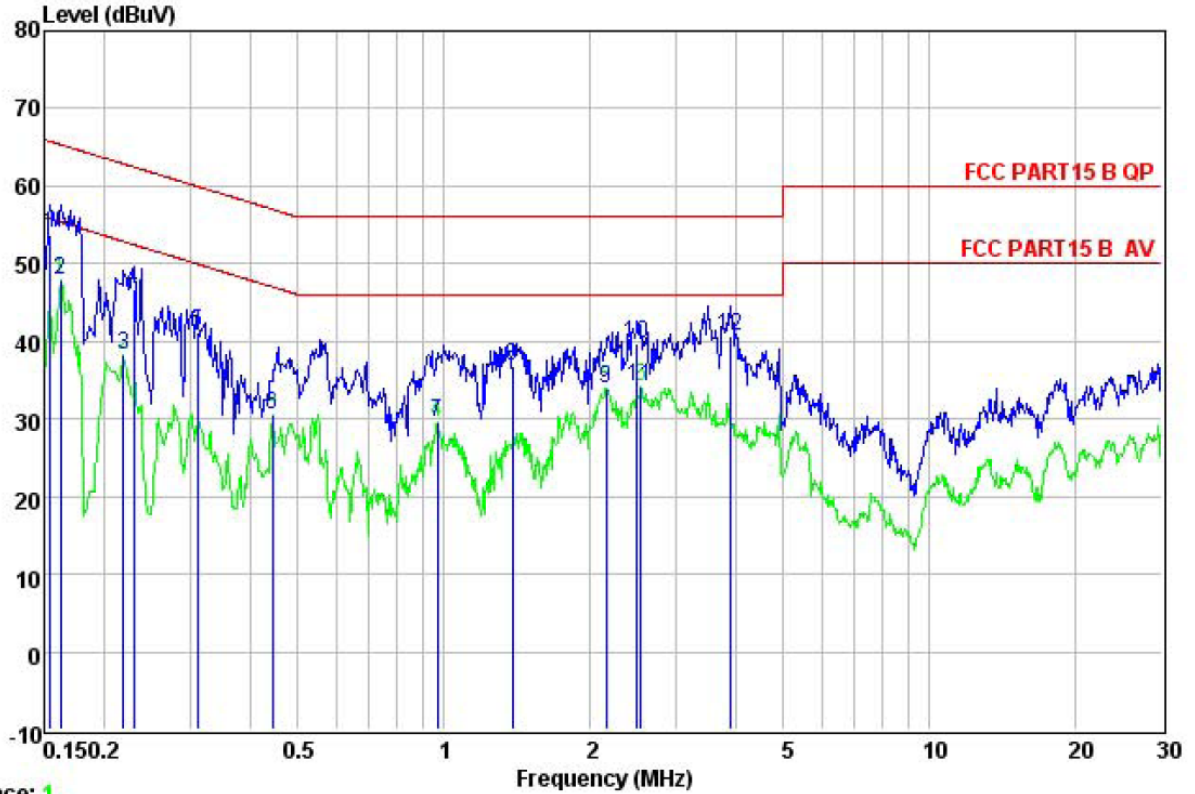


Trace: 3

Site : CCIS Conducted Test Site
 Condition : FCC PART15 B QP LISN LINE
 Job No. : 094RF
 EUT : Mobile phone
 Model : QW120
 Test Mode : PC mode
 Power Rating : AC 120V/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Winner

