

Test Report

Product Name : HUAWEI U8520, U8520, U8520-51, HUAWEI
U8520-51, HSDPA/ UMTS/ GPRS/ GSM/
EDGE Mobile Phone with Bluetooth
Model No. : HUAWEI U8520-51, U8520-51
FCC ID : QISU8520-51

Applicant : Huawei Technologies Co., Ltd.
Address : Administration Building, Huawei Base, Bantian, Longgang
District, Shenzhen 518129

Date of Receipt : 27/06/2011
Test Date : 27/06/2011~ 19/07/2011
Issued Date : 19/07/2011
Report No. : 116S074R-HP-US-P01V02
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.

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Test Report Certification

Issued Date: 19/07/2011

Report No. : 116S074R-HP-US-P01V02



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HSDPA/ UMTS/ GPRS/ GSM/ EDGE Mobile Phone with
Bluetooth

Applicant : Huawei Technologies Co., Ltd.
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 U8520-51, U8520-51
EUT Voltage : DC 3.7V
Brand Name : HUAWEI
Applicable Standard : FCC Part 15 Subpart B: 2009
ANSI C63.4: 2003

Test Result : Complied
Performed Location : Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park Loufeng
Hi-Tech Development Zone., Suzhou, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

Documented By : Alice Ni
(Engineering ADM: Alice Ni)

Reviewed By : Robin Wu
(Senior Engineer: Robin Wu)

Approved By : Marlin Chen
(Engineering Supervisor: 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:

HsinChu Testing Laboratory :

No.75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan, R.O.C.
 TEL:+886-3-592-8858 / FAX:+886-3-592-8859 E-Mail : service@quietek.com



LinKou Testing Laboratory :

No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen, Lin-Kou Shiang, Taipei, Taiwan, R.O.C.
 TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com



Suzhou (China) Testing Laboratory :

No. 99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech Development Zone., Suzhou,China.
 TEL : +86-512-6251-5088 / FAX : +86-512-6251-5098 E-Mail : service@quietek.com



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1. General Information

1.1. EUT Description

Product Name	HUAWEI U8520, U8520, U8520-51, HUAWEI U8520-51, HSDPA/ UMTS/ GPRS/ GSM/ EDGE Mobile Phone with Bluetooth
Model No.	HUAWEI U8520-51, U8520-51
Hardware Version	S041M001P200
Software Version	U8520V100R001C17B110
GPS Function	YES
Device Category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
2G	
Support Band	GSM850/GSM900/DCS1800/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	GSM: R99
Type of modulation	GMSK for GSM/GPRS 8PSK for EDGE
Antenna Gain	1dBi
3G	
Support Band	WCDMA Band I/WCDMA Band II/WCDMA Band V
Frequency Range Tx	WCDMA Band V: 824~849MHz WCDMA Band II: 1850~1910MHz
Frequency Range Rx	WCDMA Band V: 869~894MHz WCDMA Band II: 1930~1990MHz
Release Version	UMTS FDD: Rel-6
Type of modulation	QPSK for WCDMA
Antenna Gain	1dBi
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	1dBi
Wi-Fi	
Wi-Fi Frequency	2412~2462MHz
Type of modulation	802.11b: DSSS; 802.11g/n: OFDM
Data Rate	802.11b: 1/2/5.5/11 Mbps
	802.11g: 6/9/12/18/24/36/48/54 Mbps
	802.11n: up to 65 Mbps
Antenna Gain	1dBi
Components	
Headset Model Number	22040059
Battery	Brand Name: HUAWEI M/N: HB4F1 Rated Voltage and Capacitance: 3.7V/1500mAh
Adapter #1	Manufacturer: SHENZHEN HUNTKEY ELECTRIC CO., LTD M/N: HW-050100U1W Input: 100-240V~50/60Hz 0.2A Output: 5Vdc, 1.0A
Adapter #2	Manufacturer: TECH-POWER INTERNATIONAL CO., LTD. M/N: HW-050100U1W Input: 100-240V~50/60Hz 0.2A Output: 5Vdc, 1.0A

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:

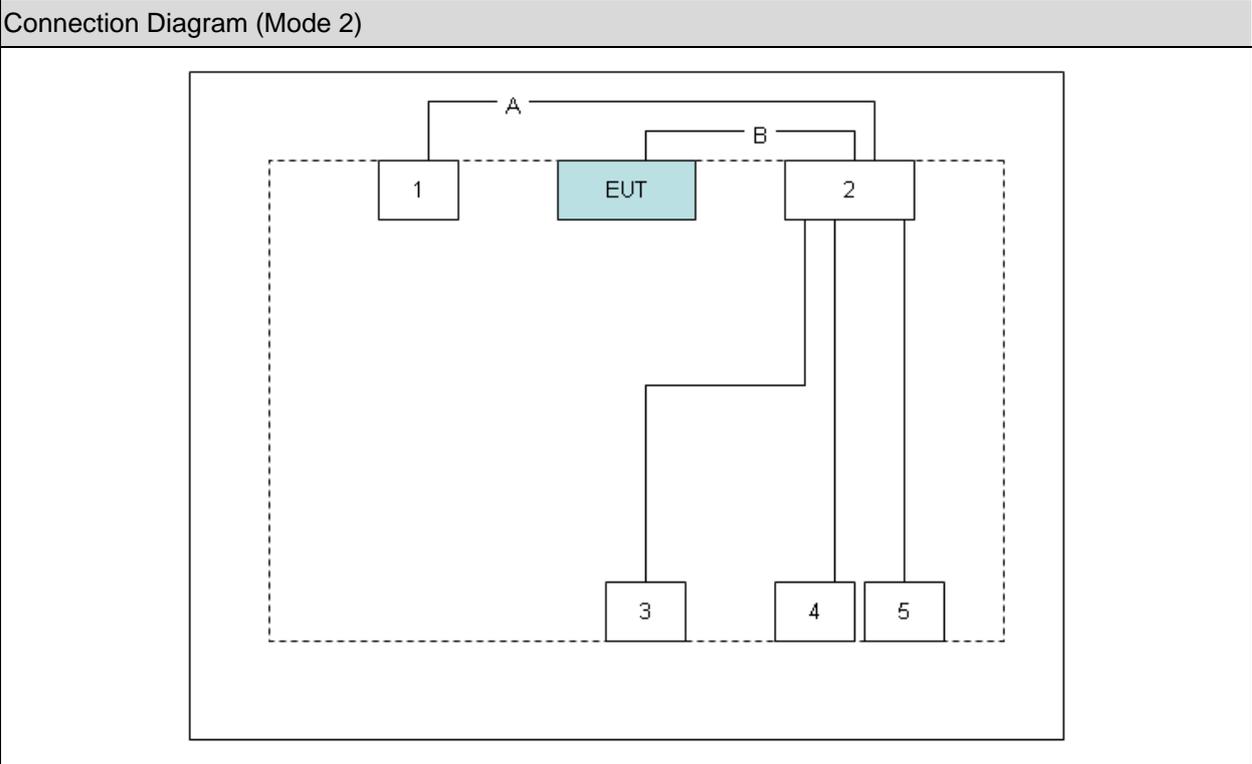
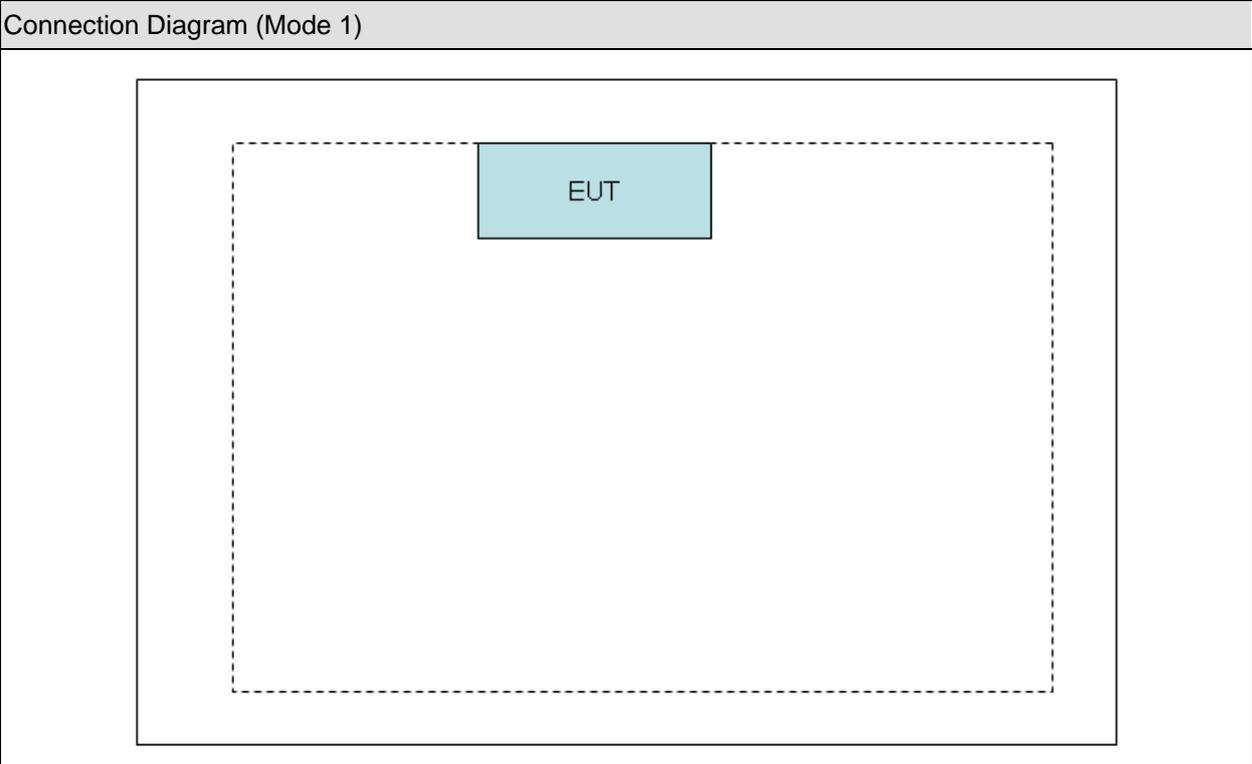
Pre Test Mode
Mode 1: Charging + Camera On
Mode 2: USB Copy
Mode 3: GPS Receive

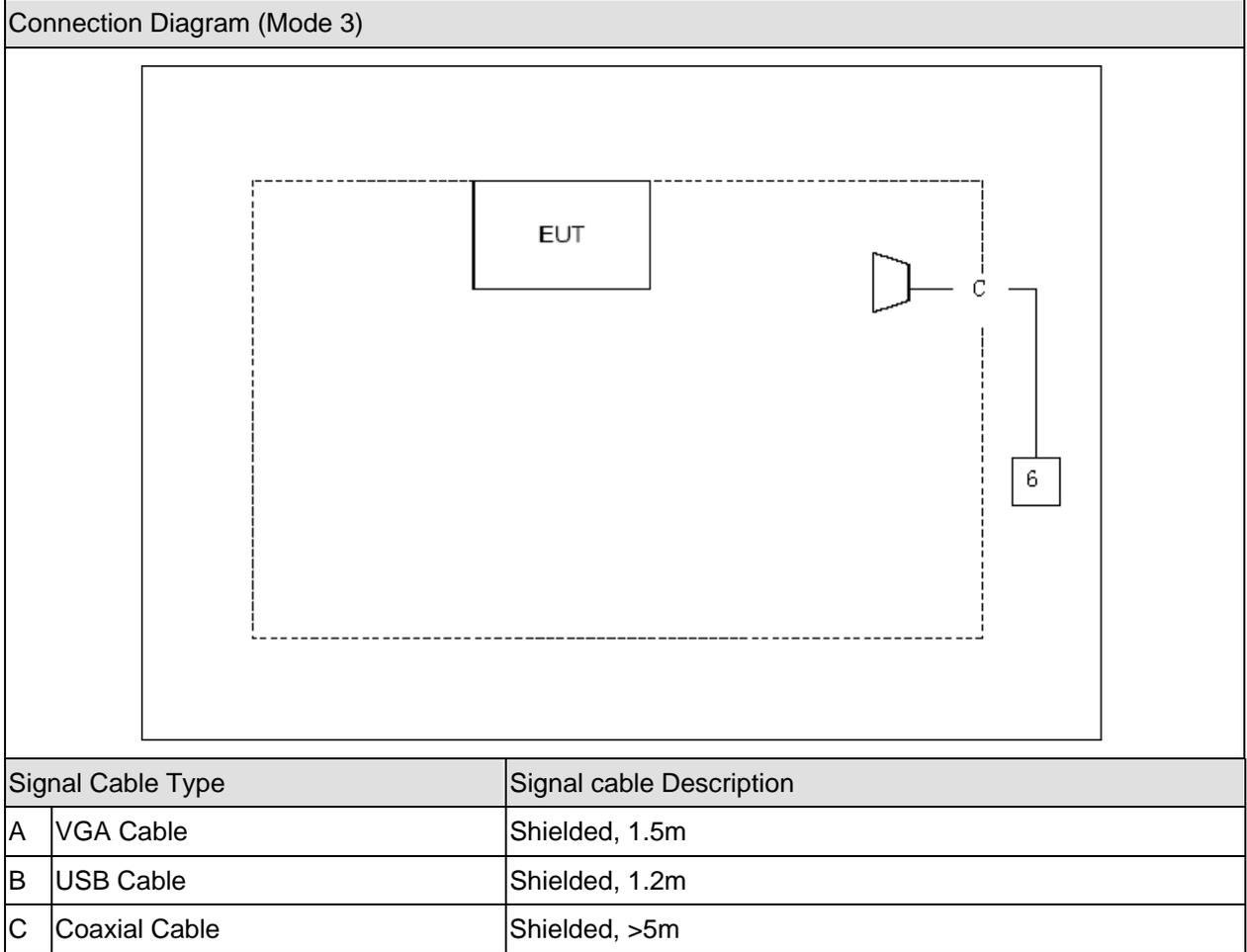
1.3. Tested System Details

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





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	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	2011/09/07
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	2011/09/27
50ohm Termination	SHX	TF2	07081402	2011/09/27
50ohm Termination	SHX	TF2	07081403	2011/09/15
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	2011/10/18
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	2011/10/18
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

