

# FCC REPORT

**Applicant:** AZUMI S.A

**Address of Applicant:** Avenida Aquilino de la Guardia con Calle 47, PH Ocean Plaza,  
Piso 16 of. 16-01, Marbella, Ciudad de Panamá City, Rep.  
Panamá

## Equipment Under Test (EUT)

**Product Name:** Mobile phone

**Model No.:** Extend 55

**FCC ID:** QRP-AZUMIEXTEND55

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

**Date of sample receipt:** 31 May., 2016

**Date of Test:** 31 May., to 14 Jun., 2016

**Date of report issued:** 16 Jun., 2016

**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

<b>Version No.</b>	<b>Date</b>	<b>Description</b>
00	16 Jun., 2016	Original

**Tested by:****Date:**

16 Jun., 2016

**Test Engineer****Reviewed by:****Date:**

16 Jun., 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:	AZUMI S.A
Address of Applicant:	Avenida Aquilino de la Guardia con Calle 47, PH Ocean Plaza, Piso 16 of. 16-01, Marbella, Ciudad de Panamá City, Rep. Panamá
Manufacturer	SHENZHEN SAGAMOBILE CO., LTD
Address of Manufacturer:	RM.7A Benyuan Building, No.6015, Shennan Rd., Futian district, Shenzhen

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

Product Name:	Mobile phone
Model No.:	Extend 55
Power supply:	Rechargeable Li-ion Battery DC3.8V-4150mAh
AC adapter :	Model: TPA-46B050100UU Input: AC100-240V 50/60Hz 0.2A Output: DC 5.0V, 1A

### 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 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
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

## 5.6 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

Tel: +86-755-23118282

Fax: +86-755-23116366

## 5.8 Test Instruments list

<b>Radiated Emission:</b>						
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal. Date (mm-dd-yy)</b>	<b>Cal. Due date (mm-dd-yy)</b>
1	3m SAC	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	08-23-2014	08-22-2017
2	BiConiLog Antenna	SCHWARZBECK	VULB9163	CCIS0005	03-25-2016	03-25-2017
3	Horn Antenna	SCHWARZBECK	BBHA9120D	CCIS0006	03-25-2016	03-25-2017
4	Pre-amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	04-01-2016	03-31-2017
5	Pre-amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	04-01-2016	03-31-2017
6	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP30	CCIS0023	03-30-2016	03-30-2017
7	EMI Test Receiver	Rohde & Schwarz	ESRP7	CCIS0167	03-24-2016	03-24-2017
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

<b>Conducted Emission:</b>						
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal.Date (mm-dd-yy)</b>	<b>Cal.Due date (mm-dd-yy)</b>
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	03-24-2016	03-24-2017
3	LISN	CHASE	MN2050D	CCIS0074	03-26-2016	03-26-2017
4	Coaxial Cable	CCIS	N/A	CCIS0086	04-01-2016	03-31-2017
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