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.164	42.40	10.24	0.78	53.42	65.25	-11.83	QP
2	0.166	31.37	10.24	0.78	42.39	55.16	-12.77	Average
3	0.202	39.07	10.21	0.76	50.04	63.54	-13.50	QP
4	0.213	23.02	10.22	0.76	34.00	53.10	-19.10	Average
5	0.549	30.15	10.24	0.76	41.15	56.00	-14.85	QP
6	0.549	20.69	10.24	0.76	31.69	46.00	-14.31	Average
7	1.054	22.57	10.21	0.84	33.62	46.00	-12.38	Average
8	1.345	26.44	10.24	0.57	37.25	56.00	-18.75	QP
9	1.707	28.68	10.26	0.12	39.06	56.00	-16.94	QP
10	2.190	25.19	10.28	0.96	36.43	46.00	-9.57	Average
11	2.931	26.85	10.29	0.92	38.06	46.00	-7.94	Average
12	3.107	26.64	10.29	0.91	37.84	56.00	-18.16	QP

Neutral:



Trace: 1
 Site : CCIS Conducted Test Site
 Condition : FCC PART15 B QP LISN NEUTRAL
 Job No. : 094RF
 EUT : Mobile phone
 Model : QW120
 Test Mode : PC mode
 Power Rating : AC 120V/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Winner

	Read Freq	LISN Level	Cable Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.154	42.55	10.27	0.79	53.61	65.78	-12.17	QP
2	0.162	36.93	10.26	0.78	47.97	55.34	-7.37	Average
3	0.219	27.25	10.23	0.76	38.24	52.88	-14.64	Average
4	0.229	35.61	10.23	0.75	46.59	62.48	-15.89	QP
5	0.310	30.12	10.24	0.74	41.10	59.97	-18.87	QP
6	0.442	19.53	10.27	0.74	30.54	47.02	-16.48	Average
7	0.968	18.58	10.20	0.86	29.64	46.00	-16.36	Average
8	1.381	26.01	10.23	0.50	36.74	56.00	-19.26	QP
9	2.155	22.66	10.27	0.96	33.89	46.00	-12.11	Average
10	2.500	28.45	10.27	0.94	39.66	56.00	-16.34	QP
11	2.540	22.95	10.27	0.94	34.16	46.00	-11.84	Average
12	3.881	29.44	10.28	0.89	40.61	56.00	-15.39	QP

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 C63.4:2003				
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	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak 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:	<ol style="list-style-type: none"> 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.: 55% Press.: 1 01kPa
Measurement Record:	Uncertainty: 4.88dB
Test Instruments:	Refer to section 5.7 for details
Test mode:	Pre-scan all test mode in the section 5.3, and found the bleed mode which it is worse case mode.
Test results:	Passed

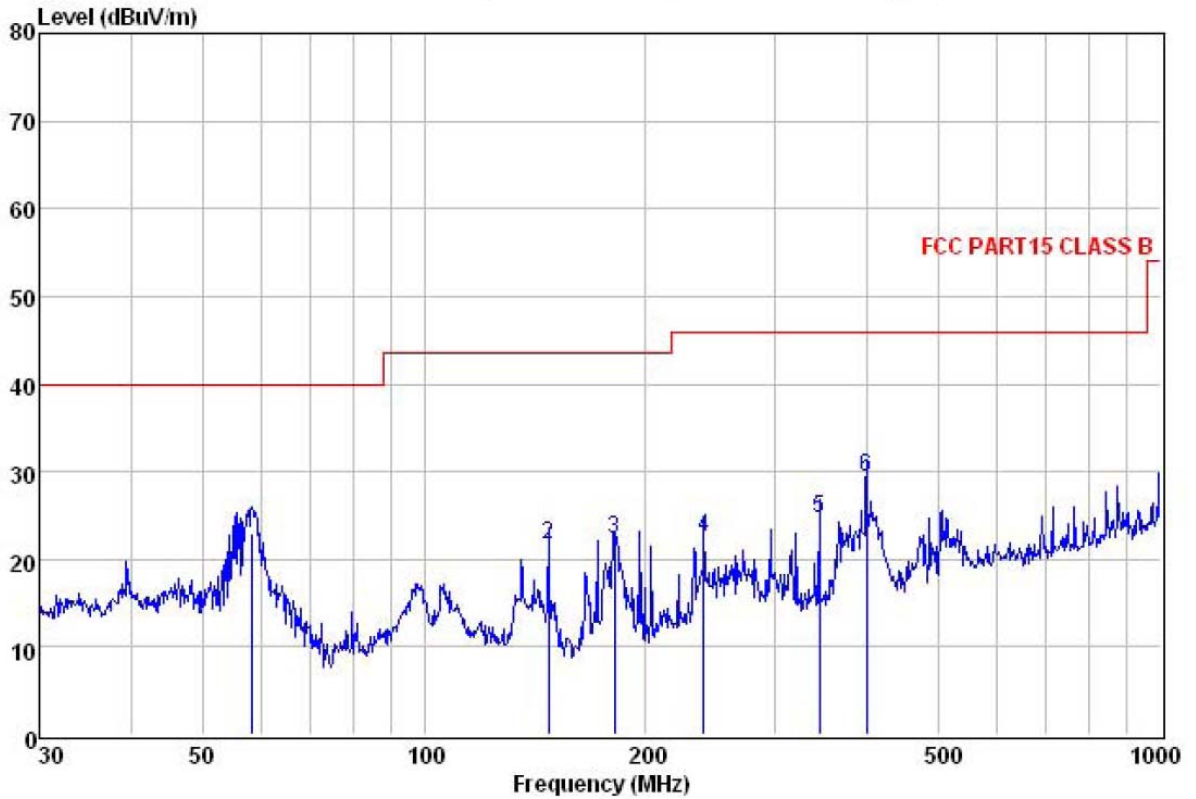
Remark:

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.

Measurement Data

Below 1GHz

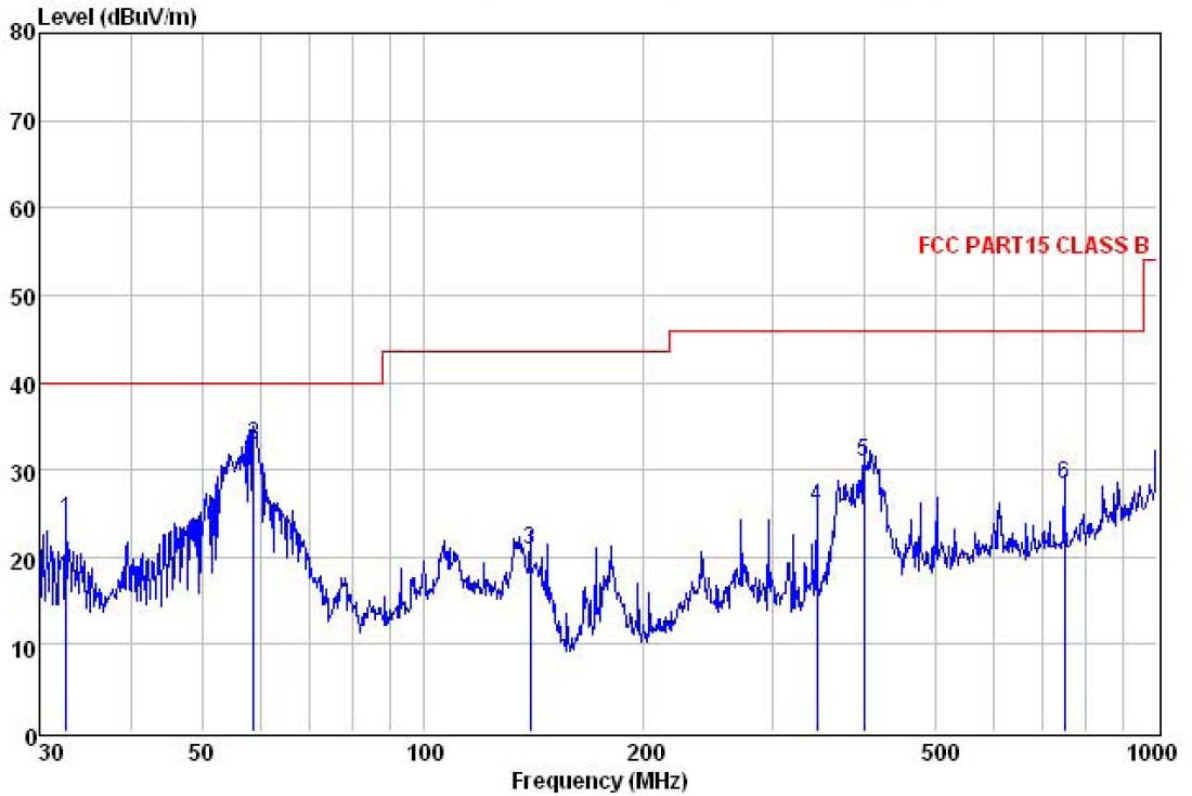
Horizontal:



Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL
 Job No. : 094RF
 EUT : Mobile phone
 Model : QW120
 Test mode : PC mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25°C Humi:55% Atmos:101Kpa
 Test Engineer: Winner

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	58.203	37.80	12.81	1.37	29.05	22.93	40.00 -17.07 QP
2	147.404	40.13	8.24	2.49	29.26	21.60	43.50 -21.90 QP
3	181.283	36.49	9.76	2.74	26.77	22.22	43.50 -21.28 QP
4	239.987	37.23	12.09	2.82	29.64	22.50	46.00 -23.50 QP
5	344.386	37.08	14.20	3.08	29.66	24.70	46.00 -21.30 QP
6	399.030	41.11	15.06	3.08	29.89	29.36	46.00 -16.64 QP

Vertical:

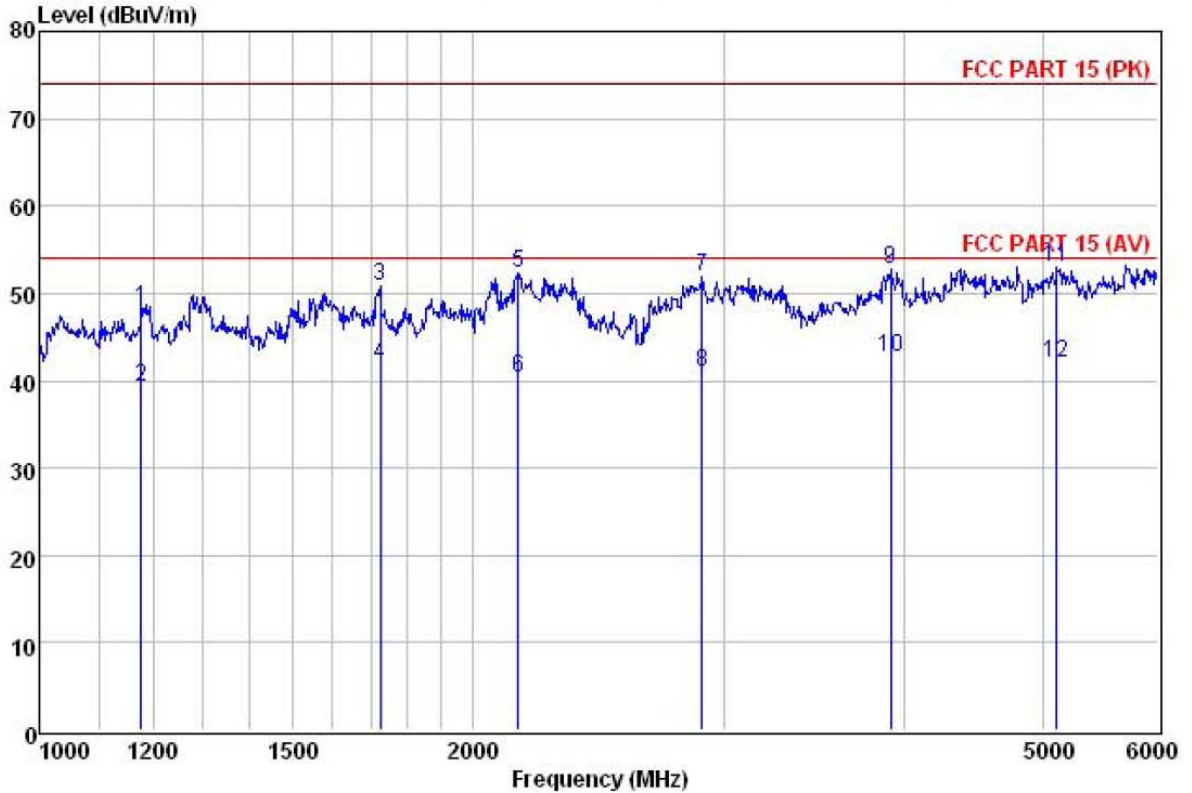


Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL
 Job No. : 094RF
 EUT : Mobile phone
 Model : QW120
 Test mode : PC mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25°C Humi:55% Atmos:101Kpa
 Test Engineer: Winner

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	32.634	37.46	12.31	0.91	26.55	24.13	40.00 -15.87 QP
2	58.819	47.85	12.77	1.38	29.11	32.89	40.00 -7.11 QP
3	139.851	39.68	8.19	2.39	29.38	20.88	43.50 -22.62 QP
4	344.386	38.05	14.20	3.08	29.66	25.67	46.00 -20.33 QP
5	399.030	42.57	15.06	3.08	29.89	30.82	46.00 -15.18 QP
6	747.483	35.12	19.43	4.35	30.50	28.40	46.00 -17.60 QP

Above 1GHz

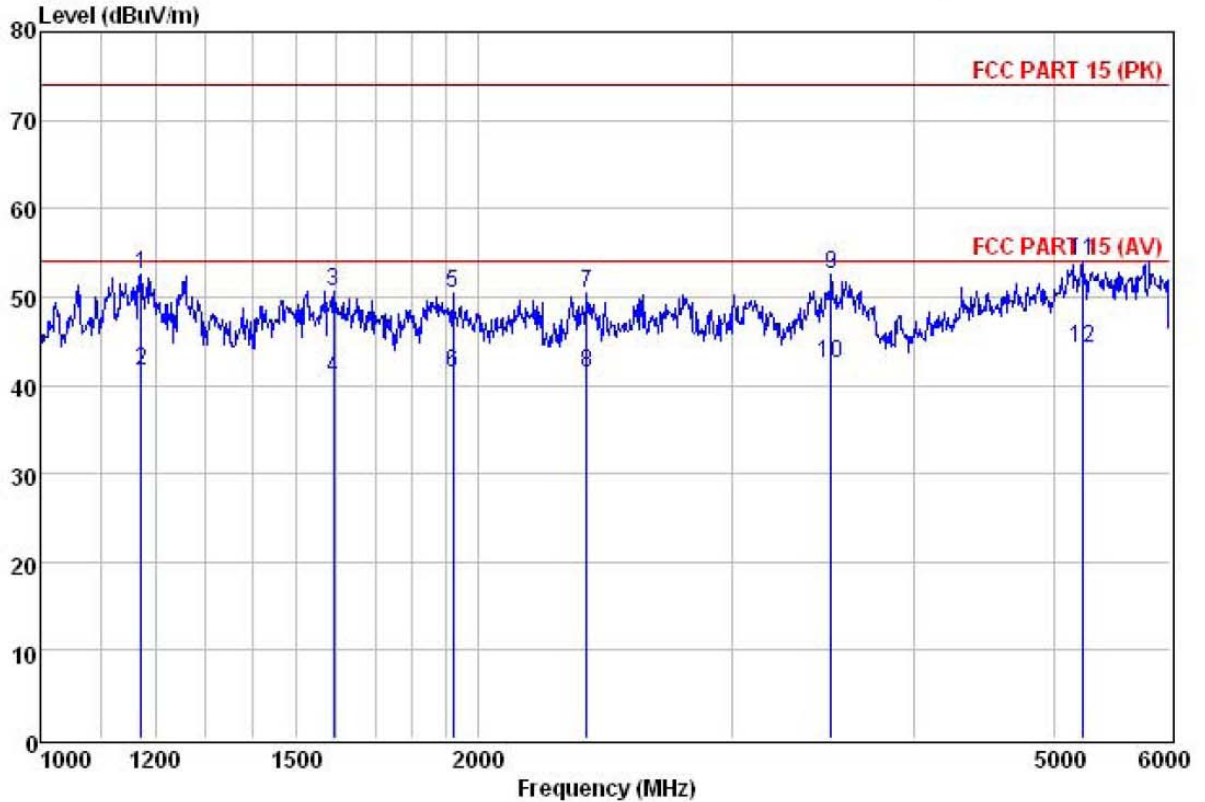
Horizontal:



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) HORIZONTAL
 Job No. : 094RF
 EUT : Mobile phone
 Model : QW120
 Test mode : PC mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25°C Humi:55% Atmos:101Kpa
 Test Engineer: Winner

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	1177.096	64.21	0.00	2.57	18.48	48.30	74.00 -25.70 Peak
2	1177.096	55.21	0.00	2.57	18.48	39.30	54.00 -14.70 Average
3	1727.174	75.84	0.00	3.24	28.33	50.75	74.00 -23.25 Peak
4	1727.174	66.84	0.00	3.24	28.33	41.75	54.00 -12.25 Average
5	2153.023	79.49	0.00	3.63	30.80	52.32	74.00 -21.68 Peak
6	2153.023	67.49	0.00	3.63	30.80	40.32	54.00 -13.68 Average
7	2893.635	77.78	0.00	4.25	30.05	51.98	74.00 -22.02 Peak
8	2893.635	66.78	0.00	4.25	30.05	40.98	54.00 -13.02 Average
9	3909.967	74.33	0.00	5.23	26.86	52.70	74.00 -21.30 Peak
10	3909.967	64.33	0.00	5.23	26.86	42.70	54.00 -11.30 Average
11	5106.433	70.85	0.00	6.06	23.88	53.03	74.00 -20.97 Peak
12	5106.433	59.85	0.00	6.06	23.88	42.03	54.00 -11.97 Average

Vertical:



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) VERTICAL
 Job No. : 094RF
 EUT : Mobile phone
 Model : QW120
 Test mode : PC mode
 Power Rating : AC 120V/60Hz
 Environment : Temp:25°C Humi:55% Atmos:101Kpa
 Test Engineer: Winer

	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	1172.885	68.55	0.00	2.57	18.48	52.64	74.00 -21.36 Peak
2	1172.885	57.55	0.00	2.57	18.48	41.64	54.00 -12.36 Average
3	1593.380	73.72	0.00	3.11	26.15	50.68	74.00 -23.32 Peak
4	1593.380	63.72	0.00	3.11	26.15	40.68	54.00 -13.32 Average
5	1923.203	77.26	0.00	3.43	30.38	50.31	74.00 -23.69 Peak
6	1923.203	68.26	0.00	3.43	30.38	41.31	54.00 -12.69 Average
7	2380.264	76.78	0.00	3.81	30.15	50.44	74.00 -23.56 Peak
8	2380.264	67.78	0.00	3.81	30.15	41.44	54.00 -12.56 Average
9	3505.144	75.59	0.00	4.86	27.90	52.55	74.00 -21.45 Peak
10	3505.144	65.59	0.00	4.86	27.90	42.55	54.00 -11.45 Average
11	5217.416	71.87	0.00	6.12	23.86	54.13	74.00 -19.87 Peak
12	5217.416	61.87	0.00	6.12	23.86	44.13	54.00 -9.87 Average