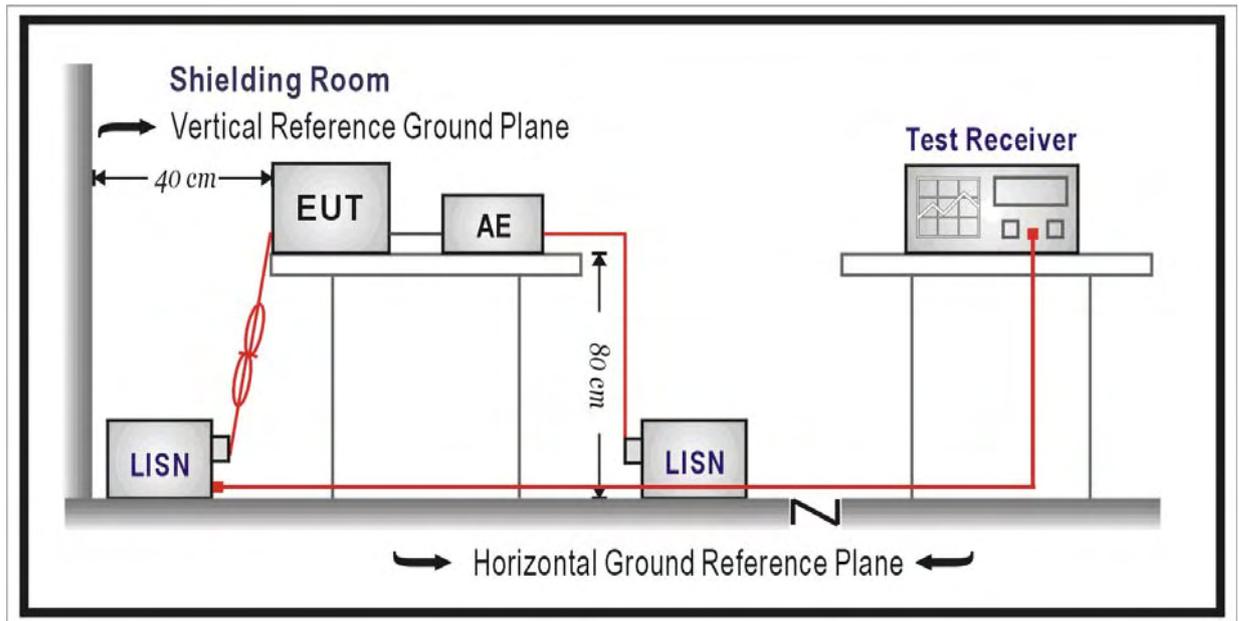
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000

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(μV)	
	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 50Ω / 50μH coupling impedance for the

measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50Ω / $50\mu\text{H}$ 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.

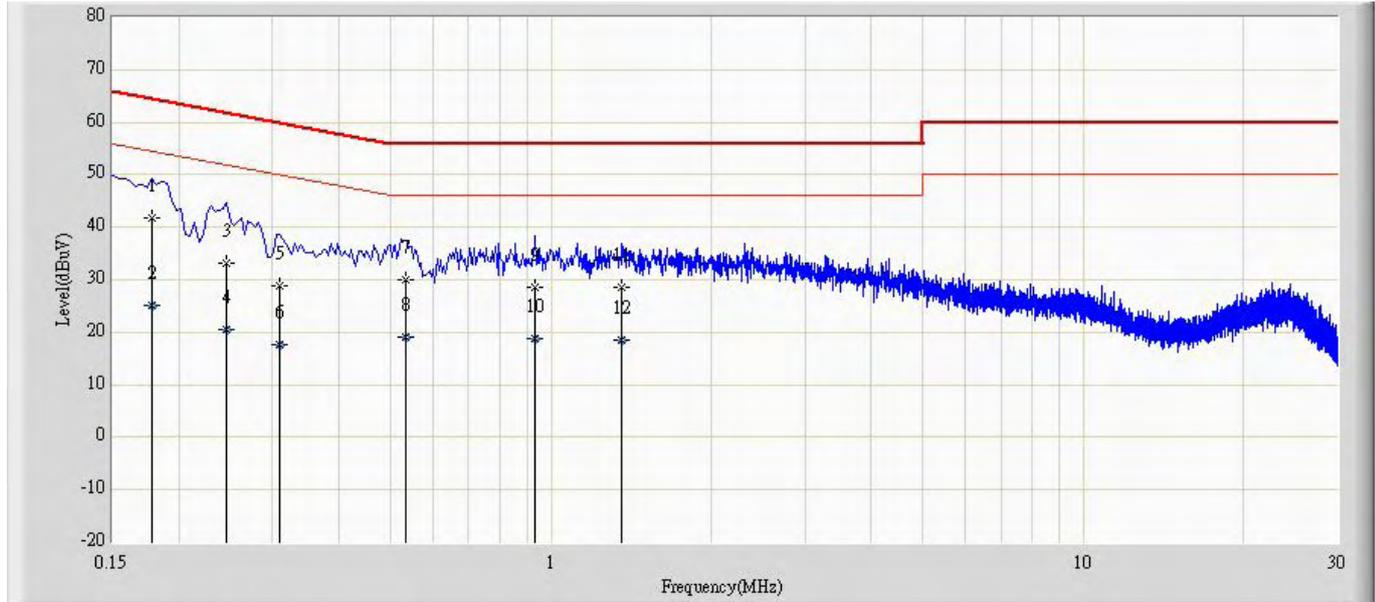
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Deviation from Test Standard

No deviation.

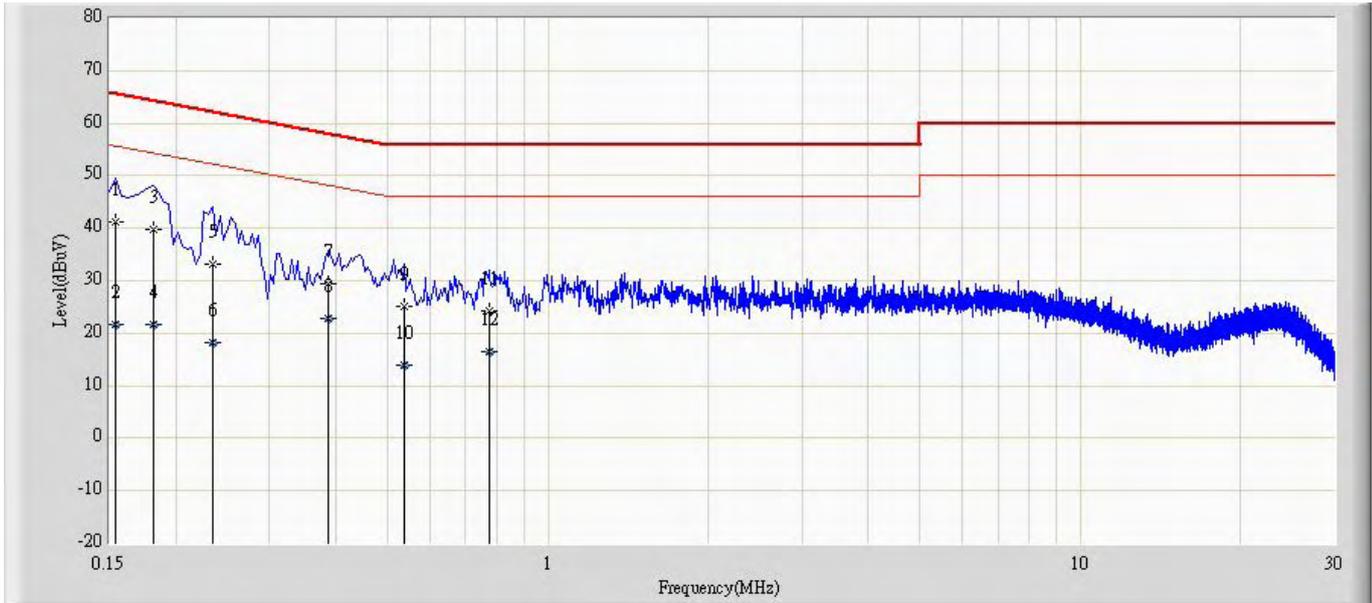
3.6. Test Result

Engineer: Jack	
Site: TR1	Time: 2011/07/19 - 12:02
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #1	



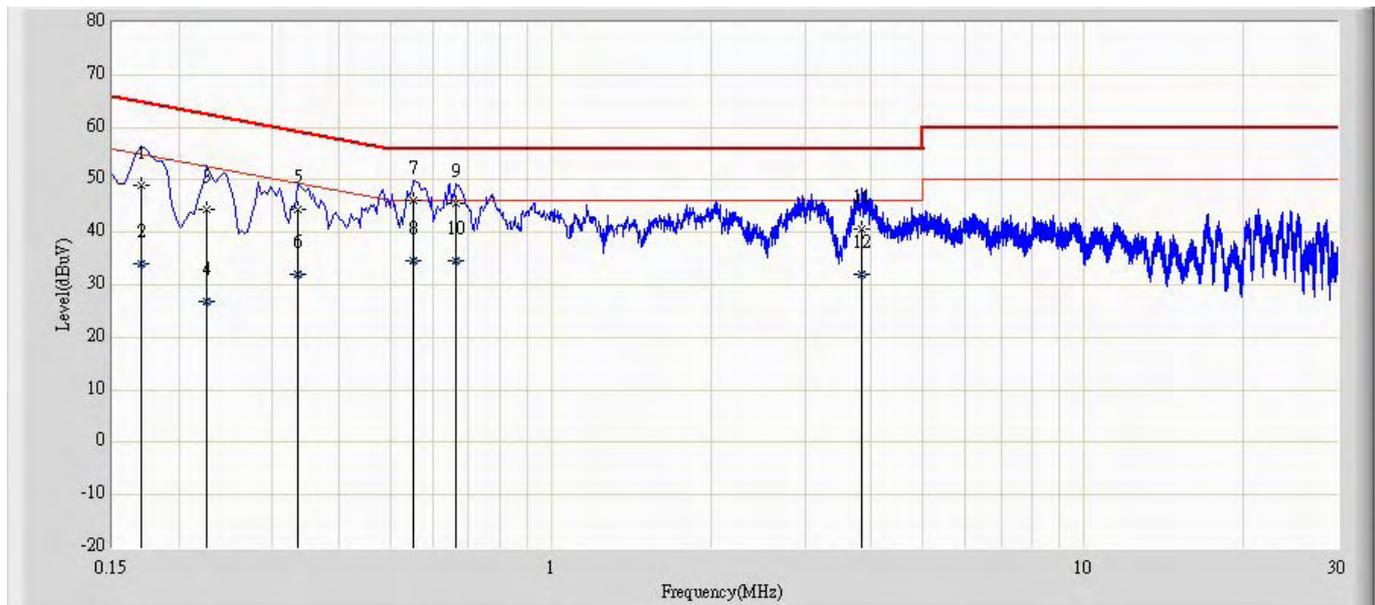
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.178	41.898	32.230	-22.681	64.578	9.668	QP
2		0.178	25.011	15.344	-29.567	54.578	9.668	AV
3		0.246	33.297	23.644	-28.594	61.891	9.653	QP
4		0.246	20.444	10.791	-31.447	51.891	9.653	AV
5		0.310	28.764	19.107	-31.206	59.970	9.657	QP
6		0.310	17.580	7.923	-32.390	49.970	9.657	AV
7		0.534	30.057	20.376	-25.943	56.000	9.682	QP
8		0.534	19.180	9.498	-26.820	46.000	9.682	AV
9		0.934	28.603	18.903	-27.397	56.000	9.700	QP
10		0.934	18.814	9.114	-27.186	46.000	9.700	AV
11		1.358	28.541	18.836	-27.459	56.000	9.705	QP
12		1.358	18.582	8.877	-27.418	46.000	9.705	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/19 - 12:30
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #1	



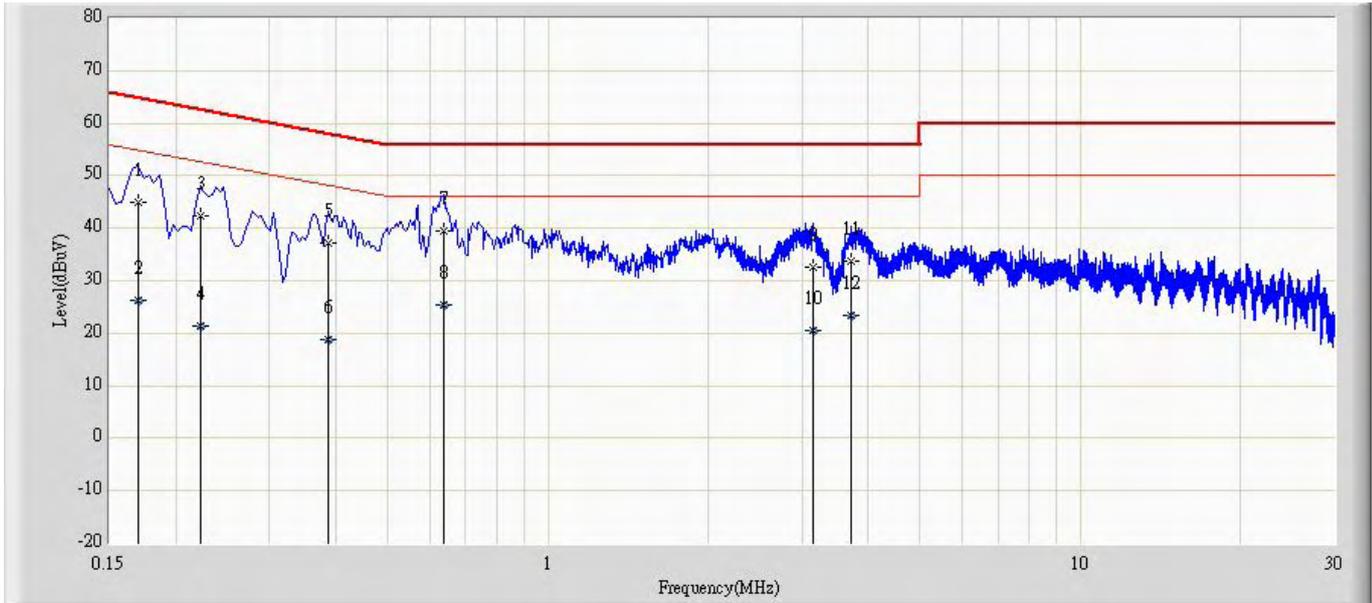
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.154	41.293	31.686	-24.488	65.781	9.607	QP
2		0.154	21.621	12.014	-34.161	55.781	9.607	AV
3		0.182	39.768	30.104	-24.626	64.394	9.663	QP
4		0.182	21.600	11.937	-32.794	54.394	9.663	AV
5		0.234	33.026	23.319	-29.280	62.307	9.708	QP
6		0.234	18.256	8.548	-34.051	52.307	9.708	AV
7		0.386	29.290	19.592	-28.860	58.149	9.698	QP
8		0.386	22.679	12.982	-25.470	48.149	9.698	AV
9		0.538	25.085	15.385	-30.915	56.000	9.700	QP
10		0.538	13.791	4.091	-32.209	46.000	9.700	AV
11		0.774	24.321	14.621	-31.679	56.000	9.700	QP
12		0.774	16.543	6.843	-29.457	46.000	9.700	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/13 - 22:01
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #2	



