

FCC Part15B Test Report

Product Name : GSM Mobile Phone
Model No. : HUAWEI ES8100
Marketing Name : HUAWEI ES8100/ES8100
FCC ID : QISES8100

Applicant : Huawei Technologies Co., Ltd.

Address : Administration Building, Huawei Base, Bantian, Longgang
District, Shenzhen 518129

Date of Receipt : 05/12/2011
Test Date : 05/12/2011~ 23/12/2011
Issued Date : 29/12/2011
Report No. : 11CS009R-HP-US-P01V01
Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, NVLAP or any agency of the Government.

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Test Report Certification

Issued Date: 29/12/2011

Report No. : 11CS009R-HP-US-P01V01



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Address : Administration Building, Huawei Base, Bantian,
Longgang District, Shenzhen 518129

Manufacturer : Huawei Technologies Co., Ltd.

Address : Administration Building, Huawei Base, Bantian,
Longgang District, Shenzhen 518129

Model No. : HUAWEI ES8100

Marketing Name : HUAWEI ES8100/ES8100

FCC ID : QISES8100

EUT Voltage : DC 3.7V

Brand Name : HUAWEI

Applicable Standard : FCC Part 15 Subpart B: 2009
ANSI C63.4: 2009

Test Result : Complied

Performed Location : Suzhou EMC Laboratory
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Hi-Tech Development Zone., Suzhou, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

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(Engineering Manager: Marlin Chen)

Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	: BSMI, NCC, TAF
Germany	: TUV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://www.quietek.com/tw/ctg/cts/accreditations.htm>
The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>
If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com



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1. General Information

1.1. EUT Description

Product Name	GSM Mobile Phone
Model No.	HUAWEI ES8100
Hardware Version	ELEPHANT-V2.0
Software Version	ES8100V100R001C00B204SP00
Device Category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
GPS	
Operate Frequency	1575.42MHz
Type of modulation	BPSK
2G	
Support Band	GSM850/PCS1900
GPRS Type	Class B
GPRS Class	Class 12
Tx Frequency Range	GSM 850: 824~849MHz PCS 1900: 1850~1910MHz
Rx Frequency Range	GSM 850: 869~894MHz PCS 1900: 1930~1990MHz
Release Version	R99
Type of modulation	GMSK for GSM/GPRS
Antenna Gain	-2.4dBi for GSM850 -2.2dBi for PCS1900
Bluetooth	
Bluetooth Frequency	2402~2480MHz
Bluetooth Version	V2.1+EDR
Type of modulation	FHSS
Data Rate	1Mbps(GFSK), 2Mbps(Pi/4 DQPSK), 3Mbps (8DPSK)
Antenna Gain	-2dBi
Wi-Fi	
Wi-Fi Frequency	2412~2462MHz
Type of modulation	802.11b: DSSS; 802.11g: OFDM
Data Rate	802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/18/24/36/48/54 Mbps

Antenna Gain	-2dBi
Components	
Headset Model Number	HT-1350002-39K001
Battery	Brand name: HUAWEI Model No. : HB4H1 Voltage and Capacitance: DC 3.7V 1000mAh
Adapter #1	Brand name: HUAWEI Model No. : HS-050040E5 Input: AC 100V-240V 50/60Hz, 0.2A Output: DC 5 V/400mA
Adapter #2	Brand name: HUAWEI Model No. : HS-050040U6 Input: AC 100V-240V 50/60Hz, 0.2A Output: DC 5 V/400mA

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

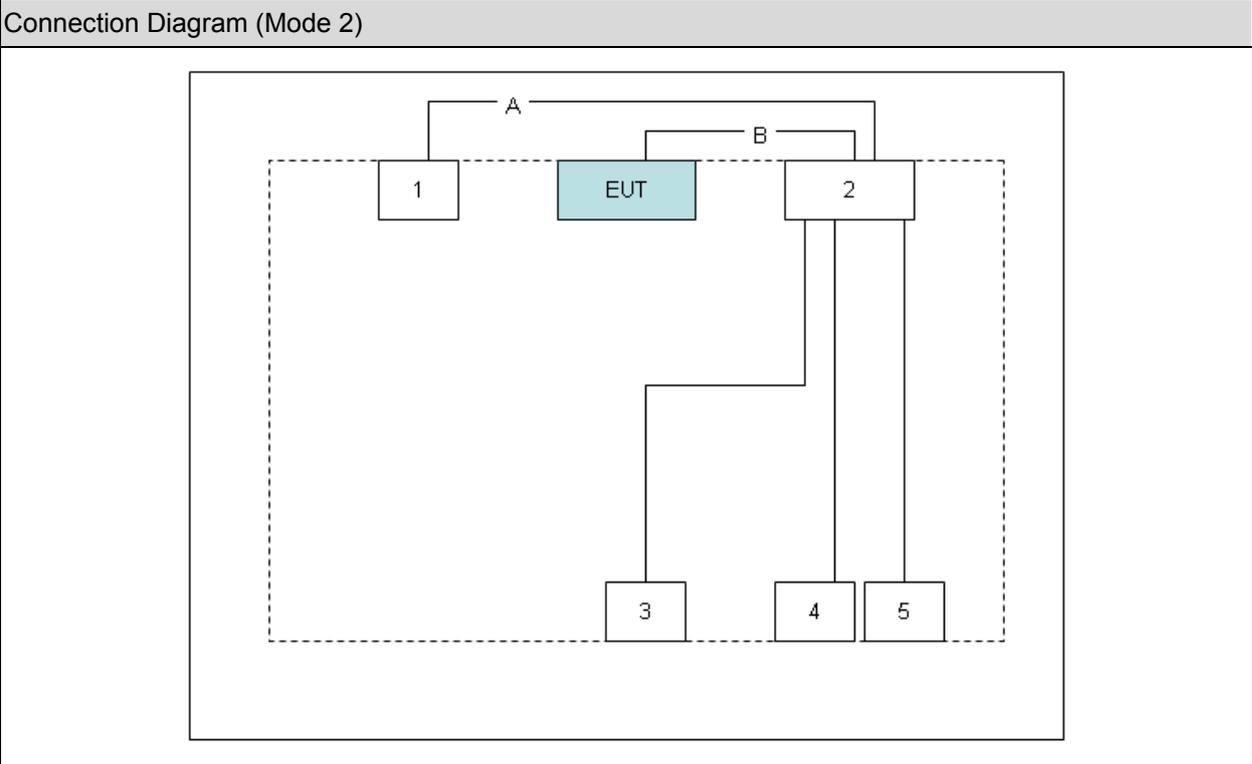
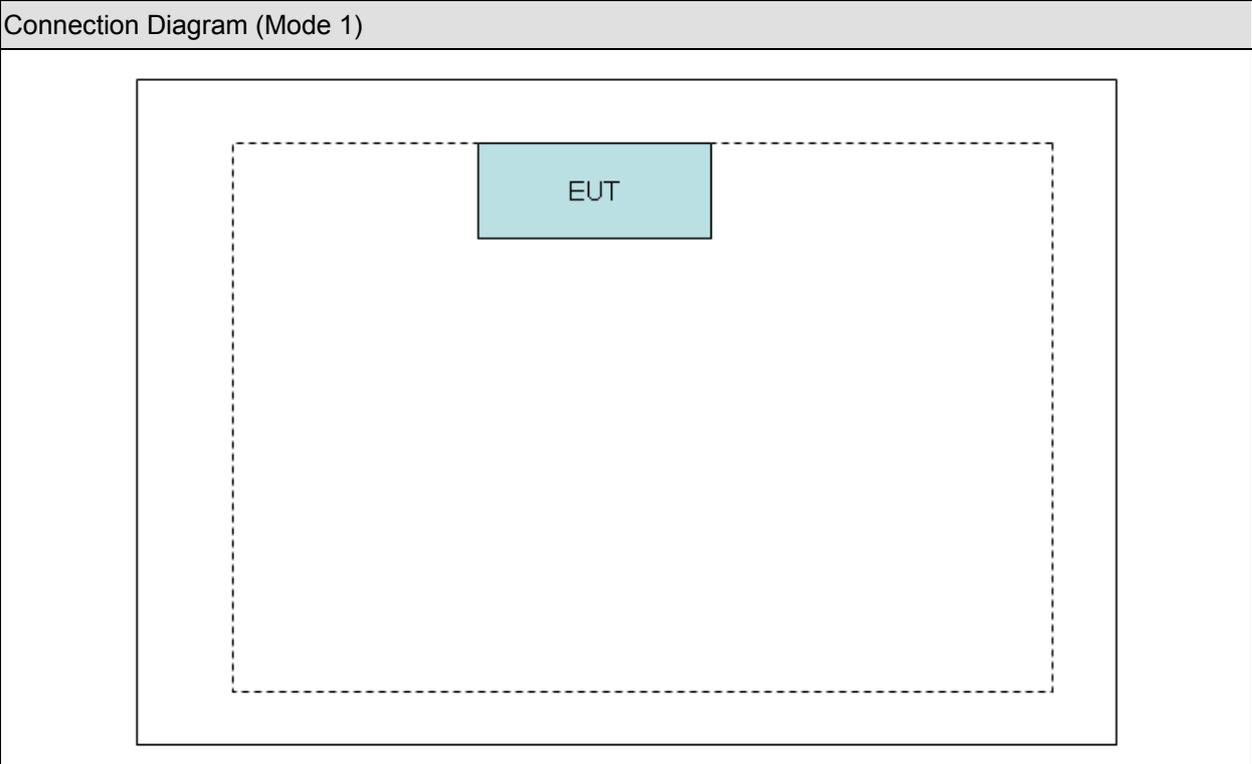
Pre Test Mode
Mode 1: Charging + Camera On
Mode 2: USB Copy
Mode 3: GPS Receive
Mode 4: FM

1.3. Tested System Details

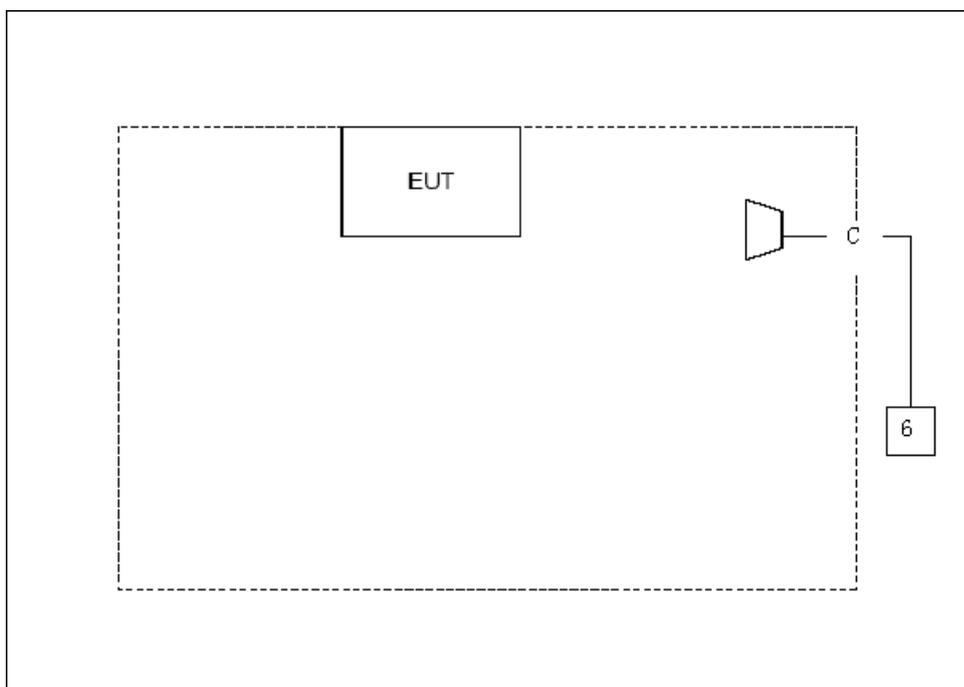
The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 LCD Monitor	Lenovo	L2361PWA	3M03896A0520853	Non-Shielded, 1.8m
2 PC	DELL	DCMF	11DMF2X	Non-Shielded, 1.8m
3 iPod	Apple	A1199	7J71085BVQ5	Power by PC
4 Microphone& Earphone	SOMIC	V85	N/A	Power by PC
5 USB Mouse	DELL	MOC5UO	10D00JL	Power by PC
6 Signal Generator	Agilent	E4438C	MY49070163	N/A