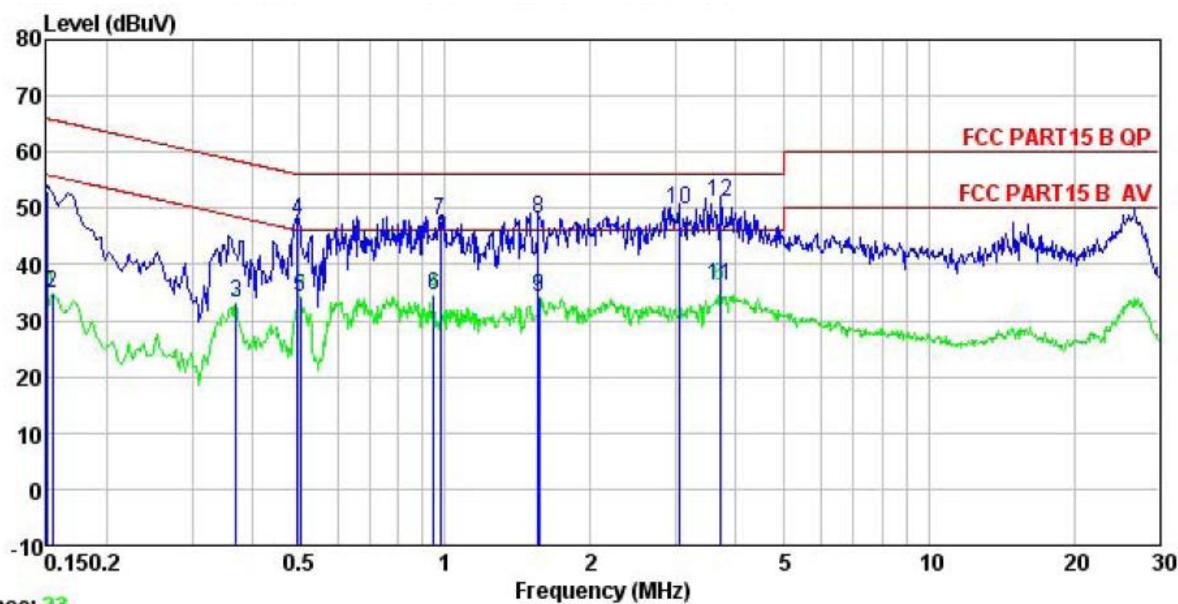
## 6 Test results and Measurement Data

### 6.1 Conducted Emission

Test Requirement:	FCC 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 (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:	<p>Reference Plane</p> <p>LISN</p> <p>40cm</p> <p>80cm</p> <p>AUX Equipment</p> <p>E.U.T</p> <p>Test table/Insulation plane</p> <p>EMI Receiver</p> <p>Filter</p> <p>AC power</p> <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"> <li>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). They provide a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>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).</li> <li>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.</li> </ol>					
Test environment:	Temp.:	23°C	Humid.:	56%	Press.:	101kPa
Test Instruments:	Refer to section 5.7 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Pass					

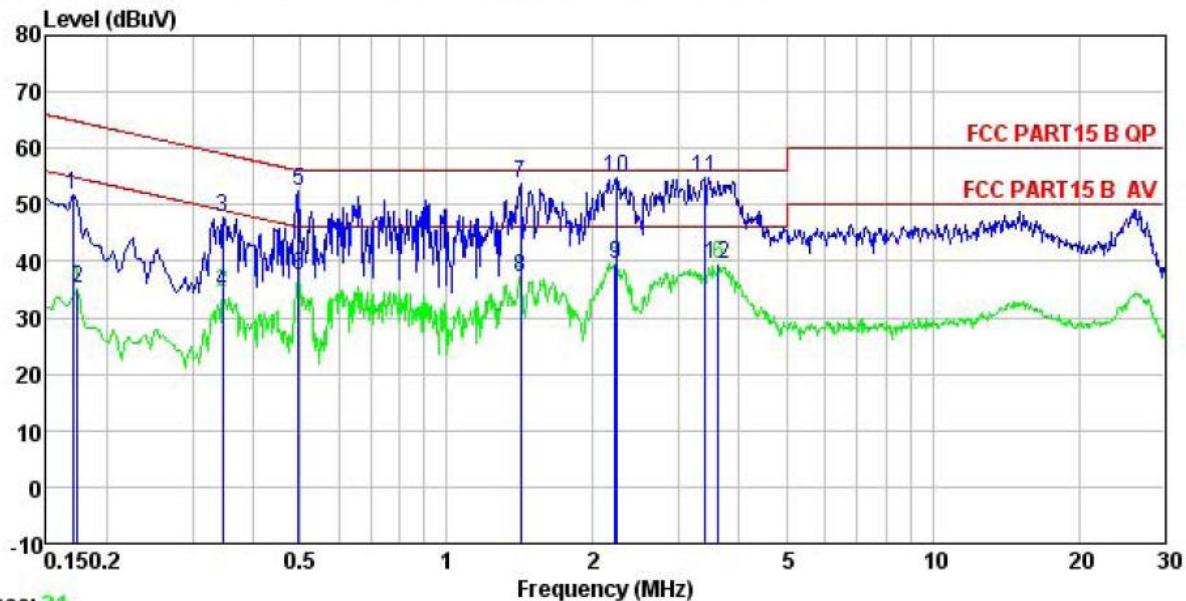
**Measurement data:**

Line:

**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:



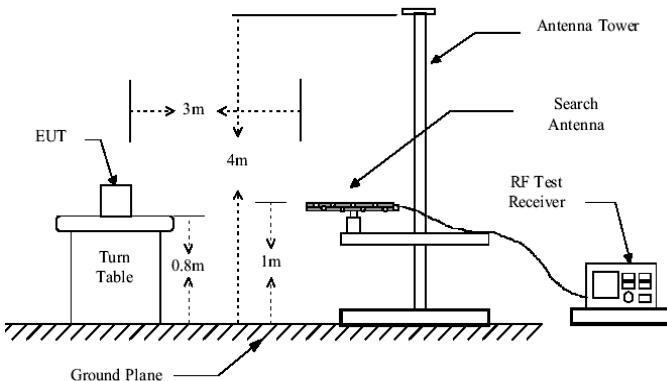
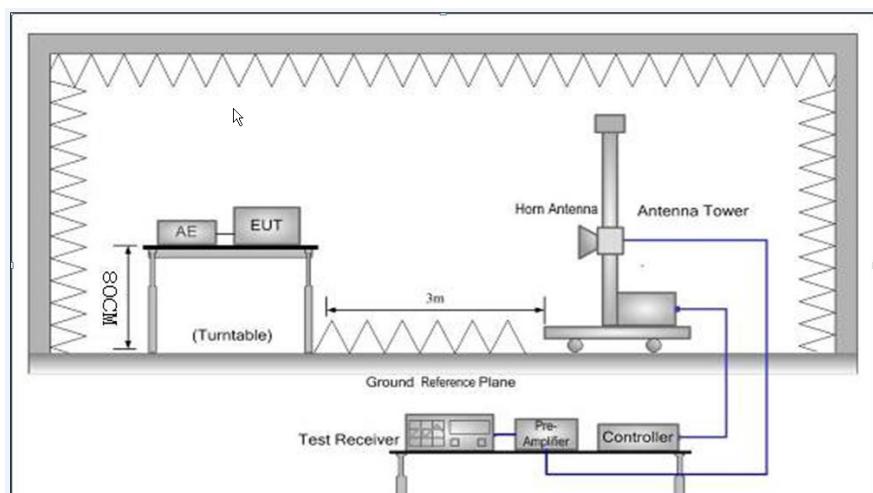
Site : CCIS Shielding Room  
 Condition : FCC PART15 B QP LISN NEUTRAL  
 EUT : Mobile phone  
 Model : Extend 55Q  
 Test Mode : PC mode  
 Power Rating : AC120/60Hz  
 Environment : Temp: 23 °C Huni:56% Atmos:101KPa  
 Test Engineer: YT  
 Remark :

Freq	Read	LISN	Cable	Limit	Over	Remark
	Level	Factor	Loss	Level	Line	
MHz	dBuV	dB	dB	dBuV	dBuV	dB
1	0.170	40.81	0.13	10.77	51.71	64.94 -13.23 QP
2	0.174	24.23	0.14	10.77	35.14	54.77 -19.63 Average
3	0.346	37.00	0.21	10.73	47.94	59.05 -11.11 QP
4	0.346	23.71	0.21	10.73	34.65	49.05 -14.40 Average
5	0.497	41.43	0.24	10.76	52.43	56.05 -3.62 QP
6	0.497	26.58	0.24	10.76	37.58	46.05 -8.47 Average
7	1.418	42.43	0.26	10.92	53.61	56.00 -2.39 QP
8	1.418	25.98	0.26	10.92	37.16	46.00 -8.84 Average
9	2.225	28.32	0.27	10.95	39.54	46.00 -6.46 Average
10	2.237	43.43	0.27	10.95	54.65	56.00 -1.35 QP
11	3.381	43.60	0.32	10.91	54.83	56.00 -1.17 QP
12	3.623	28.28	0.33	10.90	39.51	46.00 -6.49 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.