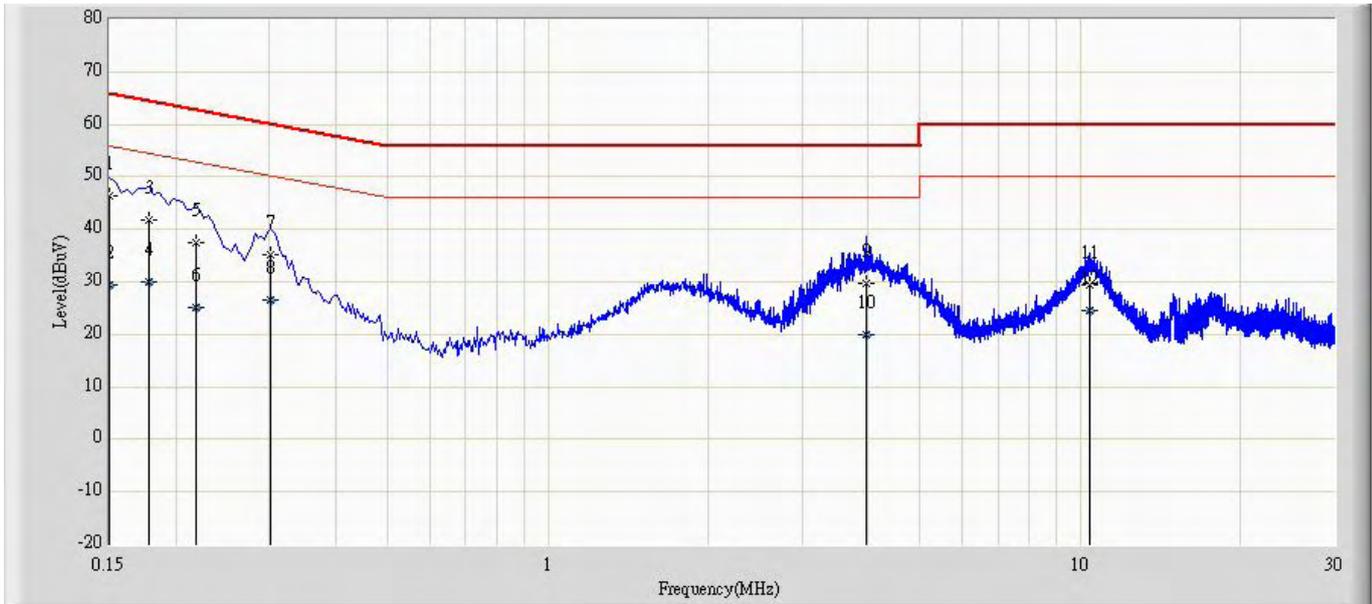
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.170	49.052	39.378	-15.908	64.960	9.674	QP
2		0.170	33.915	24.241	-21.046	54.960	9.674	AV
3		0.226	44.472	34.820	-18.124	62.595	9.652	QP
4		0.226	26.809	17.158	-25.786	52.595	9.652	AV
5		0.334	44.449	34.790	-14.903	59.351	9.659	QP
6		0.334	31.980	22.321	-17.371	49.351	9.659	AV
7	*	0.550	45.982	36.300	-10.018	56.000	9.682	QP
8		0.550	34.596	24.913	-11.404	46.000	9.682	AV
9		0.662	45.520	35.832	-10.480	56.000	9.688	QP
10		0.662	34.550	24.862	-11.450	46.000	9.688	AV
11		3.834	40.589	30.799	-15.411	56.000	9.791	QP
12		3.834	32.142	22.352	-13.858	46.000	9.791	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/13 - 22:06
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #2	



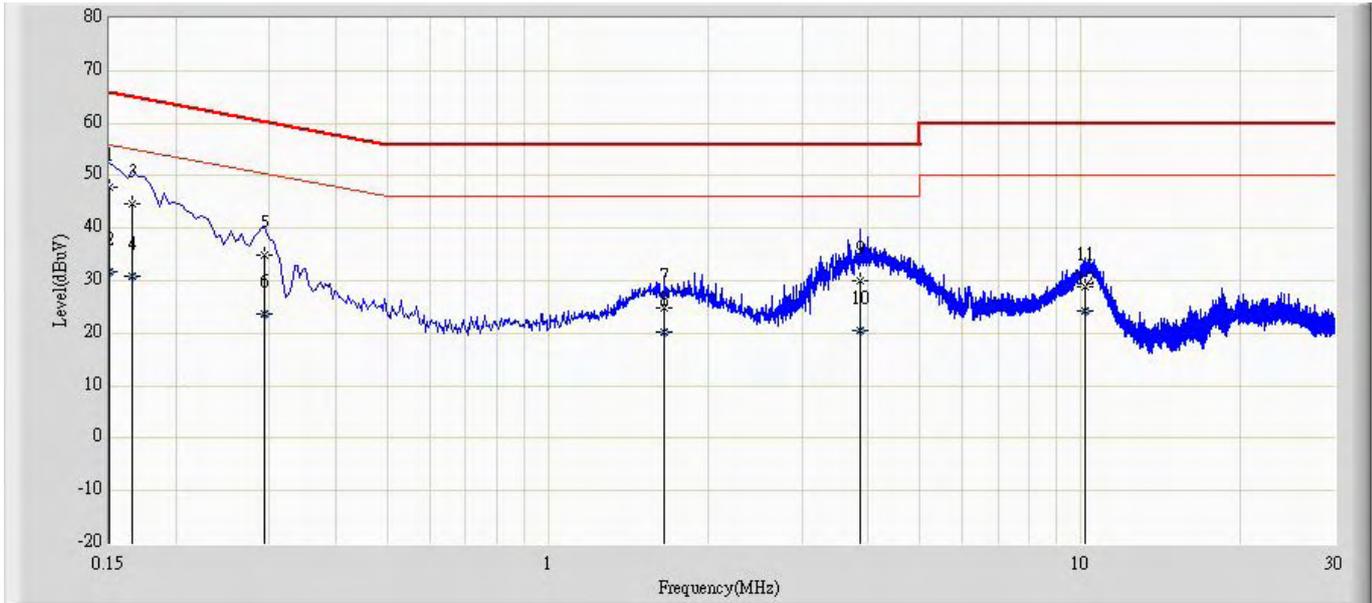
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.170	44.916	35.284	-20.044	64.960	9.632	QP
2		0.170	26.194	16.562	-28.767	54.960	9.632	AV
3		0.222	42.236	32.528	-20.507	62.744	9.708	QP
4		0.222	21.356	11.648	-31.388	52.744	9.708	AV
5		0.386	37.265	27.568	-20.884	58.149	9.698	QP
6		0.386	18.727	9.029	-29.422	48.149	9.698	AV
7	*	0.638	39.441	29.741	-16.559	56.000	9.700	QP
8		0.638	25.543	15.843	-20.457	46.000	9.700	AV
9		3.138	32.532	22.767	-23.468	56.000	9.765	QP
10		3.138	20.470	10.705	-25.530	46.000	9.765	AV
11		3.706	33.731	23.948	-22.269	56.000	9.783	QP
12		3.706	23.264	13.481	-22.736	46.000	9.783	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/15 - 09:00
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 2: USB Copy	



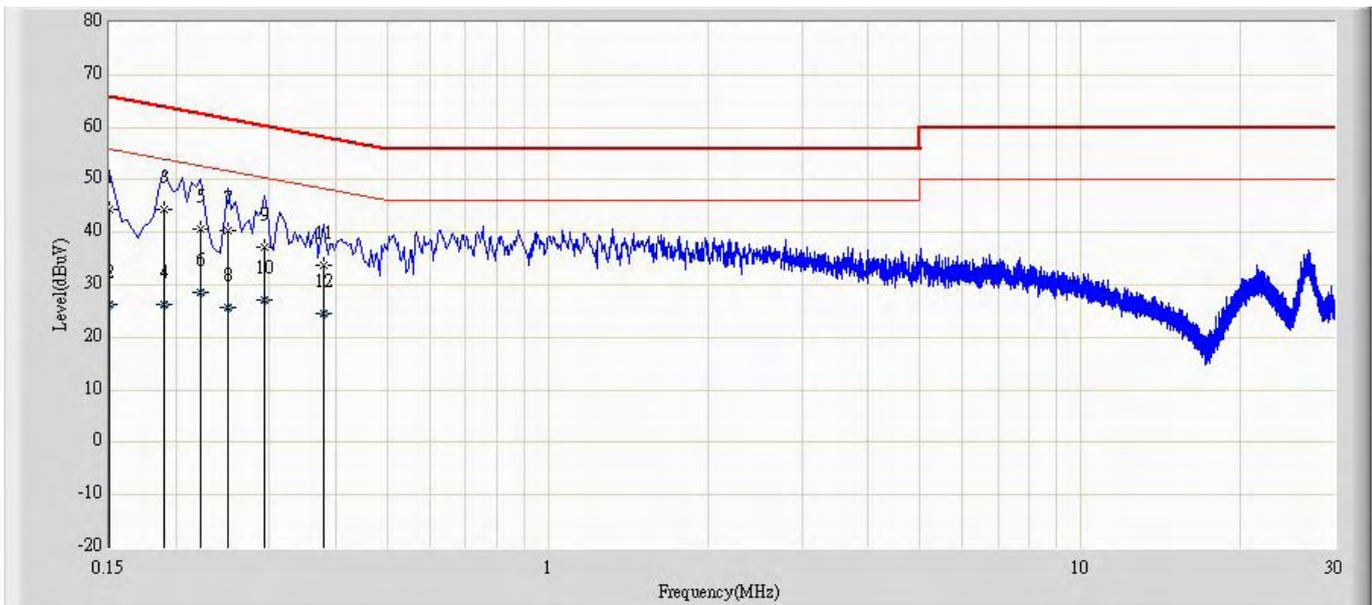
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.150	46.336	36.656	-19.664	66.000	9.680	QP
2		0.150	29.428	19.748	-26.572	56.000	9.680	AV
3		0.178	41.807	32.140	-22.771	64.578	9.668	QP
4		0.178	30.007	20.339	-24.572	54.578	9.668	AV
5		0.218	37.388	27.737	-25.506	62.895	9.652	QP
6		0.218	25.175	15.524	-27.719	52.895	9.652	AV
7		0.302	35.079	25.422	-25.108	60.188	9.657	QP
8		0.302	26.644	16.987	-23.543	50.188	9.657	AV
9		3.950	29.746	19.953	-26.254	56.000	9.793	QP
10		3.950	19.810	10.017	-26.190	46.000	9.793	AV
11		10.394	29.519	19.555	-30.481	60.000	9.964	QP
12		10.394	24.646	14.682	-25.354	50.000	9.964	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/15 - 09:06
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 2: USB Copy	



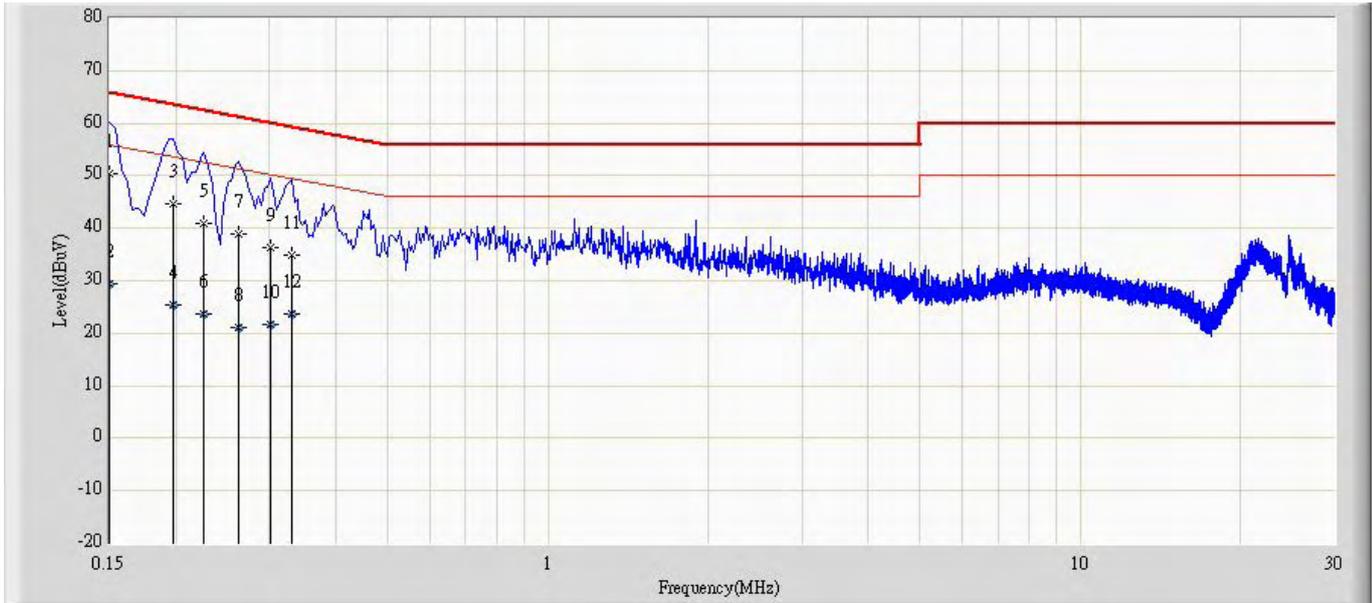
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.150	47.943	38.333	-18.057	66.000	9.610	QP
2		0.150	31.755	22.144	-24.245	56.000	9.610	AV
3		0.166	44.599	34.977	-20.560	65.158	9.622	QP
4		0.166	30.773	21.151	-24.386	55.158	9.622	AV
5		0.294	34.832	25.129	-25.578	60.411	9.704	QP
6		0.294	23.593	13.890	-26.817	50.411	9.704	AV
7		1.654	24.965	15.245	-31.035	56.000	9.720	QP
8		1.654	20.148	10.428	-25.852	46.000	9.720	AV
9		3.854	29.922	20.127	-26.078	56.000	9.795	QP
10		3.854	20.588	10.793	-25.412	46.000	9.795	AV
11		10.238	28.960	18.956	-31.040	60.000	10.004	QP
12		10.238	24.368	14.364	-25.632	50.000	10.004	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/17 - 14:28
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #1	