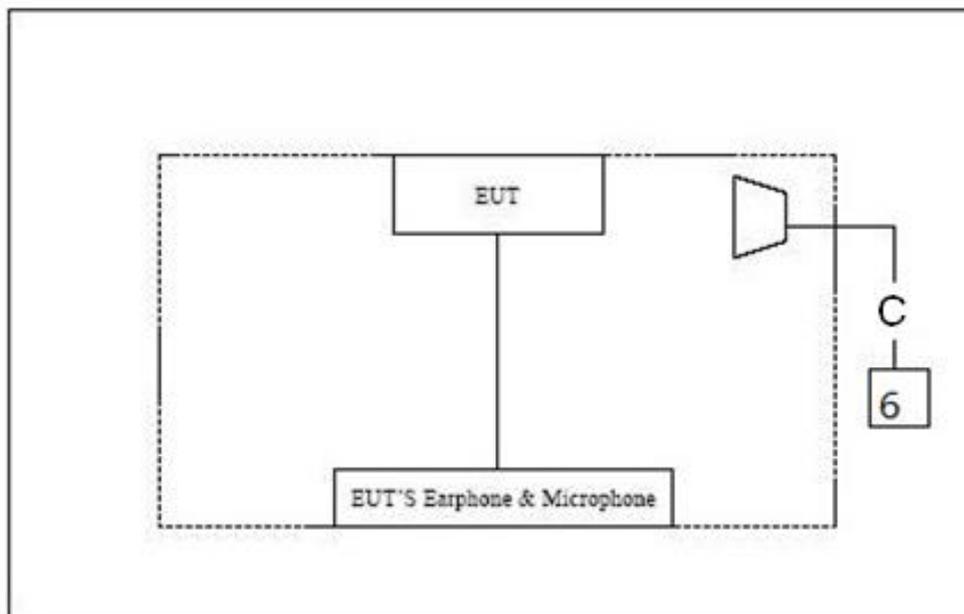
1.4. Configuration of Tested System



Connection Diagram (Mode 3)



Connection Diagram (Mode 4)



Signal Cable Type		Signal cable Description
A	VGA Cable	Shielded, 1.5m
B	USB Cable	Shielded, 1.2m
C	Coaxial Cable	Shielded, >5m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	(1) Make the EUT work under the "Charging+Camera on" Mode. (2) Open the software "WINTHRAX", and then transmit data with notebook. (3) Making EUT receive signals from SG continuously. (4) Making the EUT work under the "FM" Mode.
4	Start Test.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
- Deviations from the test standards as below description:

Emission			
Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart B: 2008 Class B ANSI C63.4: 2009	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart B: 2008 Class B ANSI C63.4: 2009	Yes	No

2.2. List of Test Equipment

Conducted Emission / TR-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100906	2012/01/15
Two-Line V-Network	R&S	ENV216	100043	2012/04/29
Two-Line V-Network	R&S	ENV216	100044	2012/09/07
Balanced Telecom ISN	Fischer	FCC-TLISN-T2-02	20352	2012/01/15
Balanced Telecom ISN	Fischer	FCC-TLISN-T4-02	20353	2012/01/15
Balanced Telecom ISN	Fischer	FCC-TLISN-T8-02	20354	2012/01/15
Current Probe	R&S	EZ-17	100255	2012/04/18
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2012/05/05
50ohm Termination	SHX	TF2	07081401	2012/09/22
50ohm Termination	SHX	TF2	07081402	2012/09/22
50ohm Termination	SHX	TF2	07081403	2012/09/15
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2012/01/14

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2012/04/23
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2012/10/18
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2012/05/05
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2012/01/14

Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	N9010A	MY48030494	2012/04/23
Preamplifier	Quietek	AP-180C	CHM-0602013	2012/05/05
Preamplifier	Quietek	AP-040G	CHM-0906001	2012/05/05
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2012/10/18
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2012/06/11
High-Pass Filter	Wainwright	WHKX2.8/18G-12SS	SN1	2012/03/03
High-Pass Filter	Wainwright	WHKX7.0/18G-8SS	SN16	2012/03/03
Lowpass Filter	Wainwright	WLKS4500-9SS	SN2	2012/03/03

2.3. Measurement Uncertainty

Conducted Emission
The maximum measurement uncertainty is evaluated as $\pm 2.26\text{dB}$.
Radiated Emission
The maximum measurement uncertainty is evaluated as $\pm 3.19\text{dB}$.

2.4. Test Environment

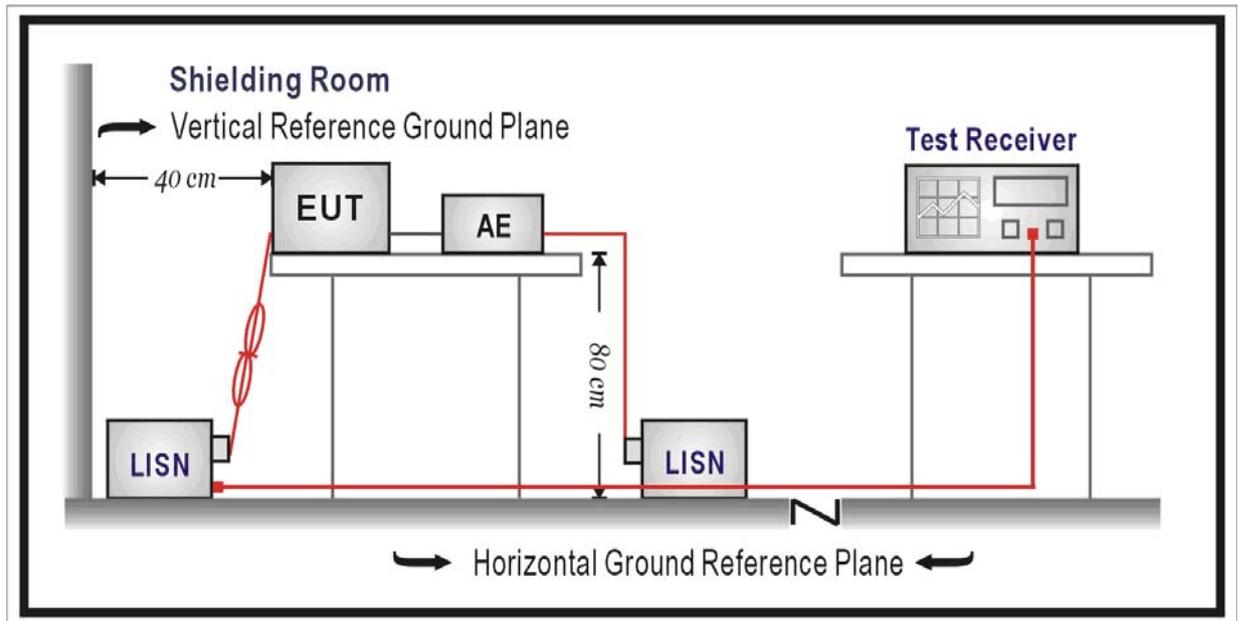
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

3.1. Test Specification

According to EMC Standard: FCC Part 15 Subpart B Class B, ANSI C63.4

3.2. Test Setup



3.3. Limit

Limits for Conducted Emission of Class B ITE		
Frequency range MHz	Limits dB(μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

NOTE: Decreases with the logarithm of the frequency.

3.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 Ω / 50 μ H coupling impedance for the

measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a $50\Omega / 50\mu\text{H}$ coupling impedance with 50Ω termination. (Please refers to the block diagram of the test setup and photographs.)

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 on conducted measurement.

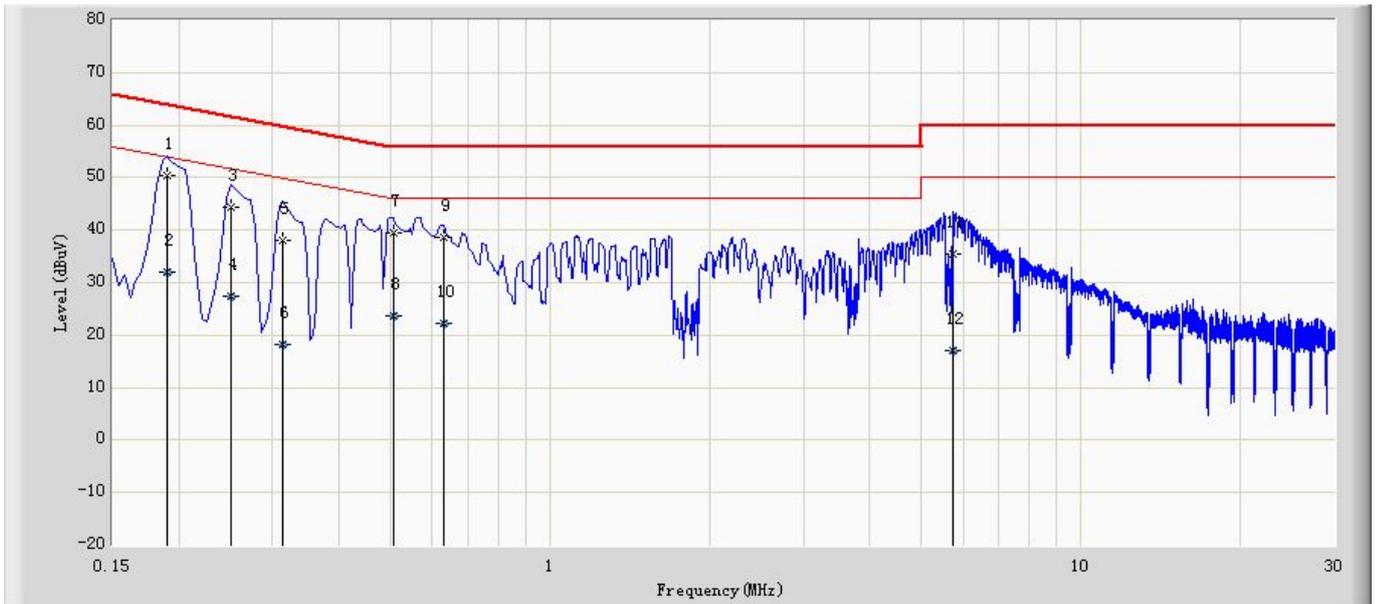
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Deviation from Test Standard

No deviation.