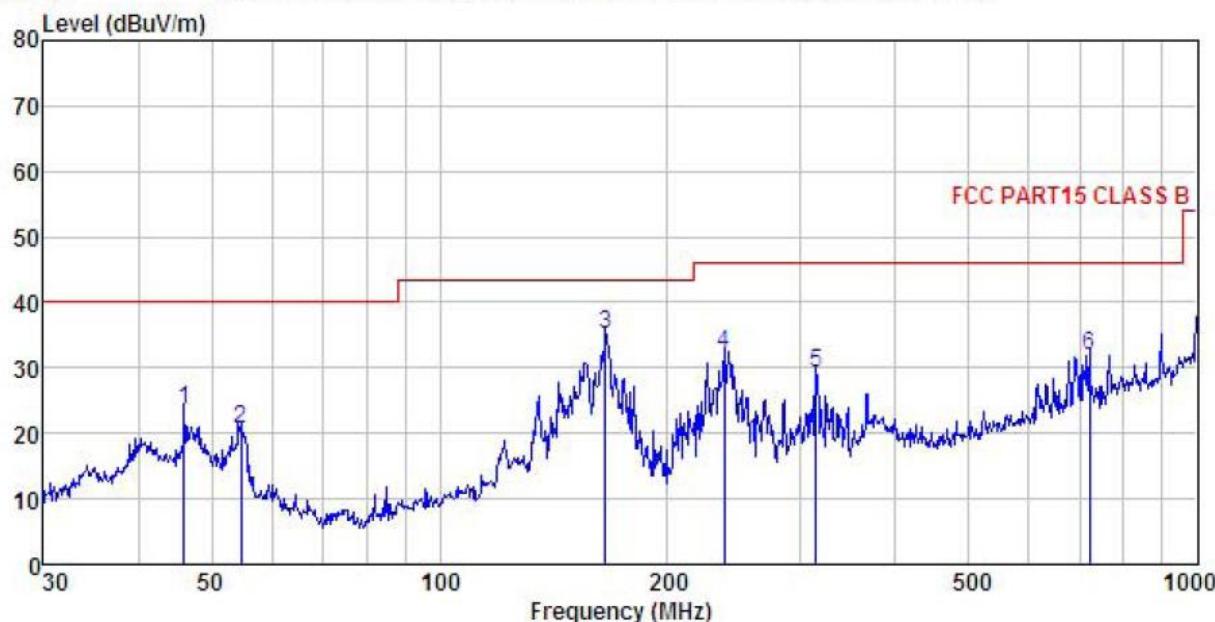
## 6.2 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109								
Test Method:	ANSI C63.4:2014								
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				
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					
Test setup:	74.0								
	Peak Value								
Below 1GHz									
Above 1GHz									

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.:	55%	Press.:	101kPa
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**

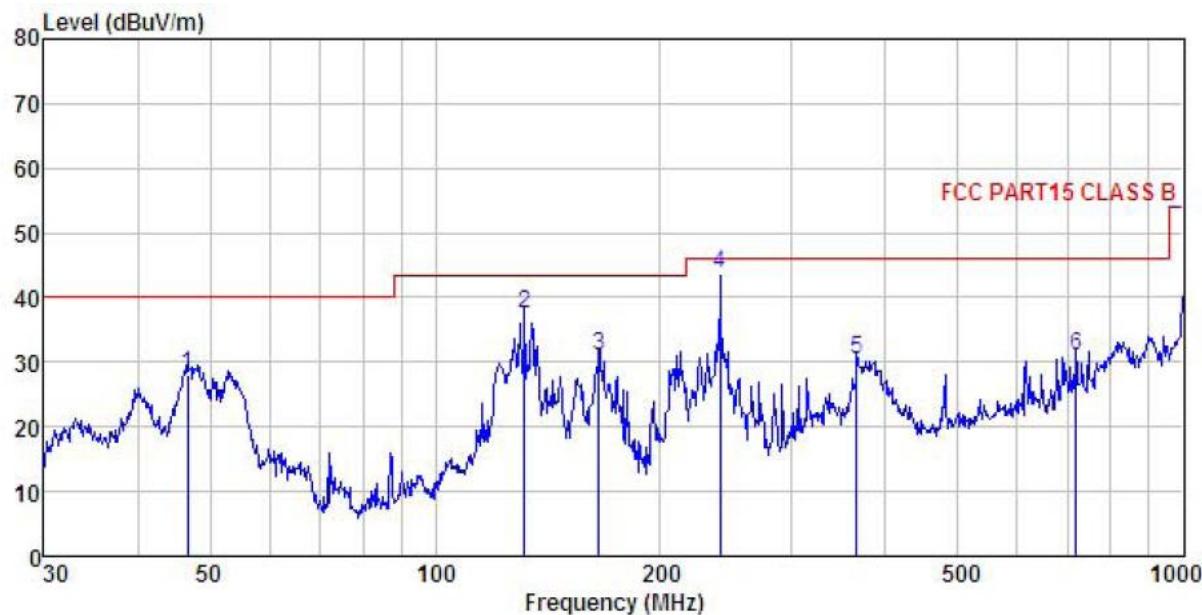
Horizontal:



Site : 3m chamber  
Condition : FCC PART15 CLASS B 3m VULB9163(30M3G) HORIZONTAL  
EUT : Mobile phone  
Model : Extend 55Q  
Test mode : PC mode  
Power Rating : AC120V/60Hz  
Environment : Temp:25.5°C Huni:55% 101KPa  
Test Engineer: YT  
REMARK :