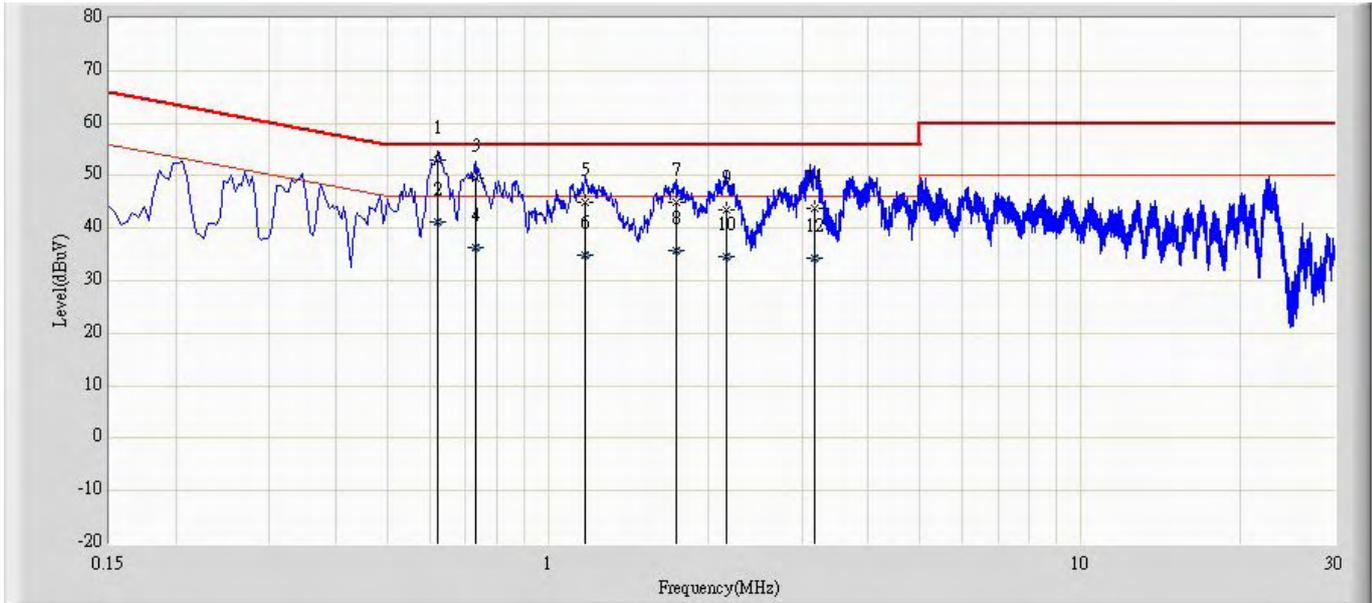
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.150	44.330	34.650	-21.670	66.000	9.680	QP
2		0.150	26.403	16.723	-29.597	56.000	9.680	AV
3	*	0.190	44.346	34.687	-19.691	64.037	9.659	QP
4		0.190	26.282	16.623	-27.755	54.037	9.659	AV
5		0.222	40.536	30.885	-22.208	62.744	9.652	QP
6		0.222	28.546	18.894	-24.198	52.744	9.652	AV
7		0.250	40.345	30.692	-21.412	61.757	9.653	QP
8		0.250	25.770	16.116	-25.987	51.757	9.653	AV
9		0.294	37.257	27.601	-23.154	60.411	9.656	QP
10		0.294	27.097	17.440	-23.314	50.411	9.656	AV
11		0.378	33.650	23.989	-24.673	58.323	9.662	QP
12		0.378	24.515	14.853	-23.809	48.323	9.662	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/17 - 14:35
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #1	



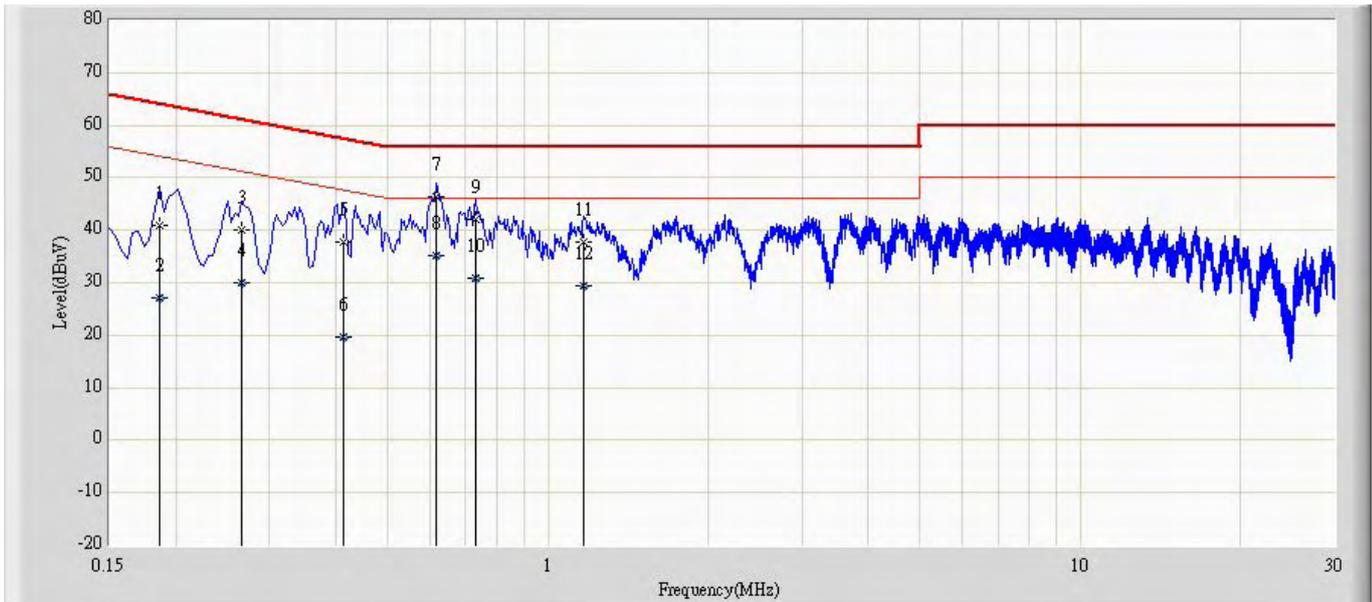
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.150	50.405	40.795	-15.595	66.000	9.610	QP
2		0.150	29.311	19.701	-26.689	56.000	9.610	AV
3		0.198	44.711	35.022	-18.983	63.694	9.690	QP
4		0.198	25.282	15.593	-28.412	53.694	9.690	AV
5		0.226	40.920	31.212	-21.676	62.595	9.708	QP
6		0.226	23.567	13.859	-29.028	52.595	9.708	AV
7		0.262	38.888	29.183	-22.479	61.368	9.706	QP
8		0.262	21.019	11.313	-30.349	51.368	9.706	AV
9		0.302	36.240	26.537	-23.948	60.188	9.703	QP
10		0.302	21.609	11.906	-28.579	50.188	9.703	AV
11		0.330	34.943	25.242	-24.508	59.451	9.701	QP
12		0.330	23.552	13.851	-25.899	49.451	9.701	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/17 - 14:50
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Line
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #2	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.622	52.859	43.173	-3.141	56.000	9.686	QP
2		0.622	41.092	31.406	-4.908	46.000	9.686	AV
3		0.730	49.529	39.839	-6.471	56.000	9.690	QP
4		0.730	36.266	26.576	-9.734	46.000	9.690	AV
5		1.174	44.807	35.107	-11.193	56.000	9.700	QP
6		1.174	34.798	25.098	-11.202	46.000	9.700	AV
7		1.738	45.002	35.292	-10.998	56.000	9.710	QP
8		1.738	35.669	25.959	-10.331	46.000	9.710	AV
9		2.158	43.492	33.770	-12.508	56.000	9.723	QP
10		2.158	34.506	24.784	-11.494	46.000	9.723	AV
11		3.170	43.824	34.064	-12.176	56.000	9.759	QP
12		3.170	34.439	24.680	-11.561	46.000	9.759	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/17 - 14:54
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216_101044(0.009-30MHz)	Polarity: Neutral
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #2	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.186	41.003	31.329	-23.211	64.213	9.674	QP
2		0.186	27.172	17.499	-27.041	54.213	9.674	AV
3		0.266	40.110	30.404	-21.132	61.242	9.706	QP
4		0.266	29.930	20.225	-21.312	51.242	9.706	AV
5		0.414	37.873	28.169	-19.695	57.568	9.704	QP
6		0.414	19.724	10.020	-27.844	47.568	9.704	AV
7	*	0.618	46.304	36.604	-9.696	56.000	9.700	QP
8		0.618	35.143	25.443	-10.857	46.000	9.700	AV
9		0.730	42.049	32.349	-13.951	56.000	9.700	QP
10		0.730	30.843	21.143	-15.157	46.000	9.700	AV
11		1.166	37.825	28.115	-18.175	56.000	9.710	QP
12		1.166	29.448	19.738	-16.552	46.000	9.710	AV

3.7. Test Photograph

Test Mode: Mode 1,3

Description: Front View of Conducted Emission Test Setup



Description: Side View of Conducted Emission Test Setup



Test Mode: Mode 2

Description: Front View of Conducted Emission Test Setup



Description: Side View of Conducted Emission Test Setup



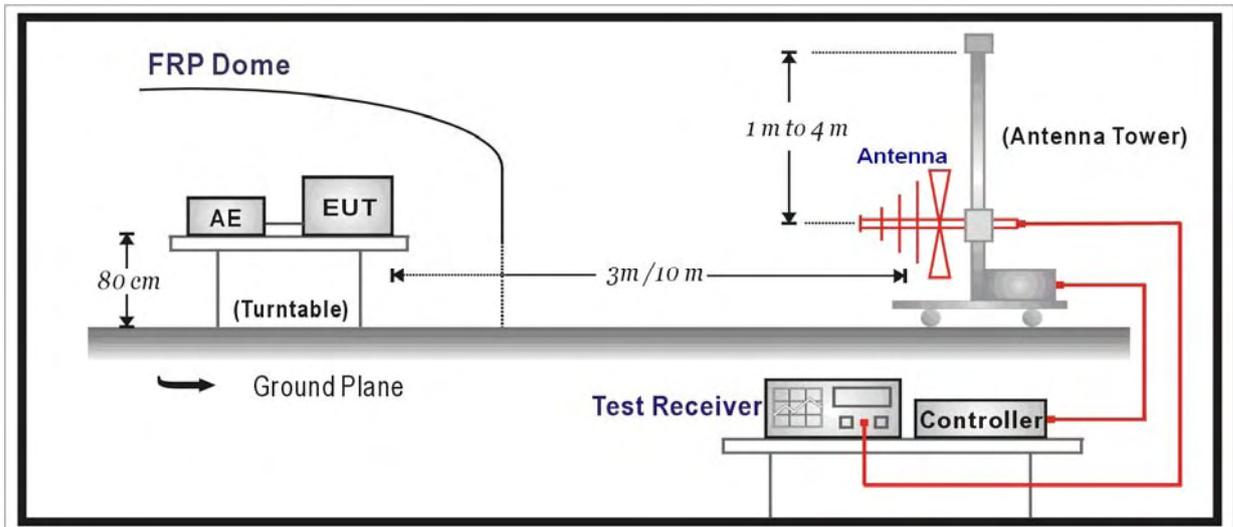
4. Radiated Emission

4.1. Test Specification

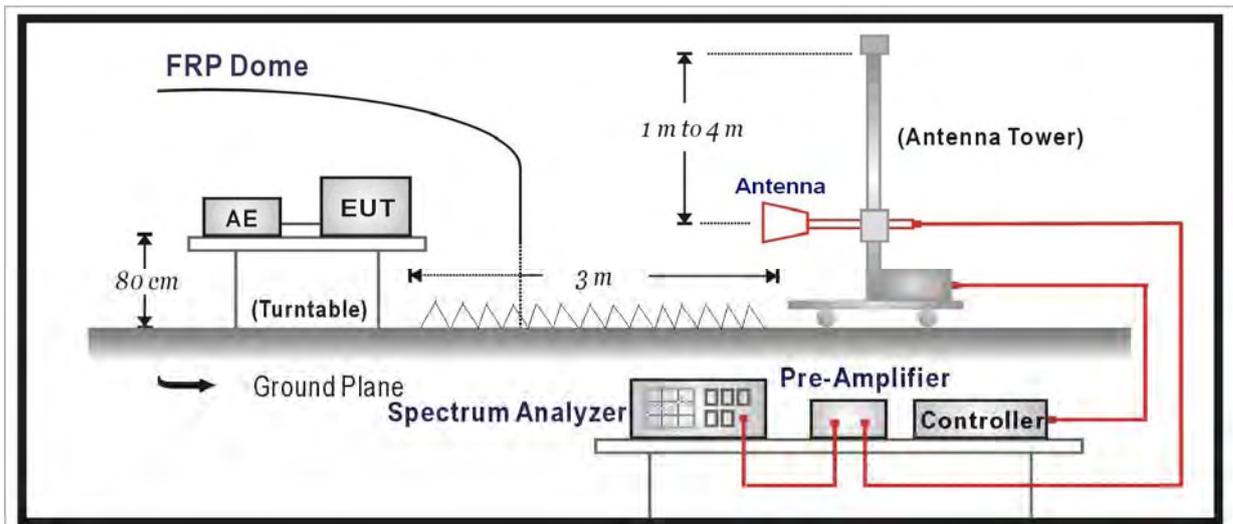
According to EMC Standard: FCC Part 15 Subpart B Class B, ANSI C63.4

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.