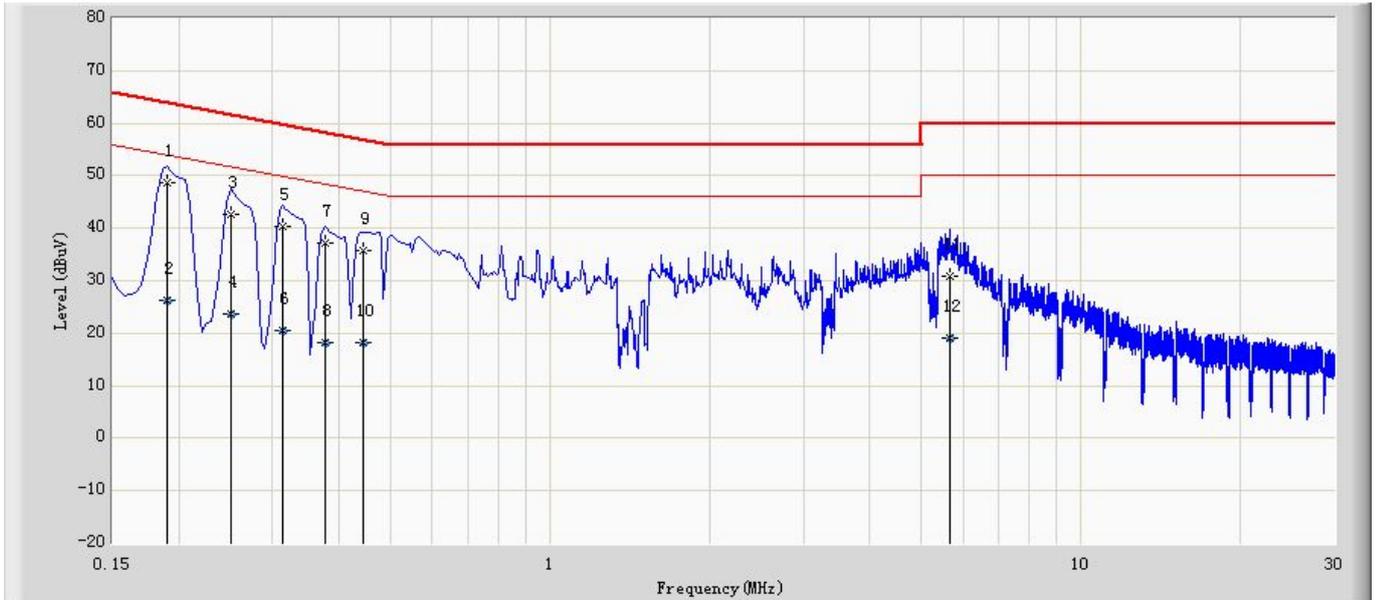
3.6. Test Result

Engineer: Nancy	
Site: TR1	Time: 2011/12/09 - 15:32
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #1	



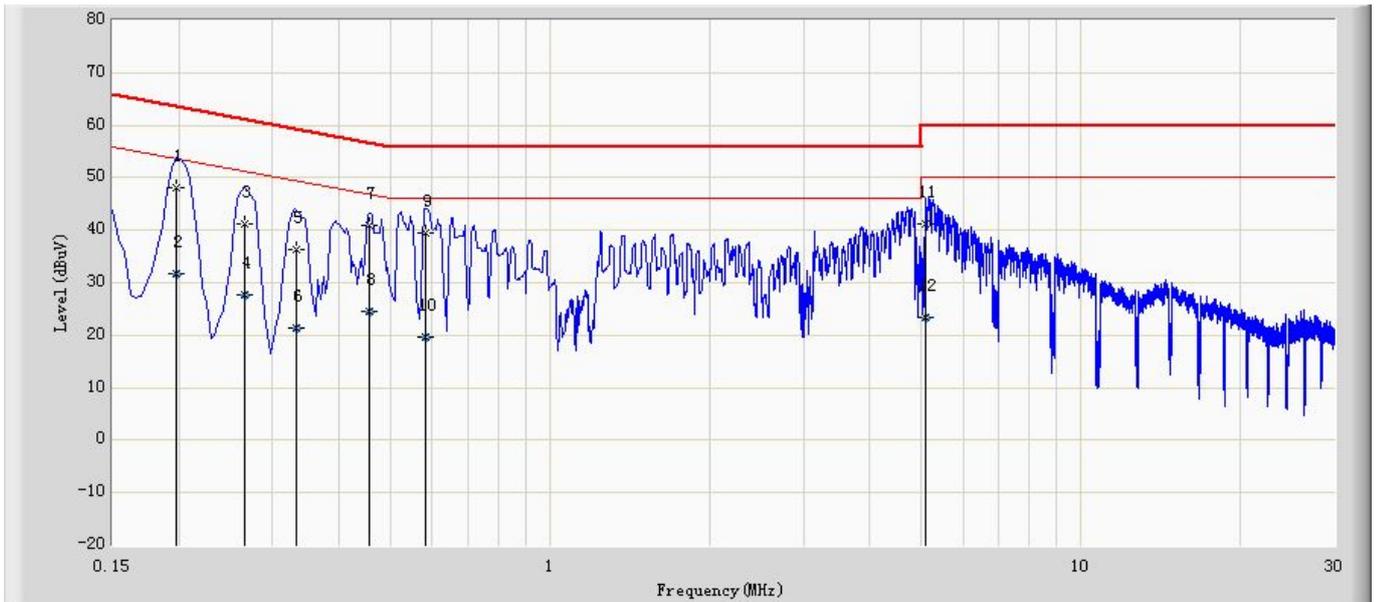
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.190	50.511	40.652	-13.526	64.037	9.858	QP
2		0.190	32.119	22.261	-21.918	54.037	9.858	AV
3		0.250	44.244	34.376	-17.514	61.757	9.867	QP
4		0.250	27.329	17.462	-24.428	51.757	9.867	AV
5		0.314	38.131	28.256	-21.733	59.864	9.876	QP
6		0.314	18.119	8.244	-31.745	49.864	9.876	AV
7		0.506	39.483	29.577	-16.517	56.000	9.906	QP
8		0.506	23.667	13.762	-22.333	46.000	9.906	AV
9		0.630	38.715	28.850	-17.285	56.000	9.864	QP
10		0.630	22.104	12.240	-23.896	46.000	9.864	AV
11		5.746	35.550	25.659	-24.450	60.000	9.891	QP
12		5.746	17.185	7.294	-32.815	50.000	9.891	AV

Engineer: Nancy	
Site: TR1	Time: 2011/12/09 - 15:39
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #1	



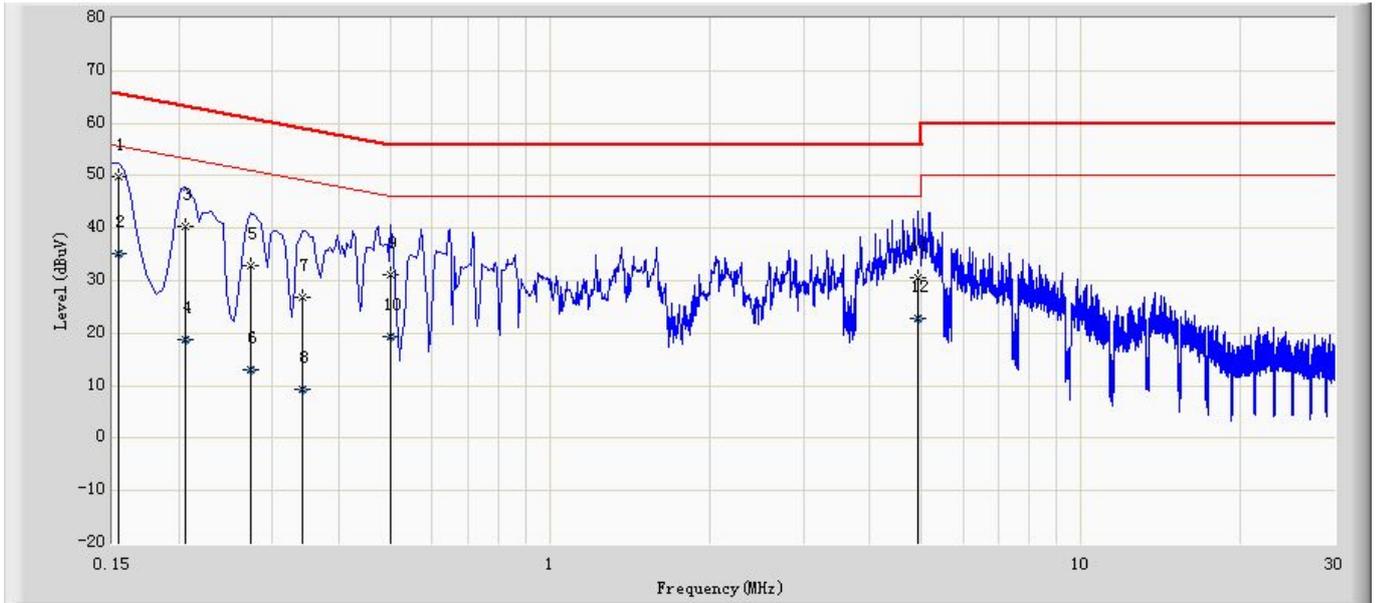
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.190	48.721	38.795	-15.315	64.037	9.926	QP
2		0.190	26.349	16.423	-27.687	54.037	9.926	AV
3		0.250	42.675	32.751	-19.082	61.757	9.925	QP
4		0.250	23.650	13.725	-28.107	51.757	9.925	AV
5		0.314	40.372	30.415	-19.492	59.864	9.957	QP
6		0.314	20.631	10.674	-29.233	49.864	9.957	AV
7		0.378	37.275	27.287	-21.048	58.323	9.989	QP
8		0.378	18.218	8.230	-30.105	48.323	9.989	AV
9		0.446	35.848	25.815	-21.102	56.949	10.033	QP
10		0.446	18.215	8.183	-28.734	46.949	10.033	AV
11		5.658	30.901	20.762	-29.099	60.000	10.139	QP
12		5.658	19.127	8.987	-30.873	50.000	10.139	AV

Engineer: Nancy	
Site: TR1	Time: 2011/12/09 - 15:44
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #2	



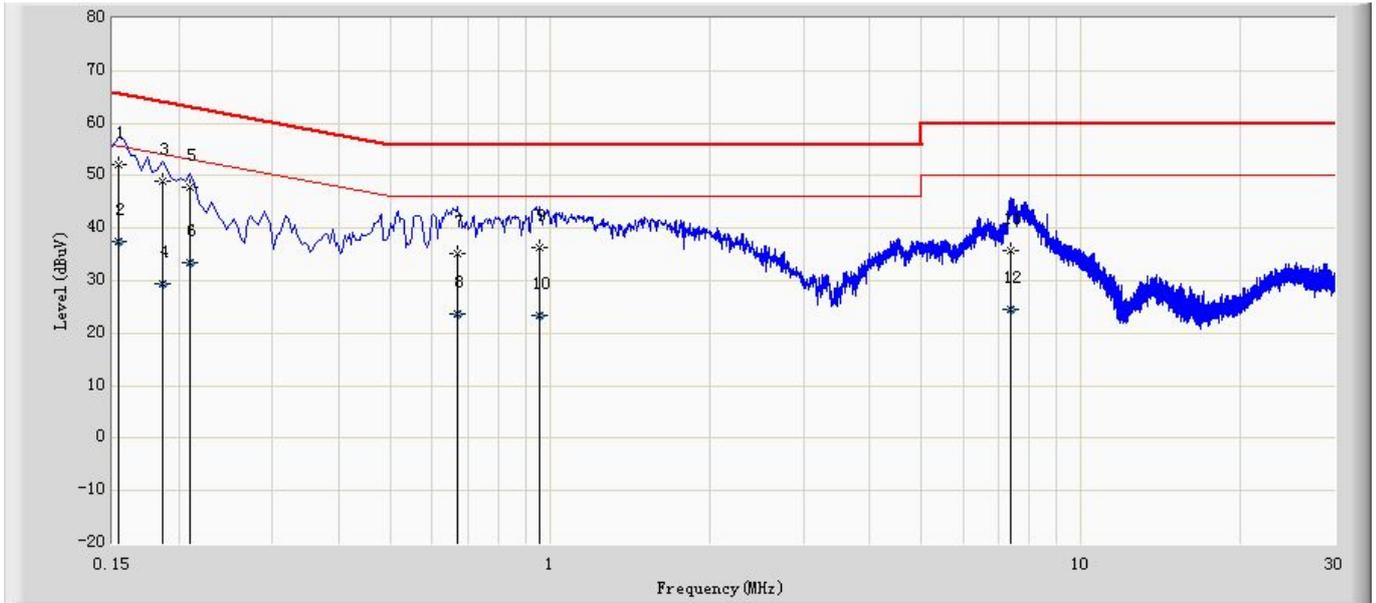
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.198	48.203	38.343	-15.491	63.694	9.860	QP
2		0.198	31.602	21.742	-22.092	53.694	9.860	AV
3		0.266	41.311	31.442	-19.931	61.242	9.869	QP
4		0.266	27.588	17.719	-23.654	51.242	9.869	AV
5		0.334	36.293	26.414	-23.059	59.351	9.878	QP
6		0.334	21.240	11.361	-28.111	49.351	9.878	AV
7		0.458	40.829	30.924	-15.900	56.729	9.905	QP
8		0.458	24.401	14.496	-22.328	46.729	9.905	AV
9		0.582	39.555	29.675	-16.445	56.000	9.881	QP
10		0.582	19.778	9.897	-26.222	46.000	9.881	AV
11		5.082	41.259	31.398	-18.741	60.000	9.861	QP
12		5.082	23.458	13.597	-26.542	50.000	9.861	AV