Freq	ReadAntenna		Cable Preamp		Limit Level	Over Line	Over Limit	Remark
	Level	Factor	Loss	Factor				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	46.016	34.89	17.20	1.28	29.85	23.52	40.00	-16.48 QP
2	54.643	36.32	12.93	1.34	29.80	20.79	40.00	-19.21 QP
3	165.487	51.70	9.84	2.62	29.09	35.07	43.50	-8.43 QP
4	237.476	46.10	11.74	2.83	28.61	32.06	46.00	-13.94 QP
5	314.377	41.67	13.12	2.98	28.48	29.29	46.00	-16.71 QP
6	721.726	36.45	19.76	4.26	28.58	31.89	46.00	-14.11 QP

Vertical:

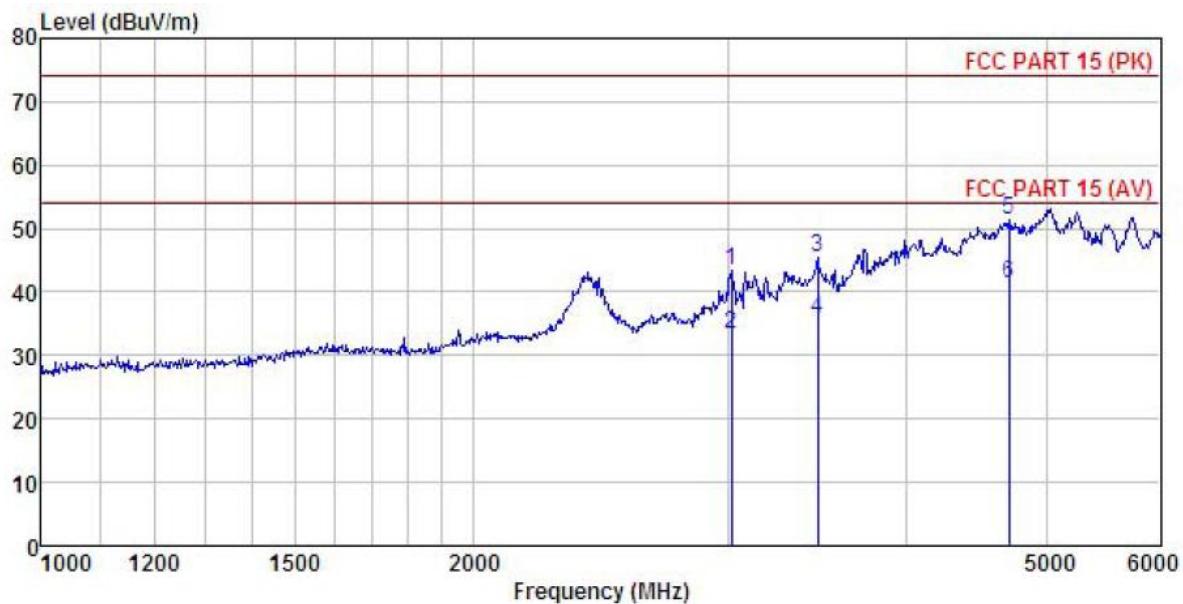


Site : 3m chamber  
Condition : FCC PART15 CLASS B 3m VULB9163(30M3G) VERTICAL  
EUT : Mobile phone  
Model : Extend 55Q  
Test mode : PC mode  
Power Rating : AC120V/60Hz  
Environment : Temp:25.5°C Humi:55% 101KPa  
Test Engineer: YT  
REMARK :

Freq	ReadAntenna		Cable Preamp		Limit	Over	Remark
	Level	Factor	Loss	Factor			
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	46.666	39.75	16.83	1.28	29.85	28.01	40.00 -11.99 QP
2	131.758	52.26	12.19	2.30	29.32	37.43	43.50 -6.07 QP
3	165.487	47.48	9.84	2.62	29.09	30.85	43.50 -12.65 QP
4	239.987	57.63	11.80	2.82	28.59	43.66	46.00 -2.34 QP
5	365.539	41.18	14.72	3.09	28.63	30.36	46.00 -15.64 QP
6	719.200	35.78	19.68	4.25	28.59	31.12	46.00 -14.88 QP