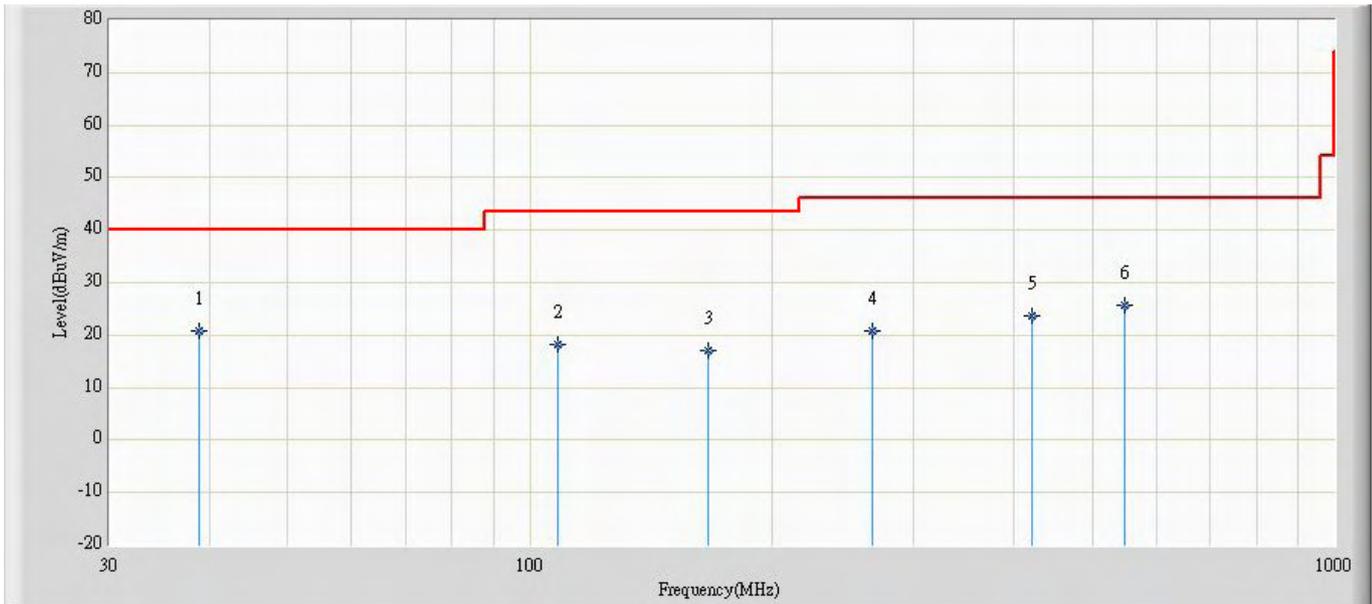
Note: When measurement above 1GHz, the horn antenna will bend down a little (as horn antenna have the narrow beamwidth) in order to find the maximum emission of EUT.

4.5. Deviation from Test Standard

No deviation.

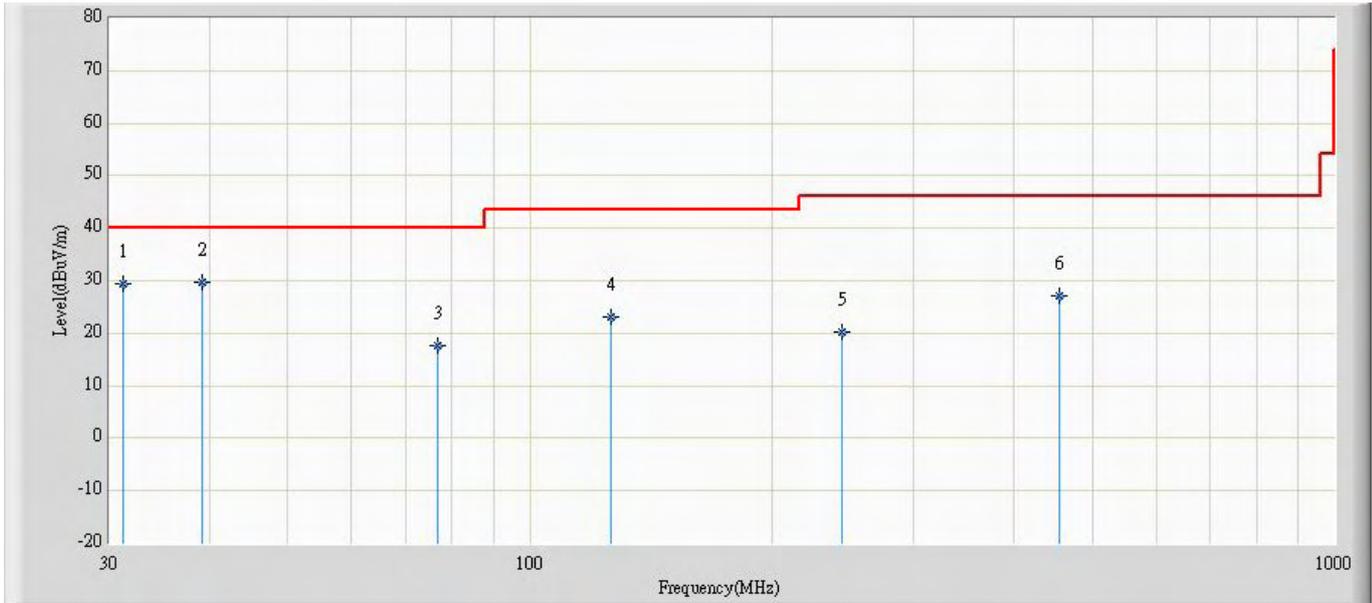
4.6. Test Result

Engineer: Jack	
Site: AC2	Time: 2011/07/16 - 18:33
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #1	



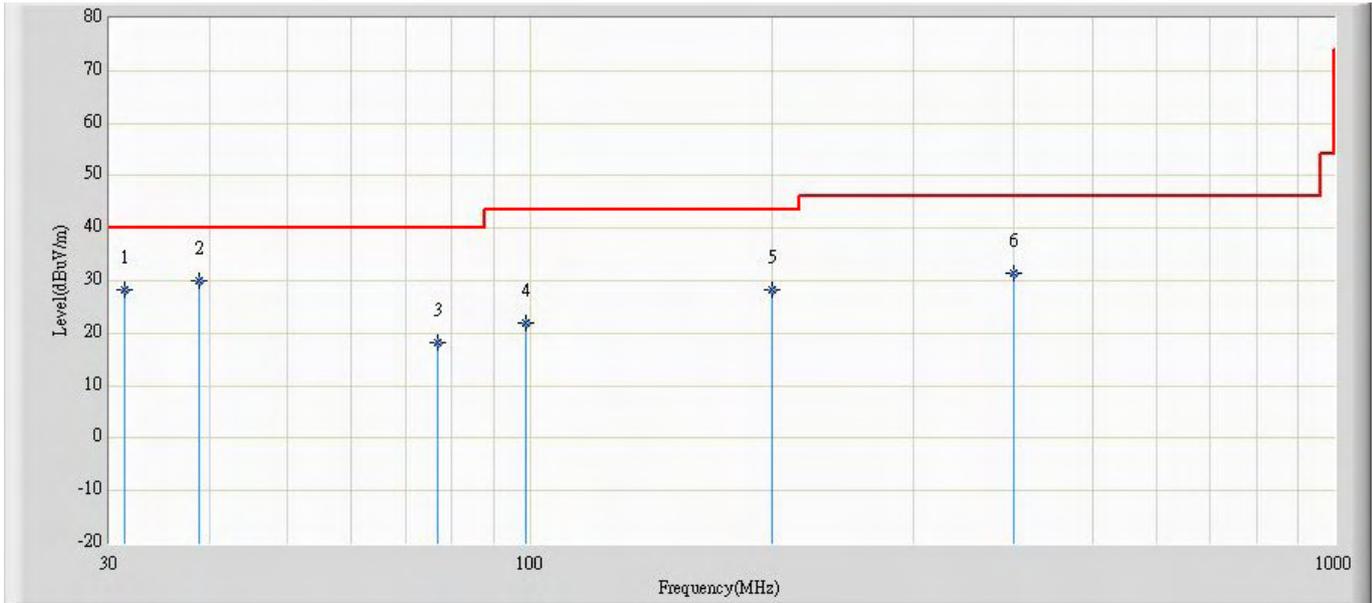
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	38.730	20.851	7.451	-19.149	40.000	13.400	QP
2			108.449	18.220	5.782	-25.280	43.500	12.438	QP
3			166.406	17.208	6.780	-26.292	43.500	10.427	QP
4			266.195	20.855	6.780	-25.145	46.000	14.075	QP
5			420.789	23.609	5.187	-22.391	46.000	18.422	QP
6			548.708	25.629	4.974	-20.371	46.000	20.655	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/16 - 18:33
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #1	



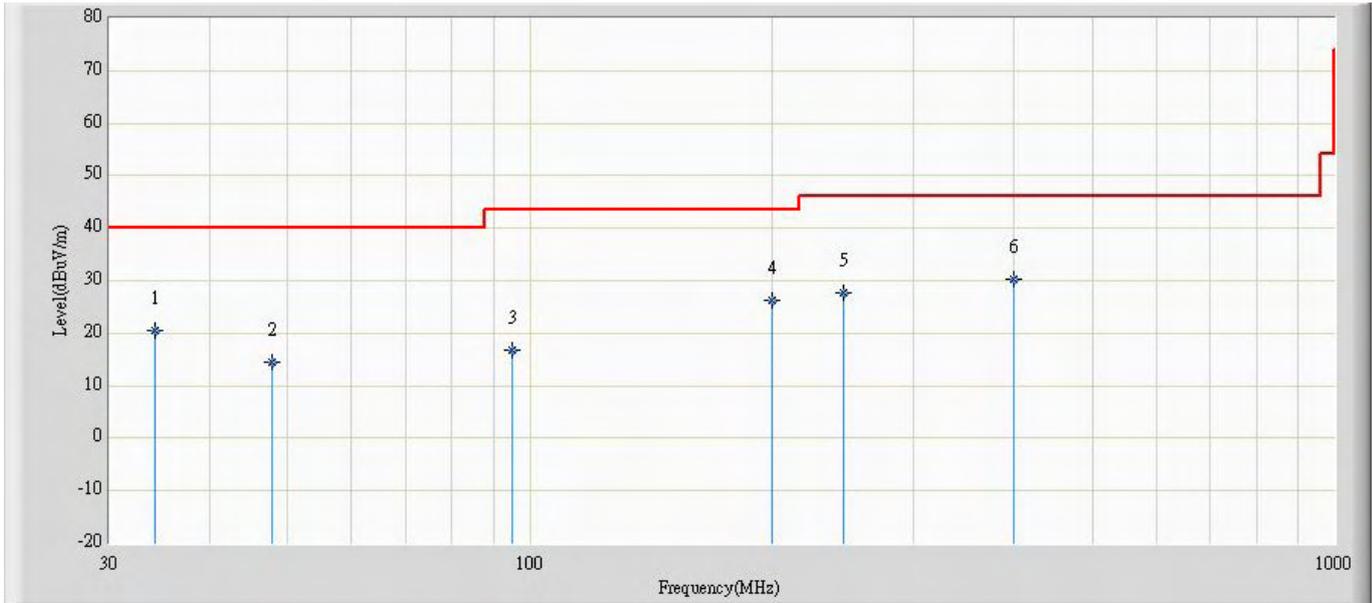
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			31.212	29.556	11.956	-10.444	40.000	17.600	QP
2		*	39.094	29.623	16.422	-10.377	40.000	13.201	QP
3			76.802	17.543	10.661	-22.457	40.000	6.882	QP
4			126.030	23.185	10.465	-20.315	43.500	12.720	QP
5			243.885	20.245	7.460	-25.755	46.000	12.785	QP
6			454.981	27.127	8.733	-18.873	46.000	18.394	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/16 - 18:33
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #2	



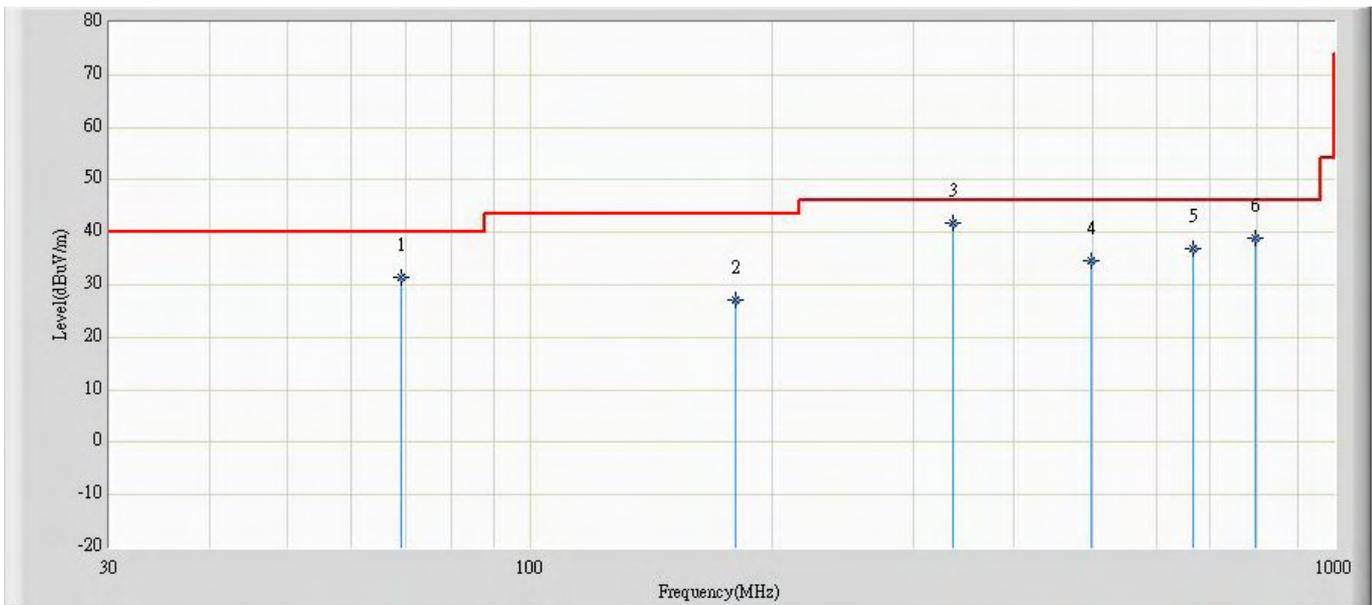
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			31.334	28.266	10.751	-11.734	40.000	17.515	QP
2		*	38.851	29.995	16.661	-10.005	40.000	13.334	QP
3			76.802	18.188	11.306	-21.812	40.000	6.882	QP
4			98.870	21.918	10.678	-21.582	43.500	11.240	QP
5			199.992	28.299	18.076	-15.201	43.500	10.223	QP
6			400.055	31.486	13.756	-14.514	46.000	17.730	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/16 - 18:33
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 1: Charging + Camera On with Adapter #2	