Engineer: Nancy	
Site: TR1	Time: 2011/12/09 - 15:49
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #2	



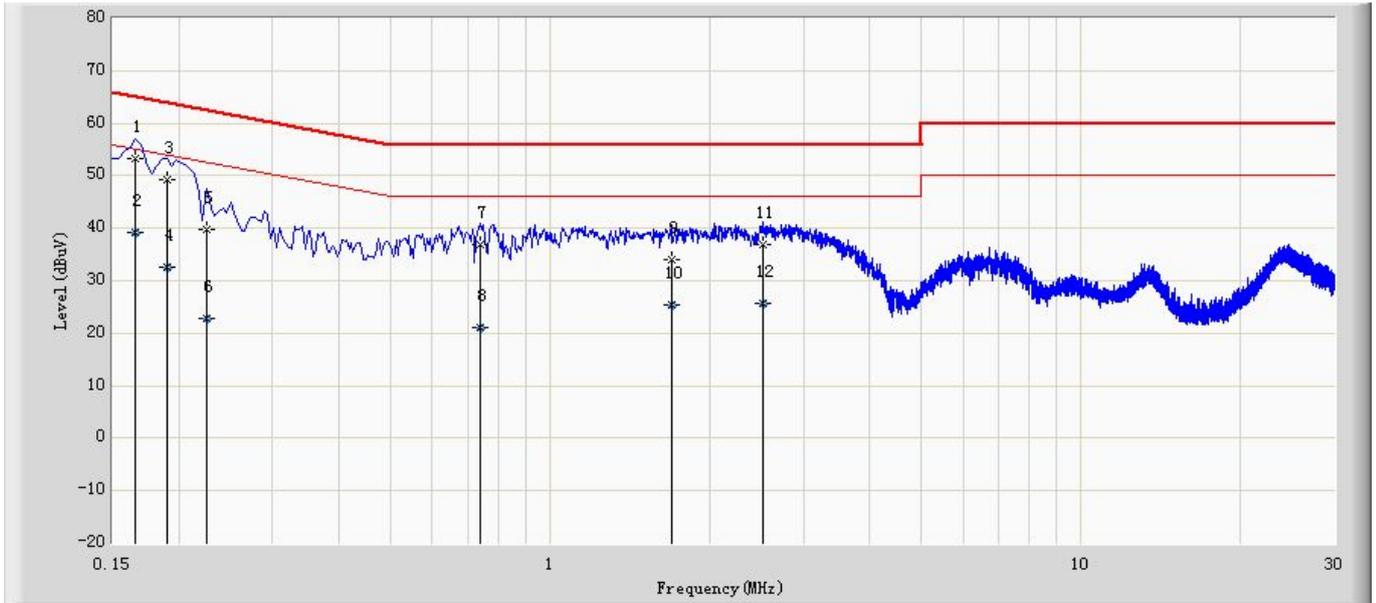
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.154	49.785	39.794	-15.996	65.781	9.991	QP
2		0.154	35.304	25.312	-20.478	55.781	9.991	AV
3		0.206	40.285	30.368	-23.080	63.365	9.917	QP
4		0.206	18.746	8.830	-34.619	53.365	9.917	AV
5		0.274	32.790	22.853	-28.206	60.996	9.937	QP
6		0.274	13.087	3.151	-37.908	50.996	9.937	AV
7		0.342	26.803	16.833	-32.351	59.155	9.971	QP
8		0.342	9.238	-0.733	-39.917	49.155	9.971	AV
9		0.502	31.185	21.136	-24.815	56.000	10.049	QP
10		0.502	19.387	9.338	-26.613	46.000	10.049	AV
11		4.942	30.480	20.381	-25.520	56.000	10.098	QP
12		4.942	22.910	12.812	-23.090	46.000	10.098	AV

Engineer: Nancy	
Site: TR1	Time: 2011/12/11 - 17:13
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 2: USB Copy	



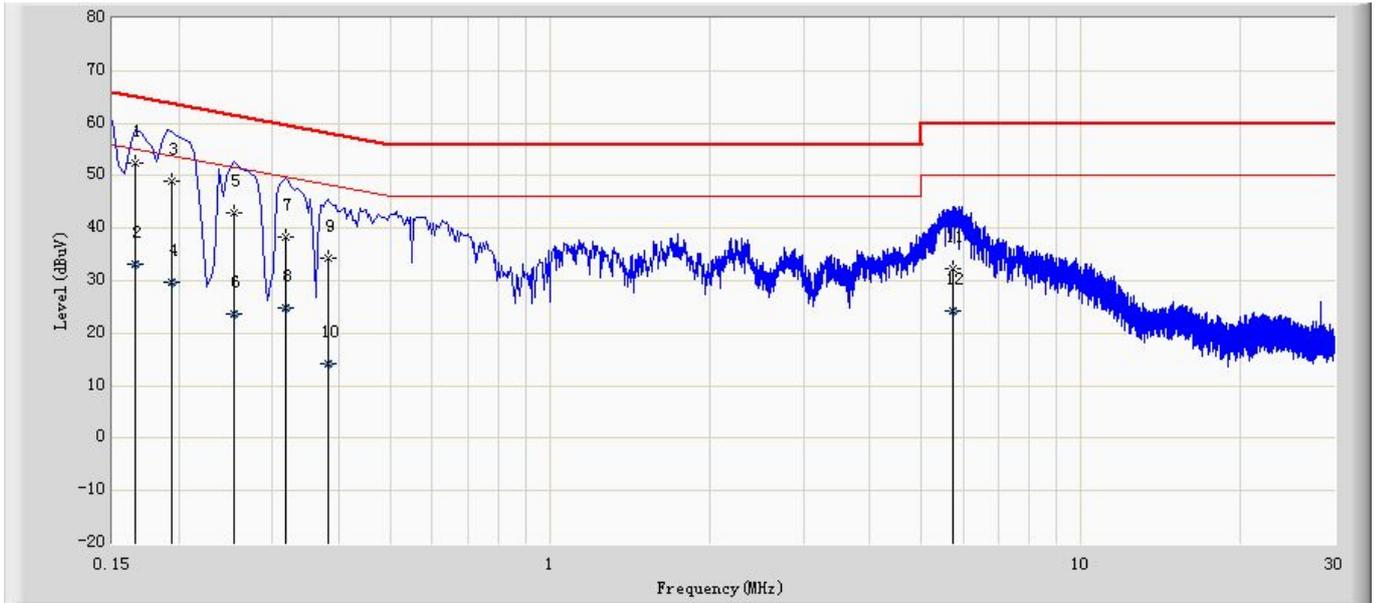
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.154	52.110	42.255	-13.671	65.781	9.855	QP
2		0.154	37.400	27.545	-18.381	55.781	9.855	AV
3		0.186	48.925	39.068	-15.288	64.213	9.857	QP
4		0.186	29.502	19.644	-24.712	54.213	9.857	AV
5		0.210	47.829	37.968	-15.376	63.205	9.862	QP
6		0.210	33.355	23.494	-19.850	53.205	9.862	AV
7		0.670	35.155	25.304	-20.845	56.000	9.851	QP
8		0.670	23.678	13.827	-22.322	46.000	9.851	AV
9		0.954	36.397	26.581	-19.603	56.000	9.816	QP
10		0.954	23.266	13.450	-22.734	46.000	9.816	AV
11		7.354	35.627	25.687	-24.373	60.000	9.940	QP
12		7.354	24.425	14.485	-25.575	50.000	9.940	AV

Engineer: Nancy	
Site: TR1	Time: 2011/12/11 - 17:29
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 2: USB Copy	



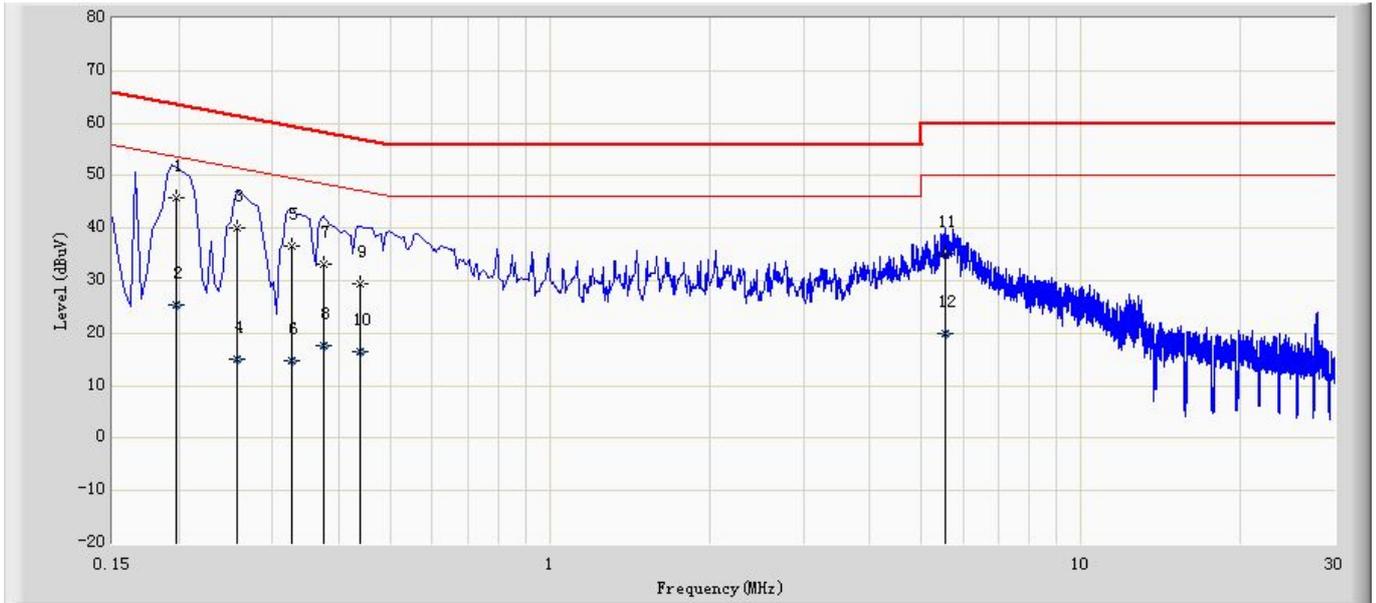
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.166	53.379	43.397	-11.779	65.158	9.982	QP
2		0.166	39.288	29.306	-15.870	55.158	9.982	AV
3		0.190	49.113	39.186	-14.924	64.037	9.926	QP
4		0.190	32.711	22.785	-21.325	54.037	9.926	AV
5		0.226	39.780	29.867	-22.816	62.595	9.913	QP
6		0.226	22.823	12.910	-29.773	52.595	9.913	AV
7		0.738	37.039	27.140	-18.961	56.000	9.899	QP
8		0.738	21.019	11.120	-24.981	46.000	9.899	AV
9		1.690	34.029	24.055	-21.971	56.000	9.974	QP
10		1.690	25.502	15.528	-20.498	46.000	9.974	AV
11		2.510	36.963	26.988	-19.037	56.000	9.975	QP
12		2.510	25.610	15.635	-20.390	46.000	9.975	AV