**Above 1GHz**

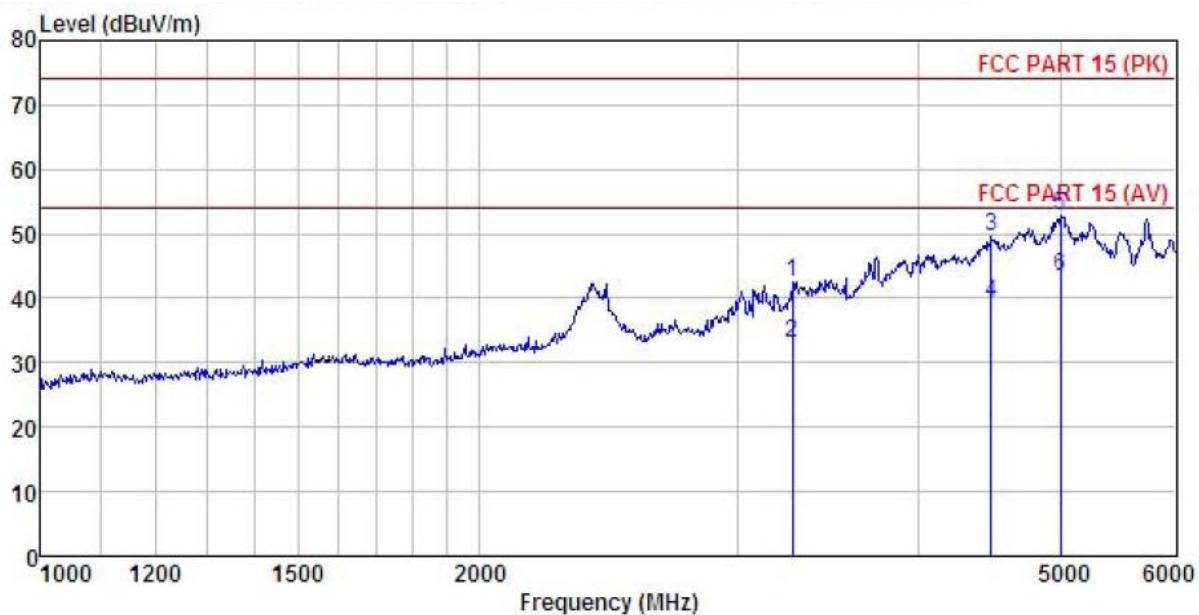
Horizontal:



Site : 3m chamber  
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL  
EUT : Mobile phone  
Model : Extend 55Q  
Test mode : PC mode  
Power Rating : AC120V/60Hz  
Environment : Temp:25.5°C Huni:55% 101KPa  
Test Engineer: YT  
REMARK :

Freq	ReadAntenna		Cable		Preamp	Limit	Over	Remark
	Level	Factor	Loss	Factor				
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	3020.061	50.28	25.68	7.86	40.54	43.28	74.00	-30.72 Peak
2	3020.061	40.37	25.68	7.86	40.54	33.37	54.00	-20.63 Average
3	3467.510	48.39	27.68	8.72	39.34	45.45	74.00	-28.55 Peak
4	3467.510	38.65	27.68	8.72	39.34	35.71	54.00	-18.29 Average
5	4706.500	45.84	35.54	10.46	40.38	51.46	74.00	-22.54 Peak
6	4706.500	35.67	35.54	10.46	40.38	41.29	54.00	-12.71 Average

Vertical:



Site : 3m chamber  
Condition : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL  
EUT : Mobile phone  
Model : Extend 55Q  
Test mode : PC mode  
Power Rating : AC120V/60Hz  
Environment : Temp:25.5°C Humi:55% 101KPa  
Test Engineer: YT  
REMARK :

Freq	ReadAntenna	Cable	Preamp	Limit	Over	Remark	
	Level	Factor	Loss				
MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB	
1	3277.252	47.22	26.89	8.38	39.93	42.56	74.00 -31.44 Peak
2	3277.252	37.67	26.89	8.38	39.93	33.01	54.00 -20.99 Average
3	4483.019	45.64	34.44	10.21	40.69	49.60	74.00 -24.40 Peak
4	4483.019	35.24	34.44	10.21	40.69	39.20	54.00 -14.80 Average
5	4999.149	45.29	36.90	10.78	39.98	52.99	74.00 -21.01 Peak
6	4999.149	35.62	36.90	10.78	39.98	43.32	54.00 -10.68 Average