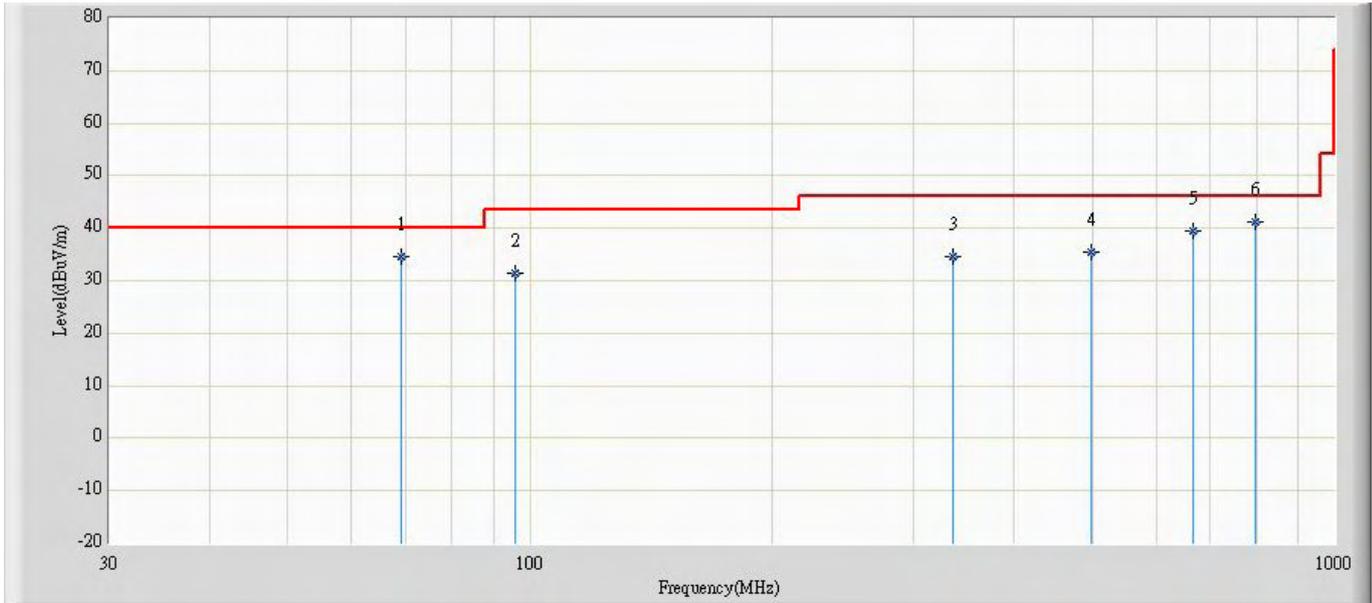
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			34.244	20.396	4.545	-19.604	40.000	15.851	QP
2			47.824	14.353	5.292	-25.647	40.000	9.061	QP
3			94.990	16.677	6.017	-26.823	43.500	10.660	QP
4			199.992	26.136	15.913	-17.364	43.500	10.223	QP
5			245.825	27.676	14.666	-18.324	46.000	13.010	QP
6		*	400.055	30.221	12.491	-15.779	46.000	17.730	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/16 - 18:04
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 2: USB copy	



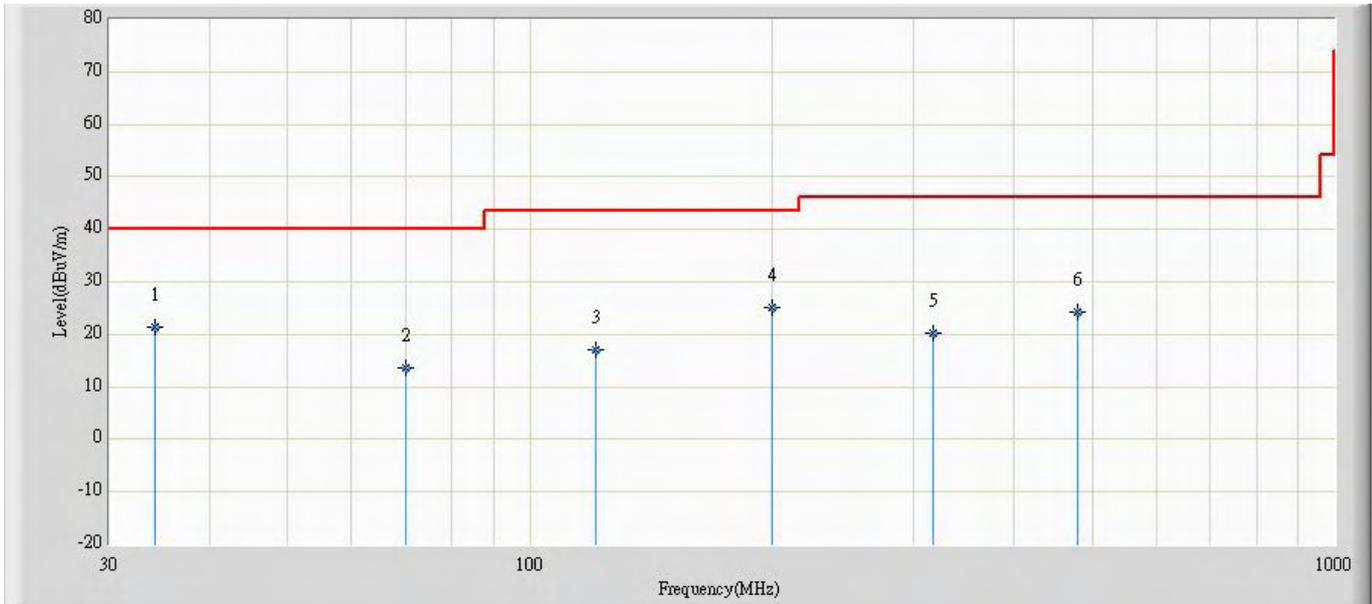
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			69.285	31.524	25.634	-8.476	40.000	5.890	QP
2			180.350	27.236	17.636	-16.264	43.500	9.600	QP
3		*	335.914	41.798	26.160	-4.202	46.000	15.637	QP
4			498.753	34.589	15.209	-11.411	46.000	19.380	QP
5			666.805	36.808	15.388	-9.192	46.000	21.420	QP
6			798.725	38.965	16.440	-7.035	46.000	22.525	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/16 - 18:04
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 2: USB copy	



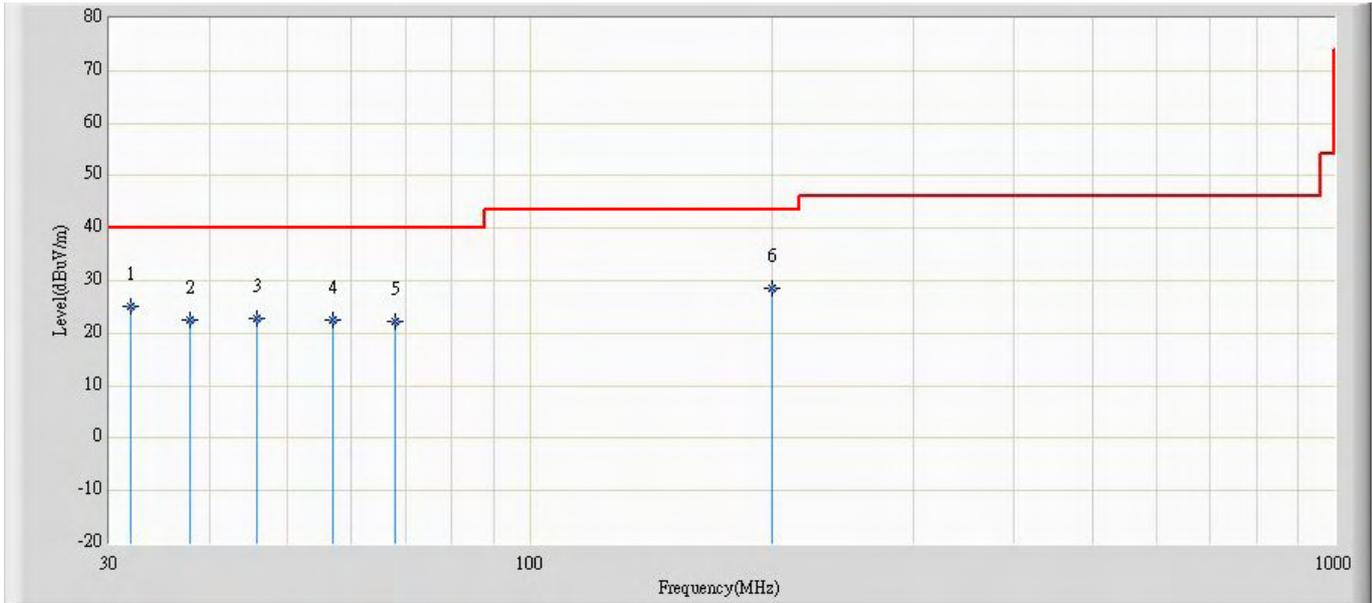
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			69.164	34.568	28.685	-5.432	40.000	5.883	QP
2			95.960	31.485	20.725	-12.015	43.500	10.760	QP
3			335.914	34.511	18.873	-11.489	46.000	15.637	QP
4			499.480	35.545	16.165	-10.455	46.000	19.380	QP
5			666.805	39.622	18.202	-6.378	46.000	21.420	QP
6		*	797.997	41.095	18.575	-4.905	46.000	22.520	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/20 - 12:12
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #1	



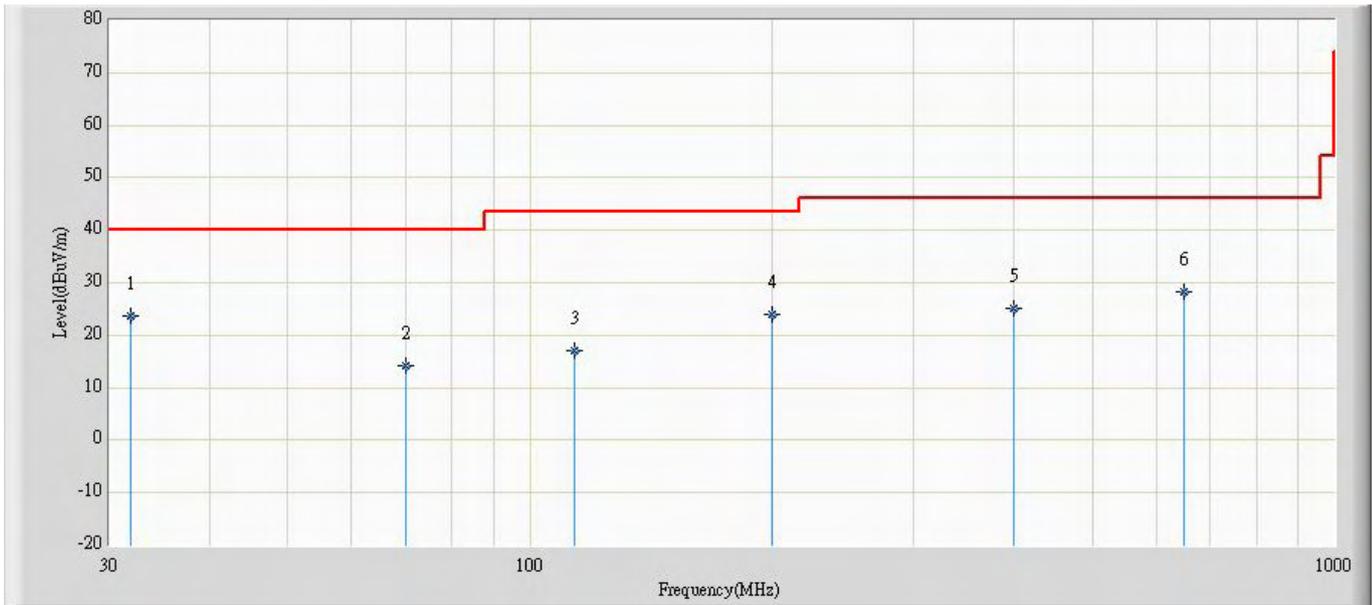
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			34.244	21.264	4.948	-18.736	40.000	16.316	QP
2			70.012	13.755	7.364	-26.245	40.000	6.391	QP
3			120.816	16.952	4.348	-26.548	43.500	12.604	QP
4		*	199.992	24.984	14.759	-18.516	43.500	10.226	QP
5			316.878	20.293	4.981	-25.707	46.000	15.312	QP
6			480.080	24.382	5.470	-21.618	46.000	18.912	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/20 - 12:12
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #1	