Engineer: Nancy	
Site: TR1	Time: 2011/12/09 - 16:26
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.166	52.376	42.523	-12.782	65.158	9.853	QP
2		0.166	33.245	23.391	-21.913	55.158	9.853	AV
3		0.194	49.016	39.157	-14.848	63.864	9.859	QP
4		0.194	29.584	19.725	-24.280	53.864	9.859	AV
5		0.254	42.807	32.939	-18.818	61.625	9.868	QP
6		0.254	23.717	13.849	-27.909	51.625	9.868	AV
7		0.318	38.273	28.396	-21.486	59.759	9.876	QP
8		0.318	24.736	14.860	-25.023	49.759	9.876	AV
9		0.382	34.195	24.311	-24.041	58.236	9.885	QP
10		0.382	14.217	4.332	-34.019	48.236	9.885	AV
11		5.726	32.438	22.547	-27.562	60.000	9.891	QP
12		5.726	24.218	14.327	-25.782	50.000	9.891	AV

Engineer: Nancy	
Site: TR1	Time: 2011/12/09 - 17:09
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.198	45.849	35.928	-17.845	63.694	9.922	QP
2		0.198	25.300	15.378	-28.394	53.694	9.922	AV
3		0.258	40.039	30.111	-21.456	61.496	9.929	QP
4		0.258	15.035	5.107	-36.460	51.496	9.929	AV
5		0.326	36.638	26.676	-22.914	59.552	9.963	QP
6		0.326	14.849	4.887	-34.703	49.552	9.963	AV
7		0.374	33.212	23.225	-25.200	58.412	9.987	QP
8		0.374	17.591	7.604	-30.821	48.412	9.987	AV
9		0.438	29.568	19.540	-27.531	57.100	10.029	QP
10		0.438	16.480	6.451	-30.620	47.100	10.029	AV
11		5.554	35.174	25.039	-24.826	60.000	10.135	QP
12		5.554	19.835	9.700	-30.165	50.000	10.135	AV

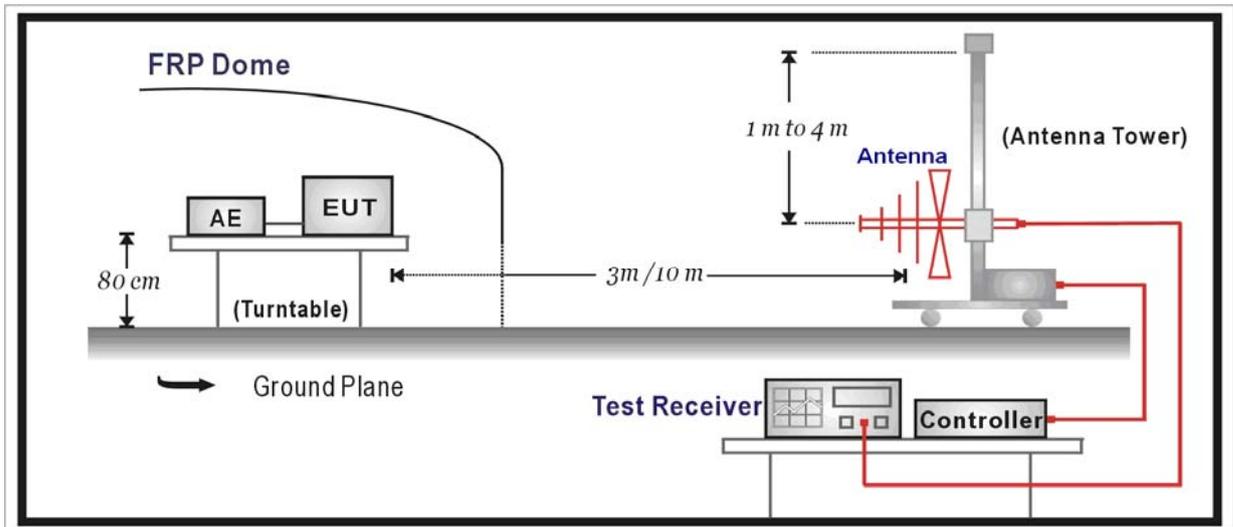
4. Radiated Emission

4.1. Test Specification

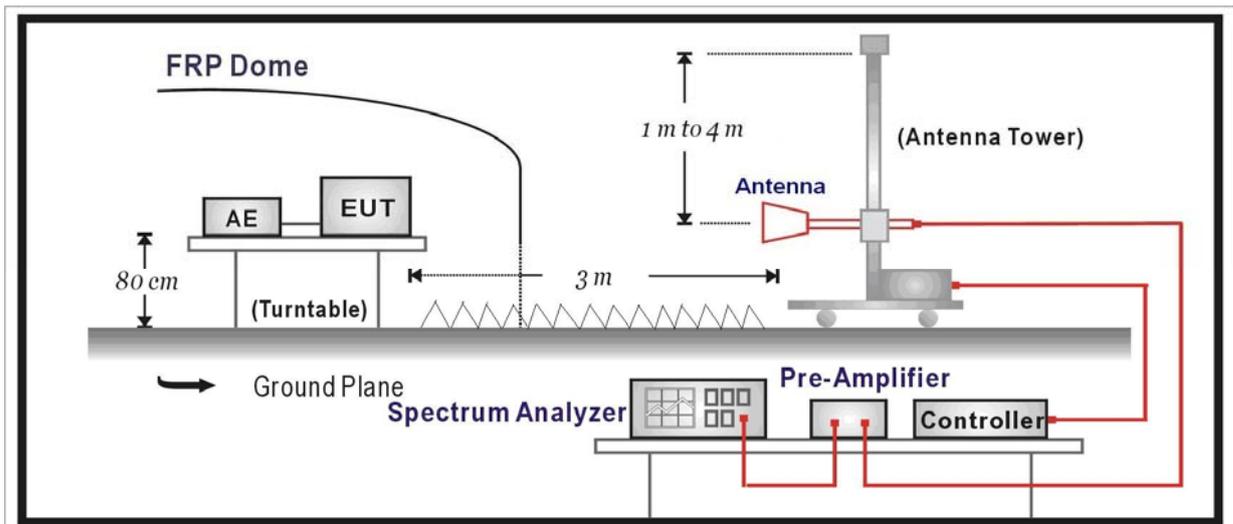
According to EMC Standard: FCC Part 15 Subpart B Class B, ANSI C63.4

4.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart B Paragraph 15.109		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000

500 - 1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

On any frequency or frequencies below or equal to 1000 MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000 MHz, the radiated limits shown are based measuring equipment employing an average detector function.

When average radiated emission measurement are included emission measurement Above 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

For class A, the measurement distance between the EUT and antenna is 3 meters for under 1GHz and above 1GHz.

For class B, the measurement distance between the EUT and antenna is 3 meters for under 1GHz and 3 meters for above 1GHz.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCI) is 120 kHz and above 1GHz is 1MHz.

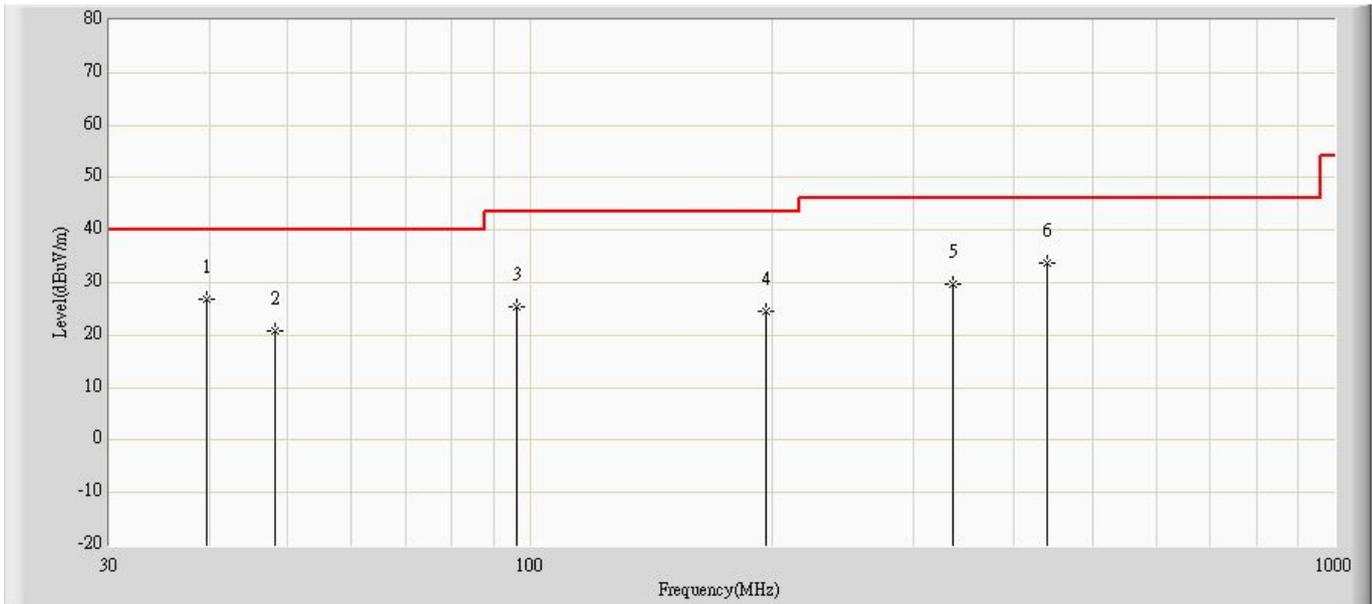
Note: When measurement above 1GHz, the horn antenna will bend down a little (as horn antenna have the narrow beamwidth) in order to find the maximum emission of EUT.

4.5. Deviation from Test Standard

No deviation.

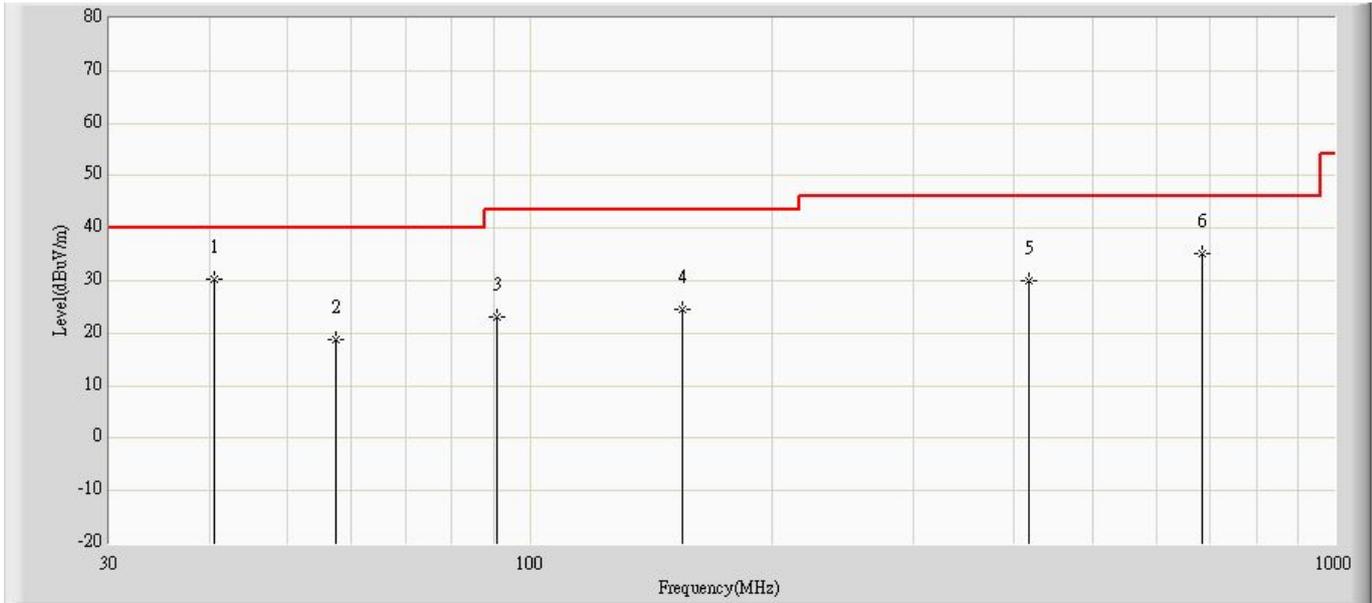
4.6. Test Result

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:54
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Horizontal
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode1: Charging + Camera On with Adapter #1	



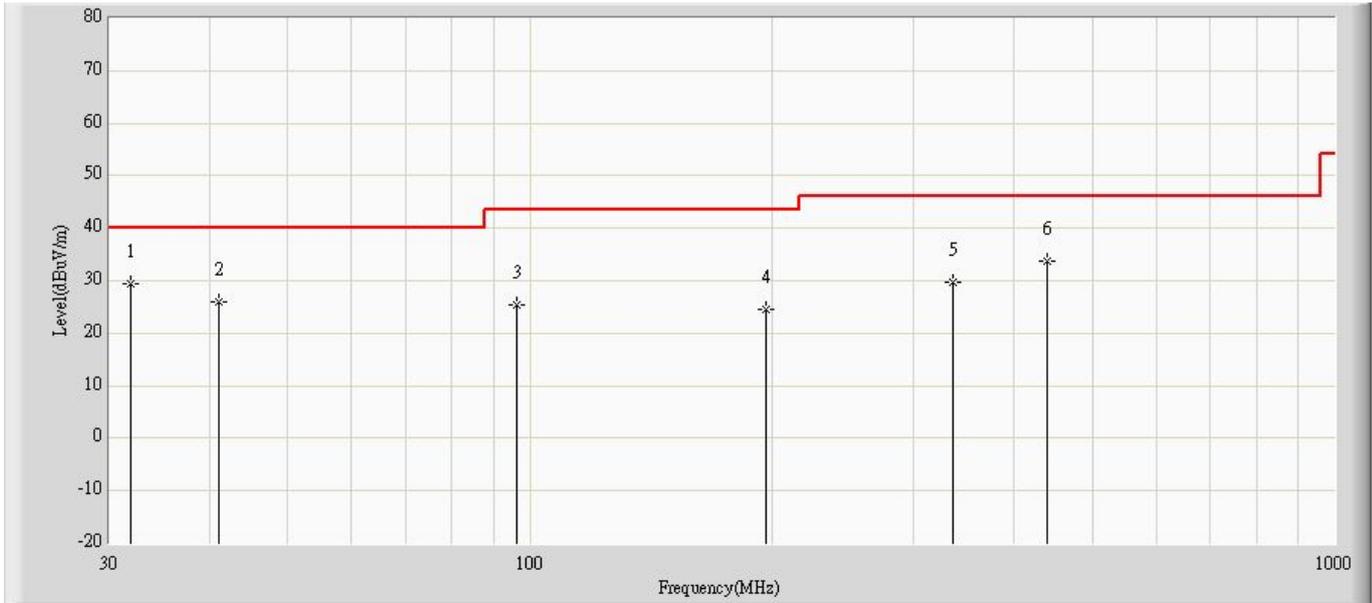
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			39.700	26.862	5.537	-13.138	40.000	21.325	QP
2			48.187	20.831	5.320	-19.169	40.000	15.511	QP
3			96.445	25.366	5.987	-18.134	43.500	19.379	QP
4			196.598	24.416	6.006	-19.084	43.500	18.410	QP
5			335.671	29.687	5.995	-16.313	46.000	23.692	QP
6		*	438.734	33.718	6.468	-12.282	46.000	27.250	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:54
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Vertical
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode1: Charging + Camera On with Adapter #1	



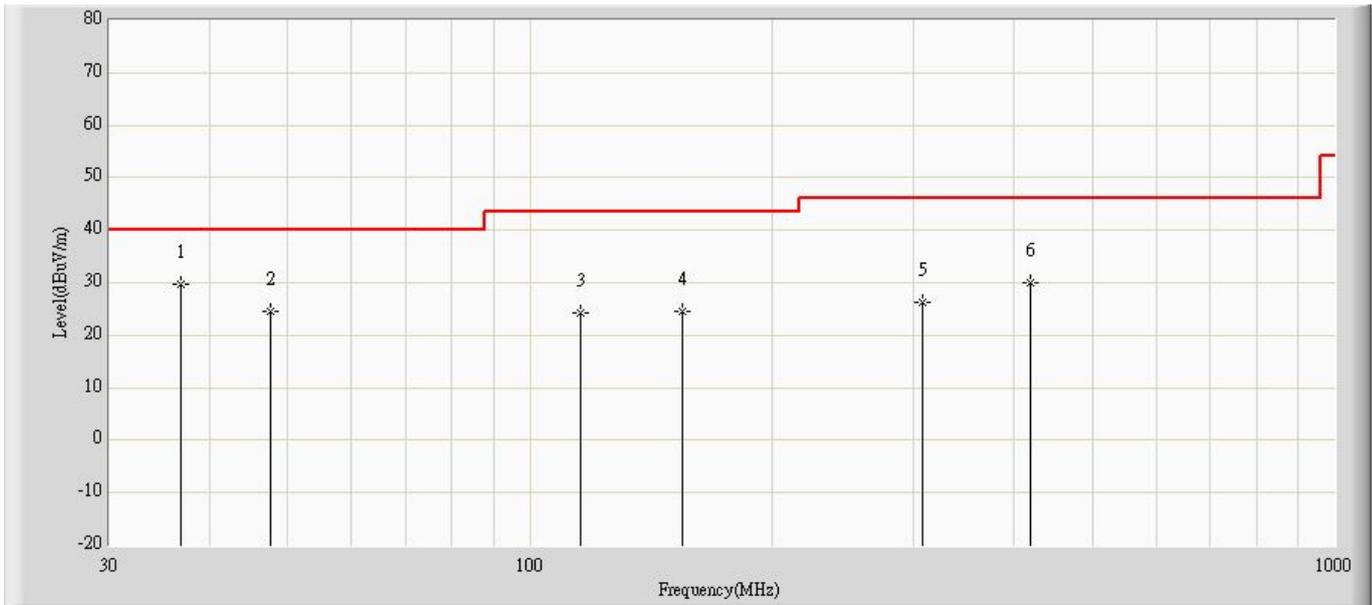
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	40.428	30.279	11.608	-9.721	40.000	18.671	QP
2			57.403	18.856	6.507	-21.144	40.000	12.350	QP
3			91.110	23.180	7.501	-20.320	43.500	15.679	QP
4			154.524	24.651	7.954	-18.849	43.500	16.697	QP
5			417.758	29.933	5.614	-16.067	46.000	24.319	QP
6			683.901	35.275	7.746	-10.725	46.000	27.529	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 16:08
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Horizontal
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode1: Charging + Camera On with Adapter #2	



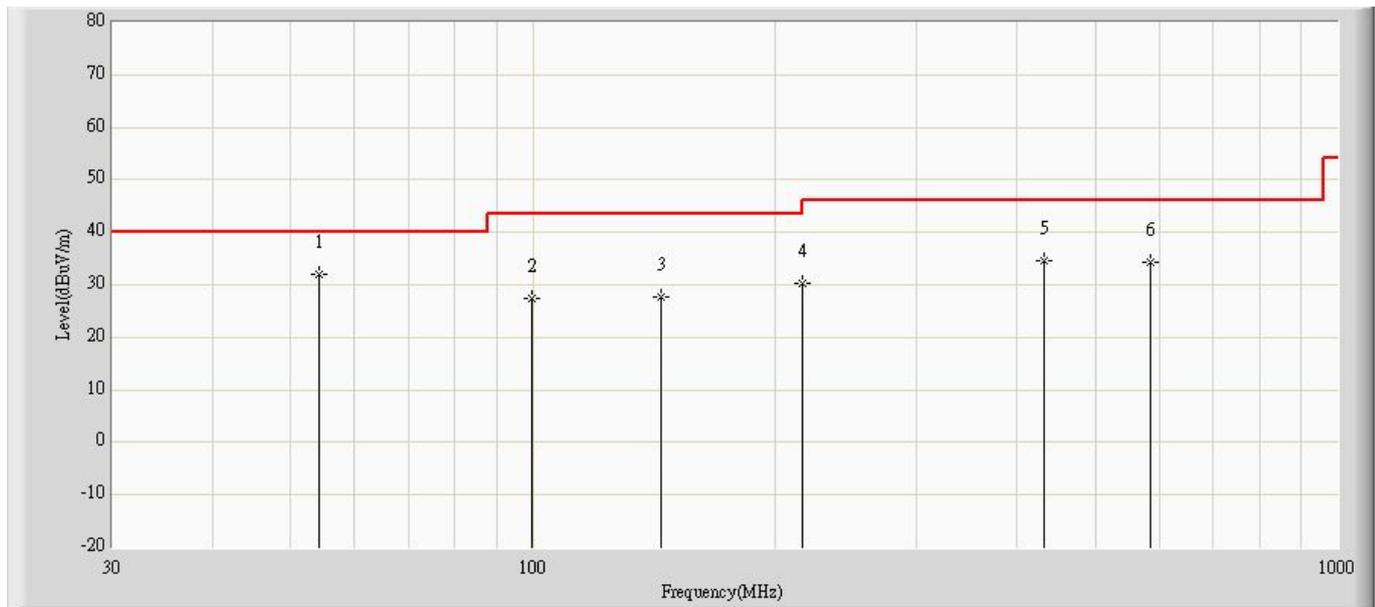
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	31.940	29.415	6.035	-10.585	40.000	23.380	QP
2			41.034	25.918	5.614	-14.082	40.000	20.303	QP
3			96.445	25.366	5.987	-18.134	43.500	19.379	QP
4			196.598	24.416	6.006	-19.084	43.500	18.410	QP
5			335.671	29.687	5.995	-16.313	46.000	23.692	QP
6			438.734	33.718	6.468	-12.282	46.000	27.250	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 16:08
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Vertical
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode1: Charging + Camera On with Adapter #2	