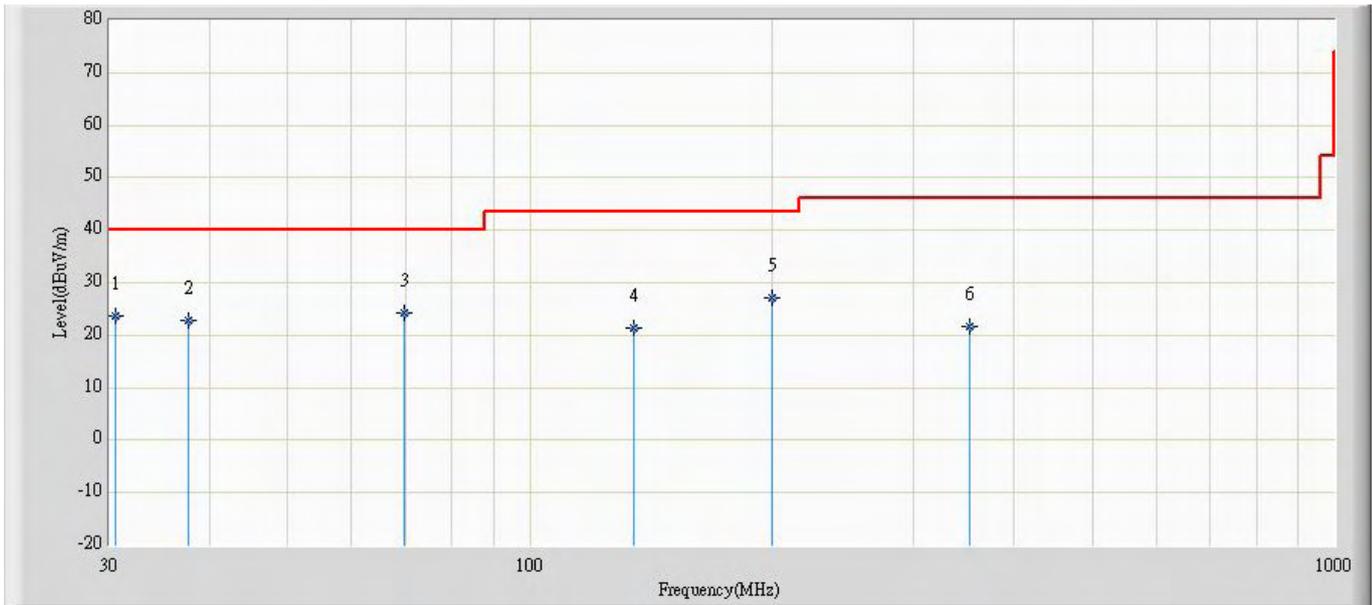
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	31.819	25.017	7.460	-14.983	40.000	17.558	QP
2			37.760	22.549	8.315	-17.451	40.000	14.234	QP
3			45.763	22.726	12.737	-17.274	40.000	9.989	QP
4			56.796	22.394	15.924	-17.606	40.000	6.470	QP
5			67.830	22.305	16.071	-17.695	40.000	6.234	QP
6			199.992	28.496	18.271	-15.004	43.500	10.226	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/20 - 12:12
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Horizontal
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #2	



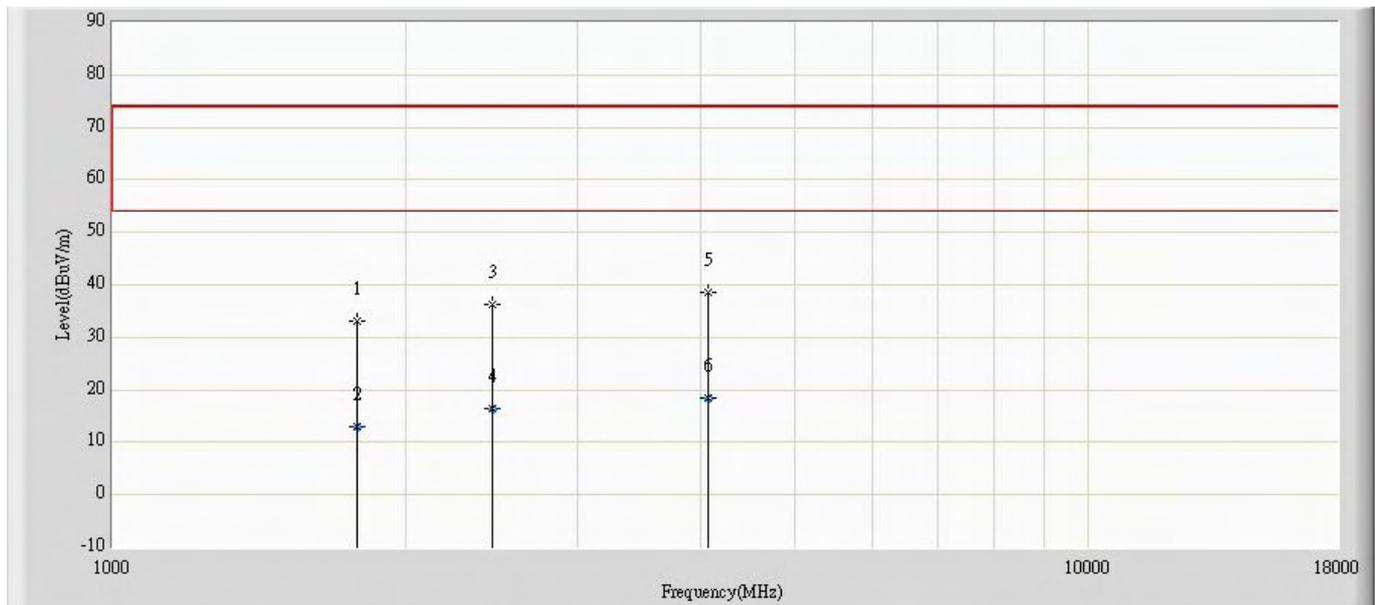
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	31.940	23.576	6.090	-16.424	40.000	17.486	QP
2			70.012	14.074	7.683	-25.926	40.000	6.391	QP
3			113.420	16.959	4.541	-26.541	43.500	12.418	QP
4			199.992	23.843	13.618	-19.657	43.500	10.226	QP
5			400.055	25.210	7.250	-20.790	46.000	17.959	QP
6			650.315	28.369	6.976	-17.631	46.000	21.393	QP

Engineer: Jack	
Site: AC2	Time: 2011/07/20 - 12:12
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CBL6112D_27611(30-1000MHz)	Polarity: Vertical
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #2	



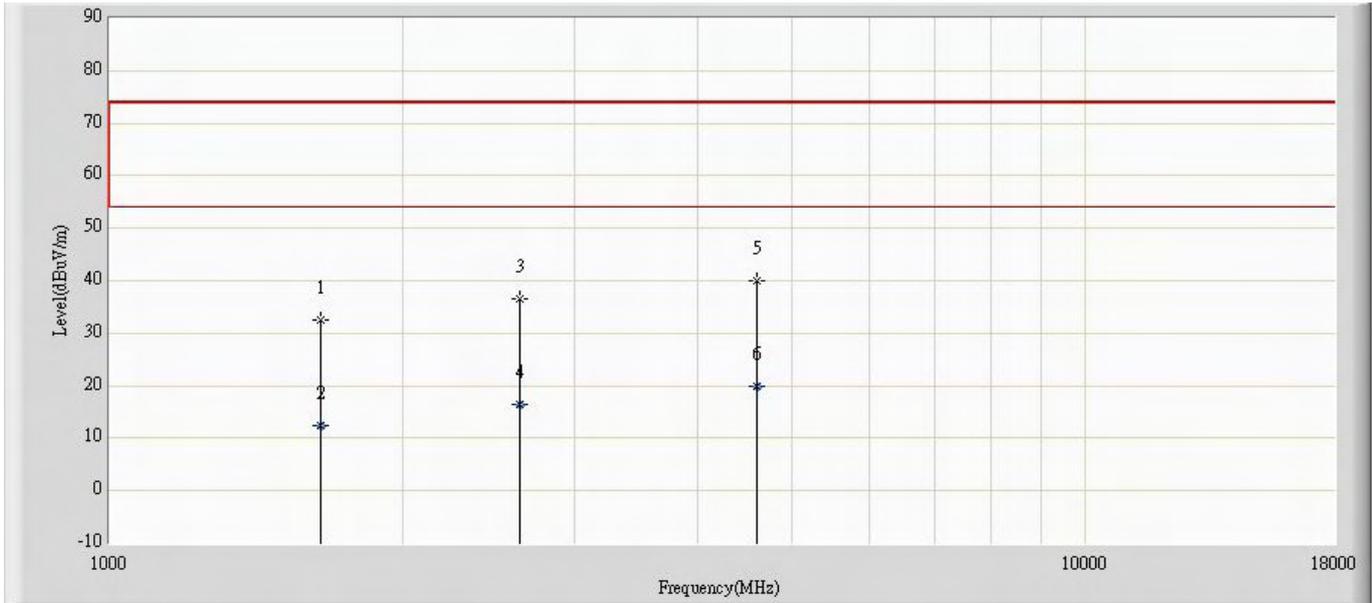
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			30.485	23.646	5.297	-16.354	40.000	18.349	QP
2			37.639	22.703	8.396	-17.297	40.000	14.307	QP
3		*	69.649	24.284	17.922	-15.716	40.000	6.363	QP
4			134.396	21.251	8.830	-22.249	43.500	12.421	QP
5			199.992	27.250	17.025	-16.250	43.500	10.226	QP
6			352.283	21.689	5.396	-24.311	46.000	16.293	QP

Engineer: Jack	
Site: AC5	Time: 2011/07/20 - 12:53
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #1	



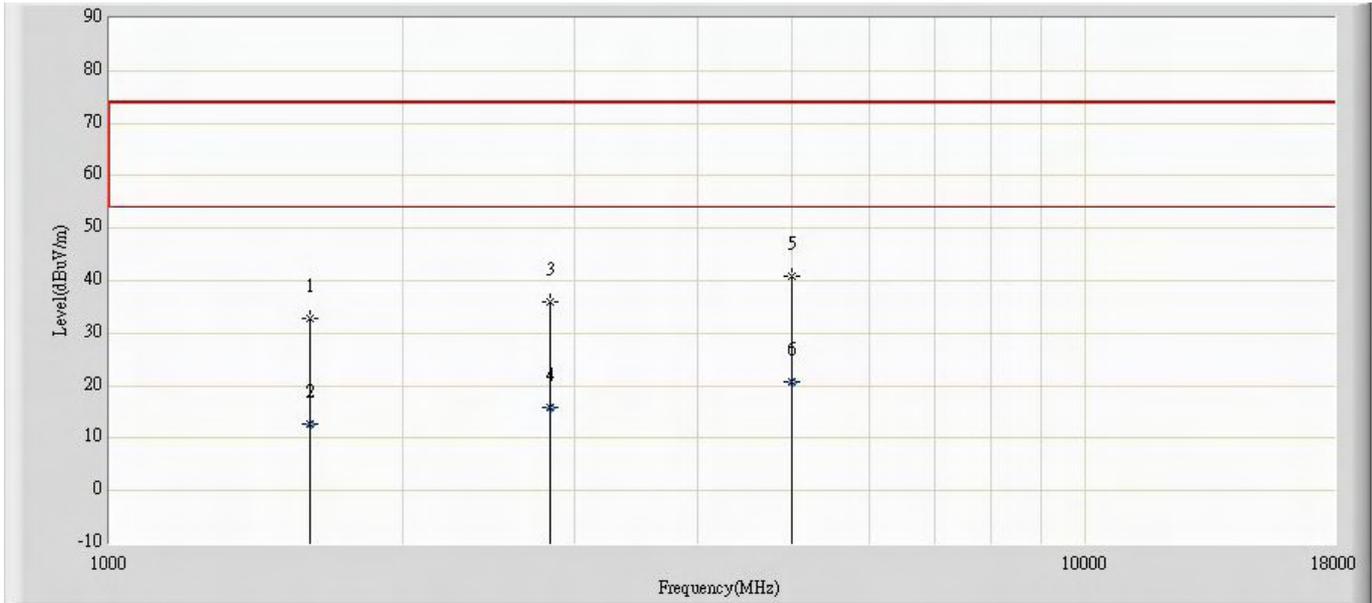
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1782.000	33.120	53.760	-40.880	74.000	-20.640	PK
2			1782.000	12.908	33.548	-41.092	54.000	-20.640	AV
3			2453.500	36.127	53.312	-37.873	74.000	-17.185	PK
4			2453.500	16.313	33.498	-37.687	54.000	-17.185	AV
5		*	4085.500	38.583	52.558	-35.417	74.000	-13.975	PK
6			4085.500	18.470	32.445	-35.530	54.000	-13.975	AV

Engineer: Jack	
Site: AC5	Time: 2011/07/20 - 12:53
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Vertical
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #1	



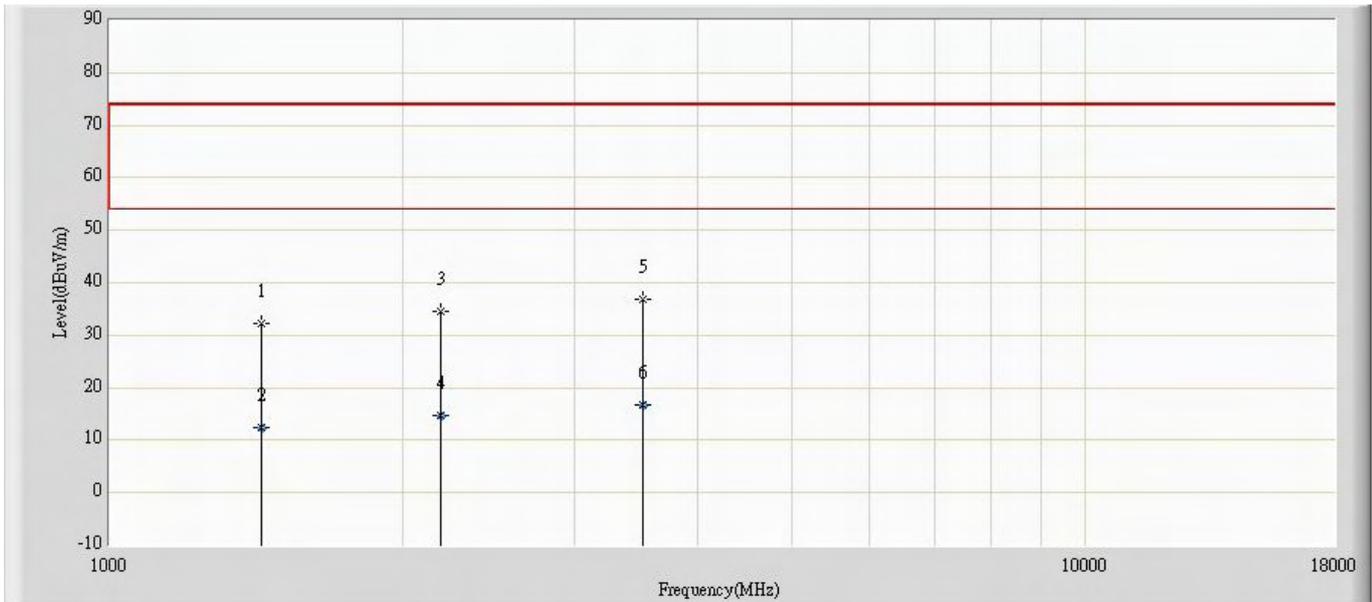
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1646.000	32.552	53.503	-41.448	74.000	-20.951	PK
2			1646.000	12.546	33.497	-41.454	54.000	-20.951	AV
3			2632.000	36.597	53.419	-37.403	74.000	-16.822	PK
4			2632.000	16.419	33.241	-37.581	54.000	-16.822	AV
5			4612.500	39.935	52.457	-34.065	74.000	-12.521	PK
6		*	4612.500	19.962	32.484	-34.038	54.000	-12.521	AV