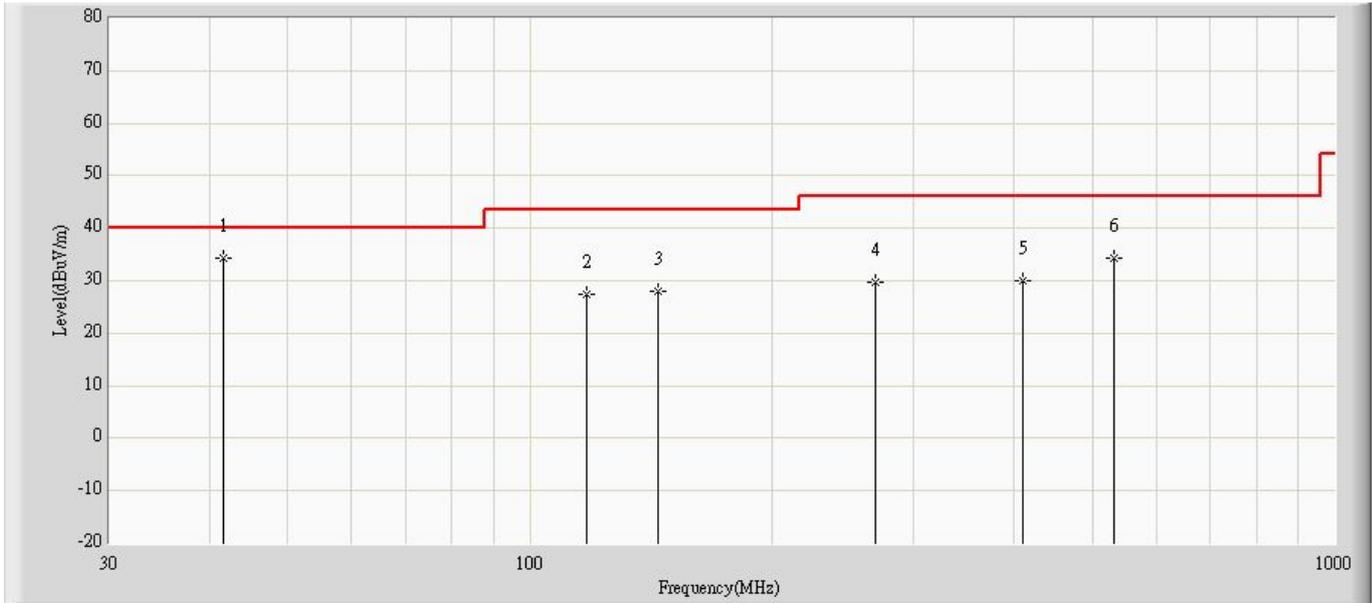
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	36.790	29.666	8.954	-10.334	40.000	20.712	QP
2			47.581	24.590	9.281	-15.410	40.000	15.309	QP
3			115.360	24.357	5.976	-19.143	43.500	18.381	QP
4			154.524	24.651	7.954	-18.849	43.500	16.697	QP
5			308.026	26.137	5.135	-19.863	46.000	21.002	QP
6			419.091	29.920	5.595	-16.080	46.000	24.325	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:56
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Horizontal
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 2: USB Copy	



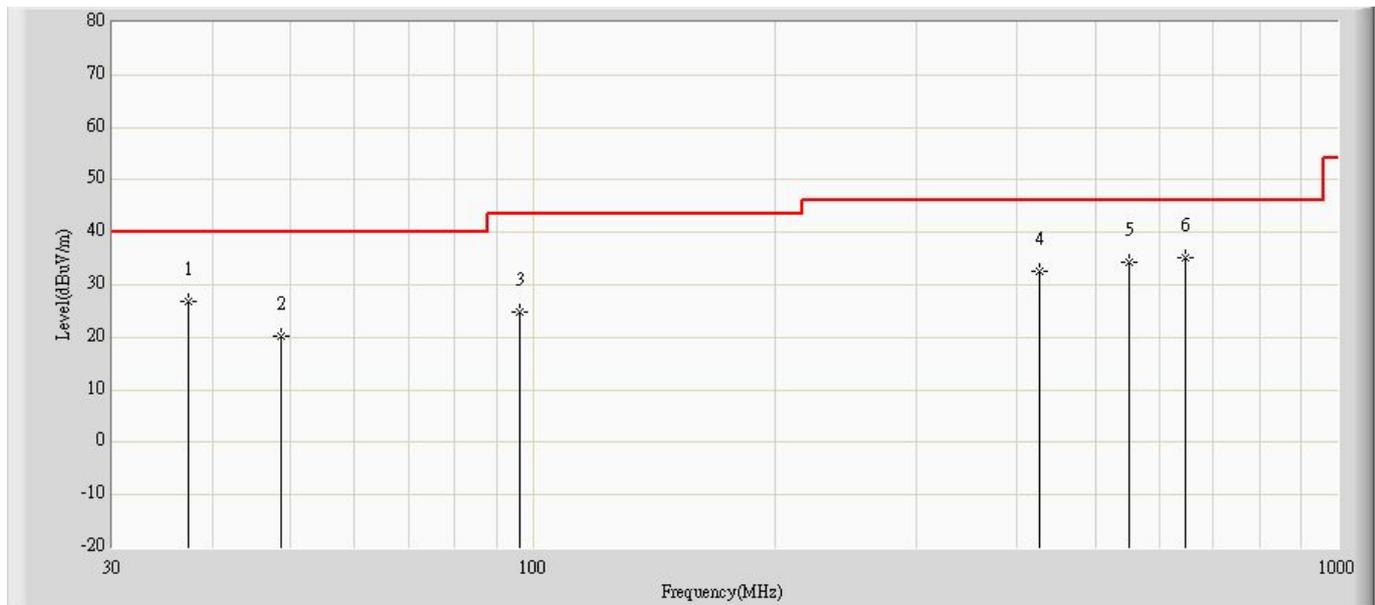
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	54.250	31.905	18.895	-8.095	40.000	13.010	QP
2			99.840	27.497	8.663	-16.003	43.500	18.834	QP
3			143.975	27.645	9.910	-15.855	43.500	17.735	QP
4			215.997	30.292	12.798	-13.208	43.500	17.494	QP
5			431.944	34.660	7.338	-11.340	46.000	27.322	QP
6			585.083	34.231	5.344	-11.769	46.000	28.886	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:56
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Vertical
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode2: USB Copy	



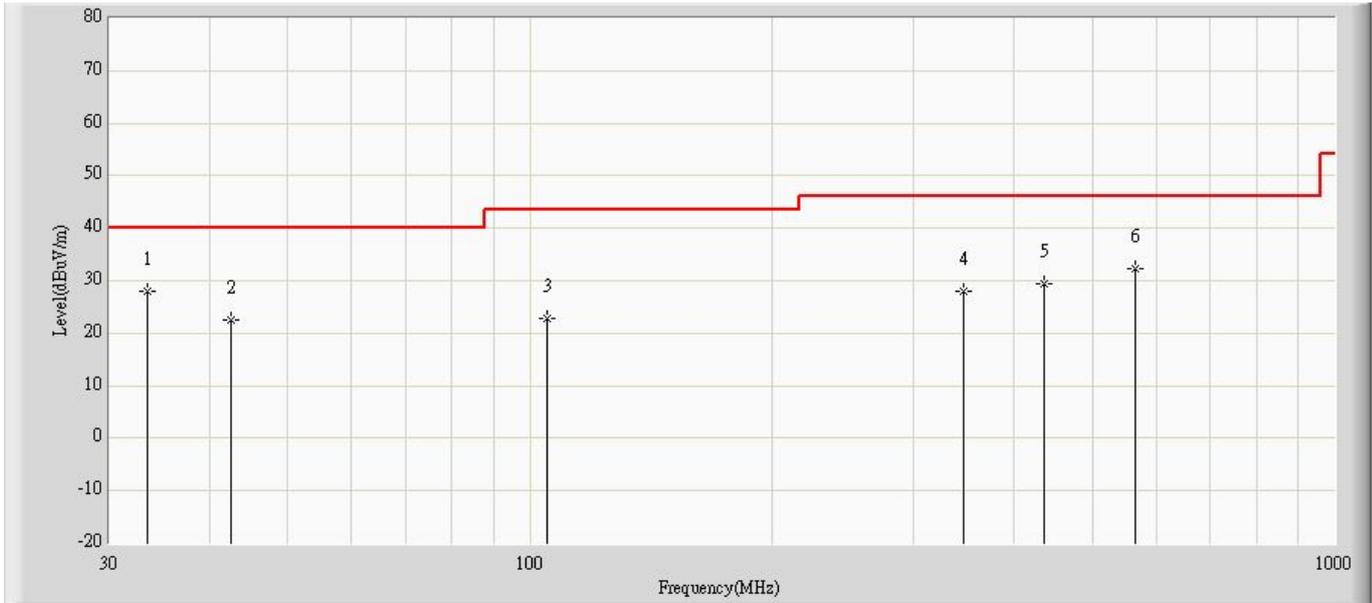
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	41.519	34.333	16.254	-5.667	40.000	18.080	QP
2			117.421	27.414	8.980	-16.086	43.500	18.433	QP
3			143.975	27.985	10.533	-15.515	43.500	17.452	QP
4			268.620	29.830	9.806	-16.170	46.000	20.024	QP
5			409.027	29.917	5.687	-16.083	46.000	24.230	QP
6			531.975	34.274	8.471	-11.726	46.000	25.803	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:59
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Horizontal
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive	



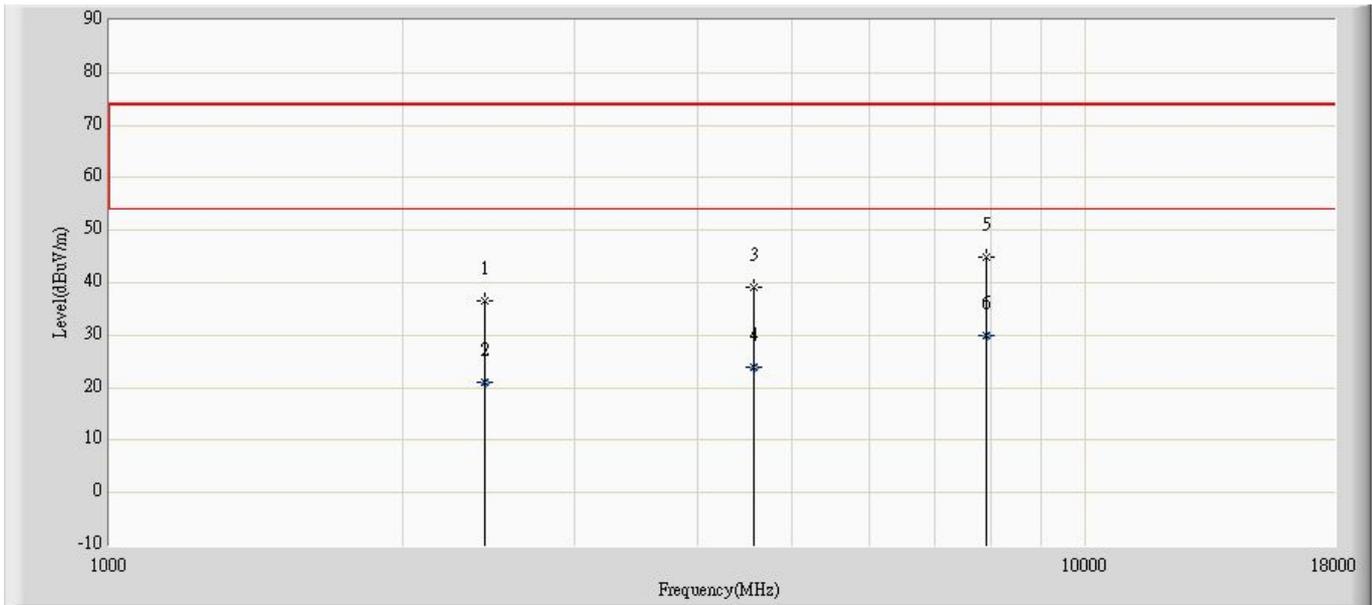
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			37.275	26.781	5.016	-13.219	40.000	21.765	QP
2			48.551	20.266	4.879	-19.734	40.000	15.387	QP
3			96.445	24.954	5.575	-18.546	43.500	19.379	QP
4			426.851	32.568	5.525	-13.432	46.000	27.043	QP
5			551.254	34.230	6.278	-11.770	46.000	27.952	QP
6		*	646.435	35.067	6.043	-10.933	46.000	29.024	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:55
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Vertical
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive	



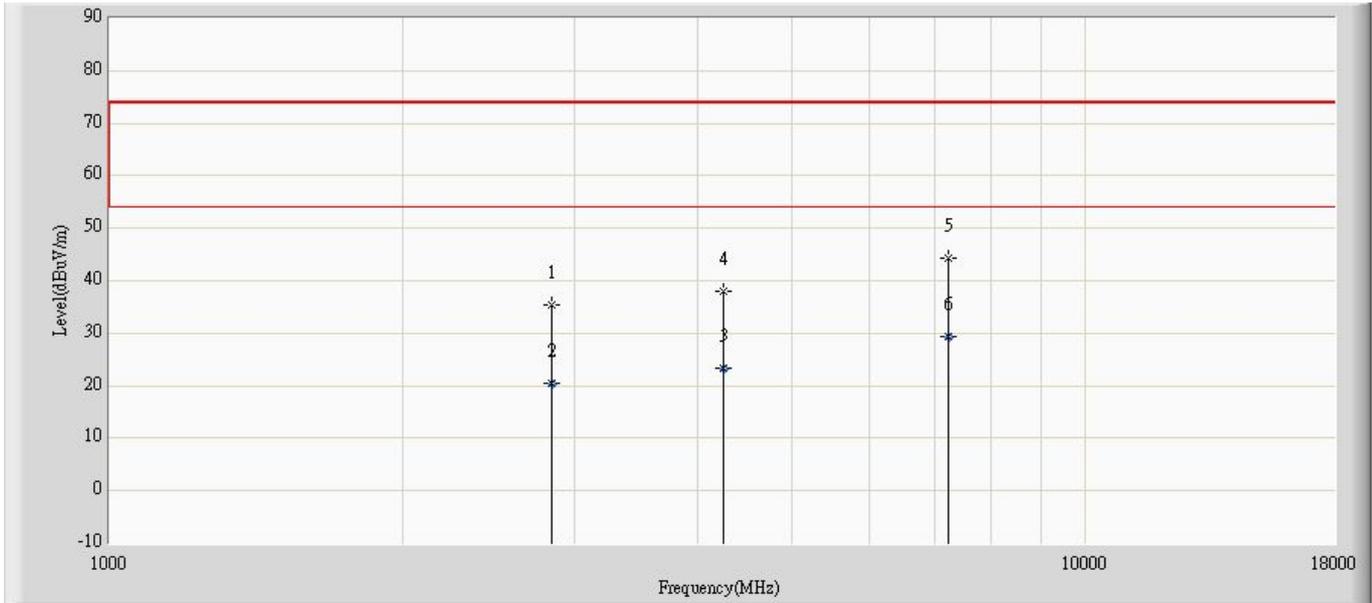
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	33.516	28.006	5.403	-11.994	40.000	22.603	QP
2			42.489	22.553	4.995	-17.447	40.000	17.558	QP
3			104.811	22.824	4.879	-20.676	43.500	17.945	QP
4			345.614	27.984	6.035	-18.016	46.000	21.950	QP
5			436.430	29.318	5.037	-16.682	46.000	24.281	QP
6			566.167	32.235	5.466	-13.765	46.000	26.770	QP

Engineer: Nancy	
Site: AC5	Time: 2011/12/14 - 17:23
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Horizontal
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive	



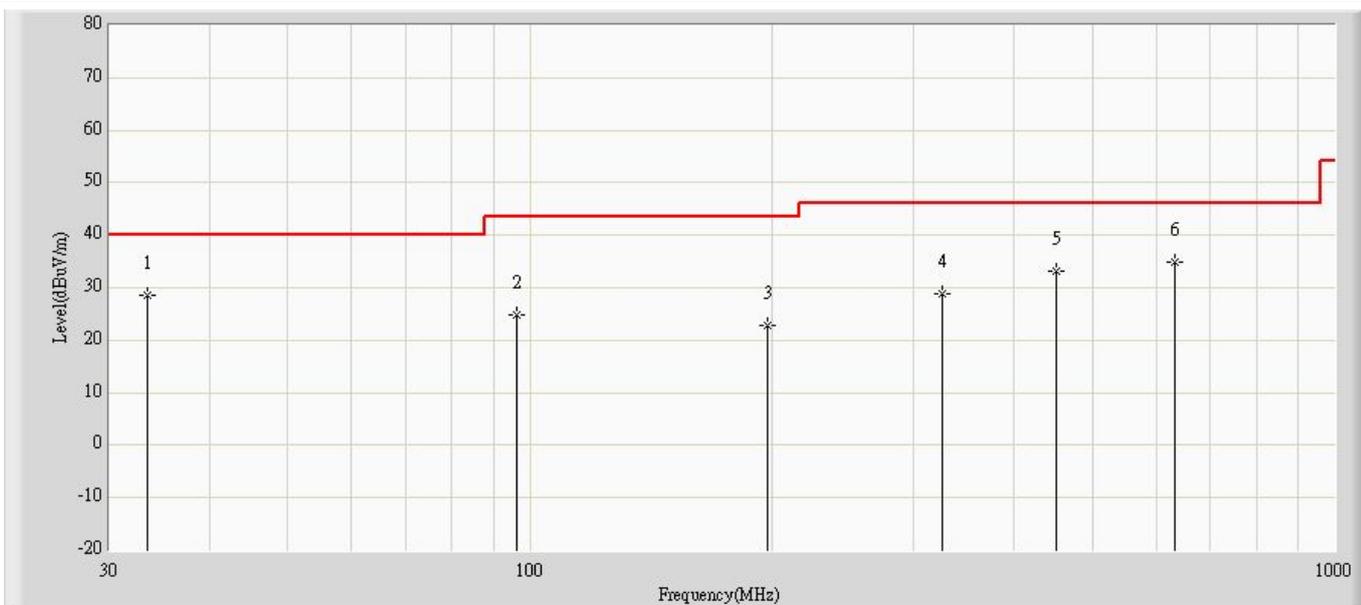
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2428.000	36.502	52.753	-37.498	74.000	-16.251	PK
2			2428.000	21.088	37.339	-32.912	54.000	-16.251	AV
3			4570.000	39.028	51.319	-34.972	74.000	-12.291	PK
4			4570.000	23.939	36.230	-30.061	54.000	-12.291	AV
5			7910.500	44.800	45.740	-29.200	74.000	-0.940	PK
6		*	7910.500	30.080	31.020	-23.920	54.000	-0.940	AV

Engineer: Nancy	
Site: AC5	Time: 2011/12/14 - 17:24
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Vertical
EUT: GSM Mobile phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive	



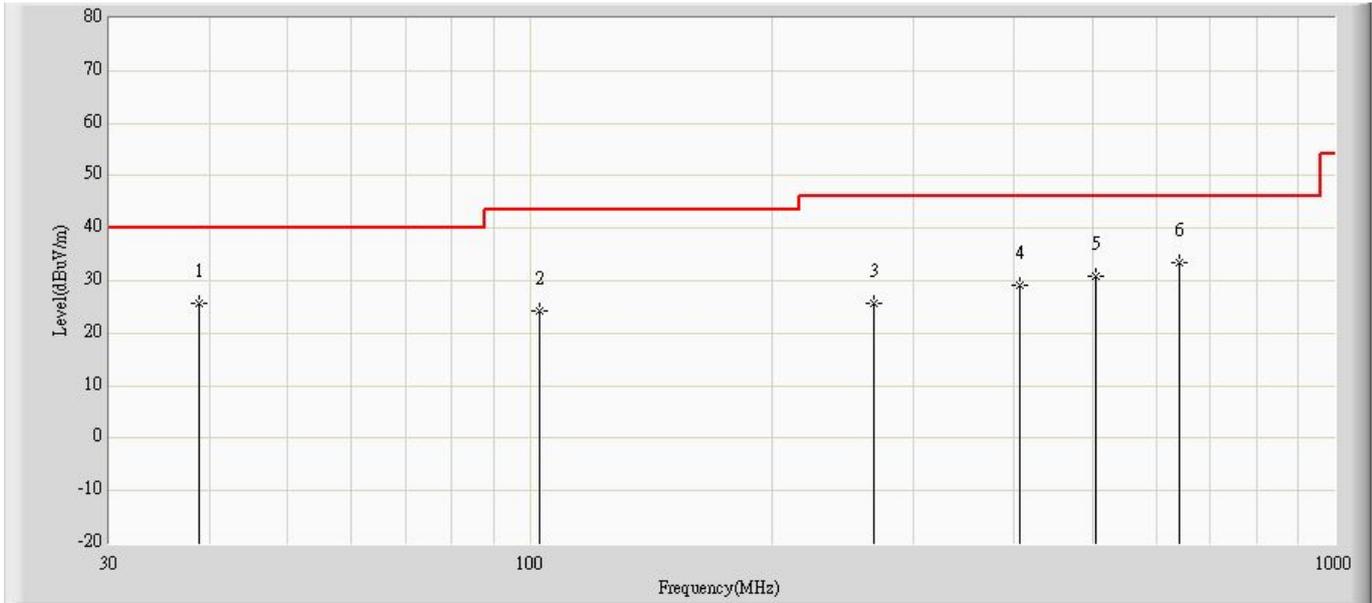
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2836.000	35.524	51.921	-38.476	74.000	-16.397	PK
2			2836.000	20.392	36.789	-33.608	54.000	-16.397	AV
3			4255.000	23.276	36.773	-30.724	54.000	-13.497	AV
4			4255.500	37.961	51.457	-36.039	74.000	-13.496	PK
5			7239.000	44.287	48.050	-29.713	74.000	-3.764	PK
6		*	7239.000	29.358	33.121	-24.642	54.000	-3.764	AV

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:56
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Horizontal
EUT: GSM Mobile phone	Power: By Battery
Note: Mode 4: FM	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			33.395	28.679	6.017	-11.321	40.000	22.662	QP
2			96.445	24.884	5.505	-18.616	43.500	19.379	QP
3			197.446	22.784	4.365	-20.716	43.500	18.419	QP
4			325.729	28.753	5.664	-17.247	46.000	23.090	QP
5			450.131	33.145	6.054	-12.855	46.000	27.091	QP
6		*	632.976	34.873	5.782	-11.127	46.000	29.091	QP

Engineer: Nancy	
Site: AC2	Time: 2011/12/13 - 15:56
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27613(30-1000MHz)	Polarity: Vertical
EUT: GSM Mobile phone	Power: By Battery
Note: Mode 4: FM	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			38.851	25.678	6.148	-14.322	40.000	19.530	QP
2			102.750	24.213	6.514	-19.287	43.500	17.699	QP
3			267.165	25.710	5.606	-20.290	46.000	20.103	QP
4			406.724	29.249	5.102	-16.751	46.000	24.148	QP
5			504.087	30.963	5.486	-15.037	46.000	25.477	QP
6		*	641.100	33.386	6.137	-12.614	46.000	27.249	QP