Engineer: Jack	
Site: AC5	Time: 2011/07/20 - 12:53
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #2	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1603.500	32.815	53.747	-41.185	74.000	-20.933	PK
2			1603.500	12.759	33.691	-41.241	54.000	-20.933	AV
3			2827.500	35.836	52.396	-38.164	74.000	-16.560	PK
4			2827.500	15.856	32.416	-38.144	54.000	-16.560	AV
5			5012.000	40.803	52.037	-33.197	74.000	-11.234	PK
6		*	5012.000	20.811	32.045	-33.189	54.000	-11.234	AV

Engineer: Jack	
Site: AC5	Time: 2011/07/20 - 12:53
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_499(1-18GHz)	Polarity: Vertical
EUT: Mobile Phone	Power: AC 120V/60Hz
Note: Mode 3: GPS Receive with Adapter #2	

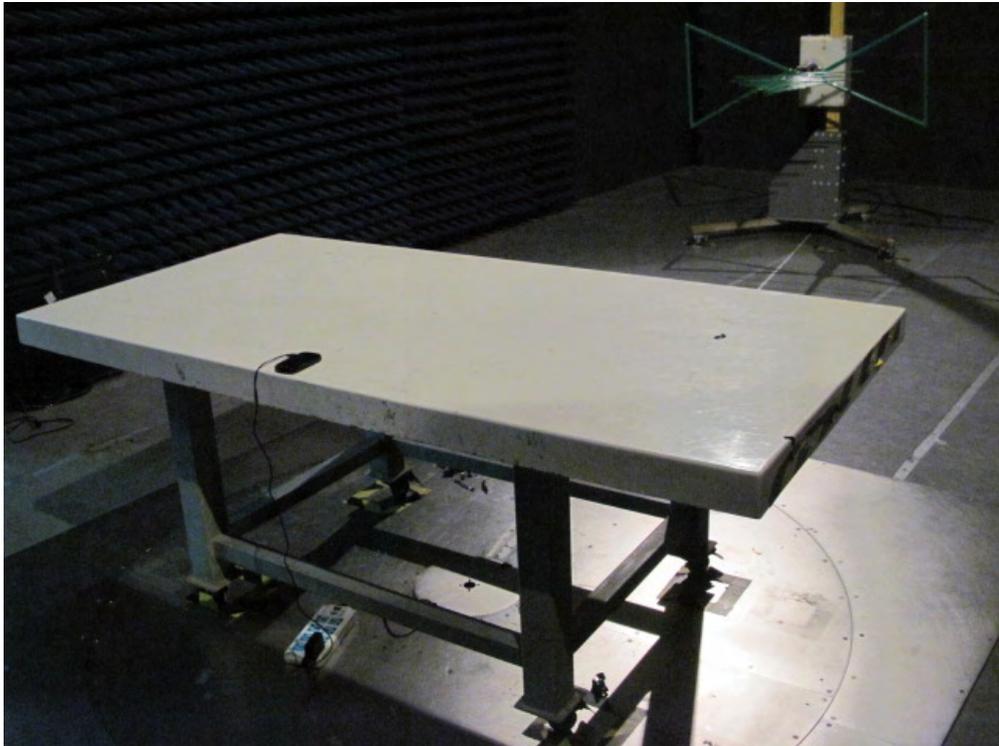


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1433.500	32.377	53.338	-41.623	74.000	-20.960	PK
2			1433.500	12.455	33.416	-41.545	54.000	-20.960	AV
3			2181.500	34.625	52.008	-39.375	74.000	-17.382	PK
4			2181.500	14.623	32.005	-39.377	54.000	-17.382	AV
5			3524.500	36.747	52.075	-37.253	74.000	-15.328	PK
6		*	3524.500	16.846	32.174	-37.154	54.000	-15.328	AV

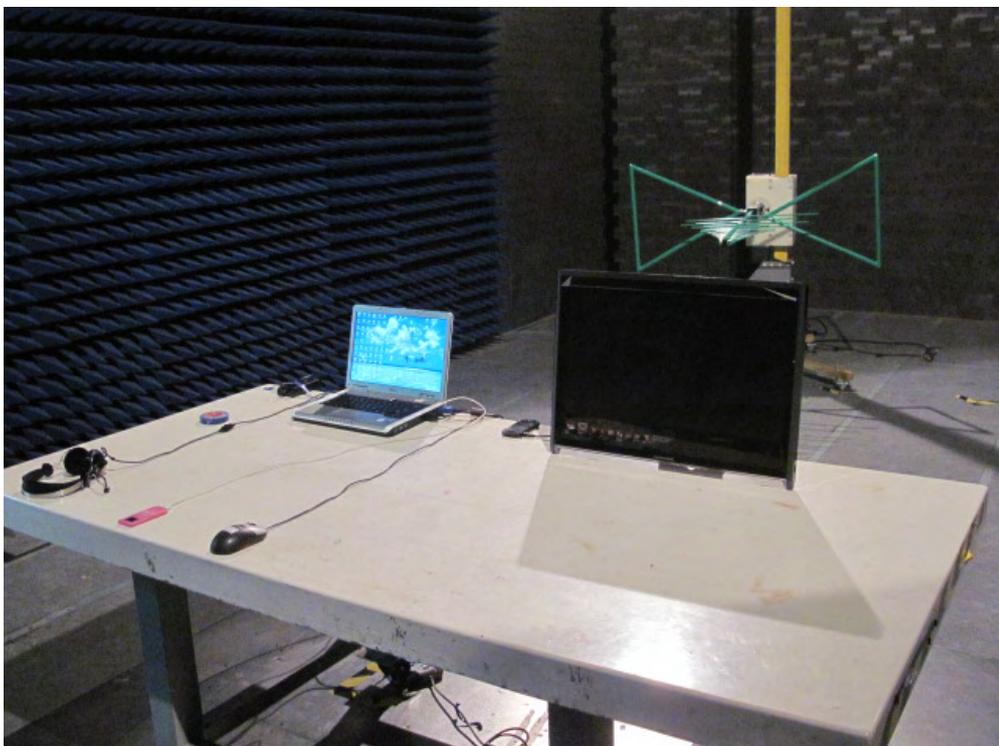
4.7. Test Photograph

Test Mode: Mode 1,3

Description: Radiated Emission Below 1G Test Setup

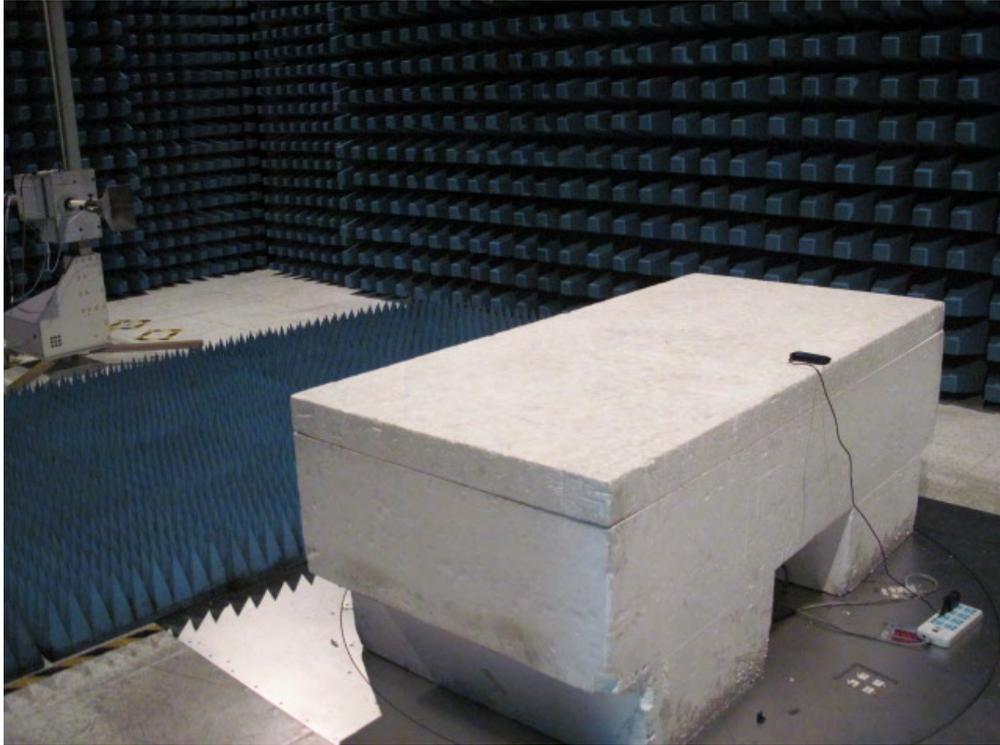


Test Mode: Mode 2



Test Mode: Mode 3

Description: Radiated Emission Above 1G Test Setup



5. Attachment

➤ EUT Photograph

(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo



(5) EUT Photo



(6) EUT Photo



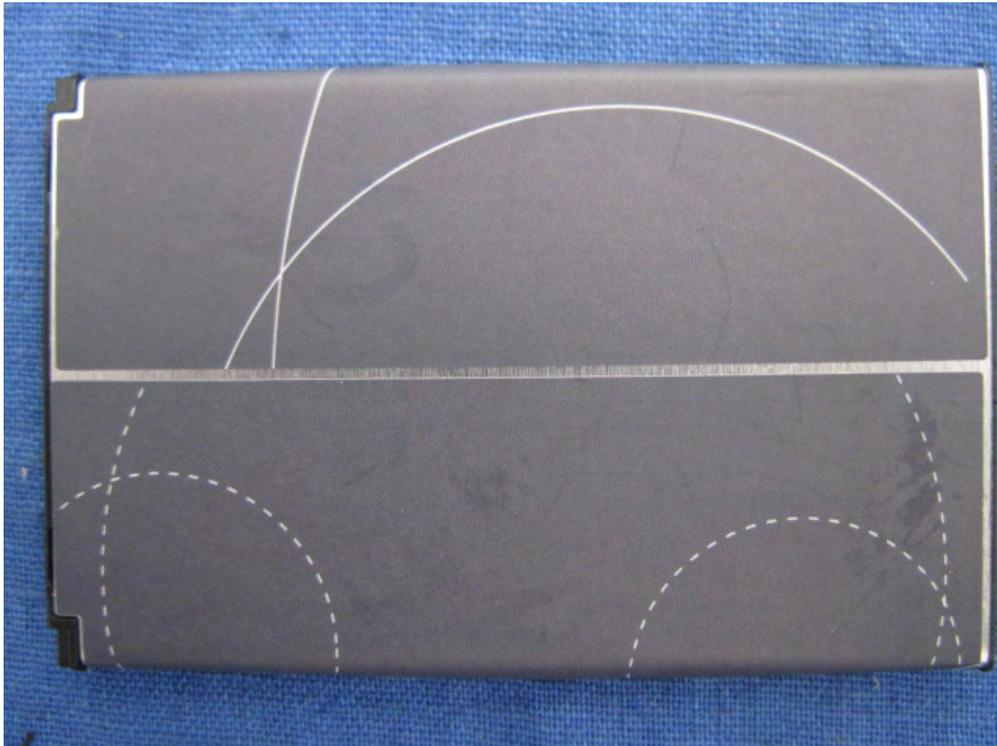
(7) EUT Photo



(8) EUT Photo



(9) EUT Photo



(10) EUT Photo



(11) EUT Photo



(12) EUT Photo



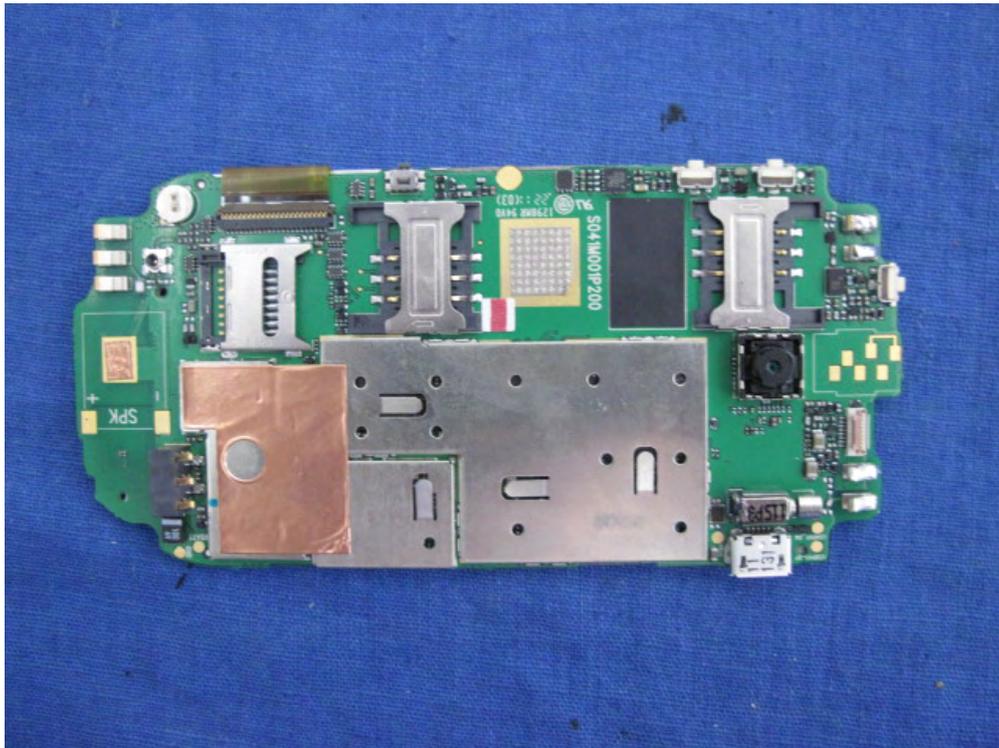
(13) EUT Photo



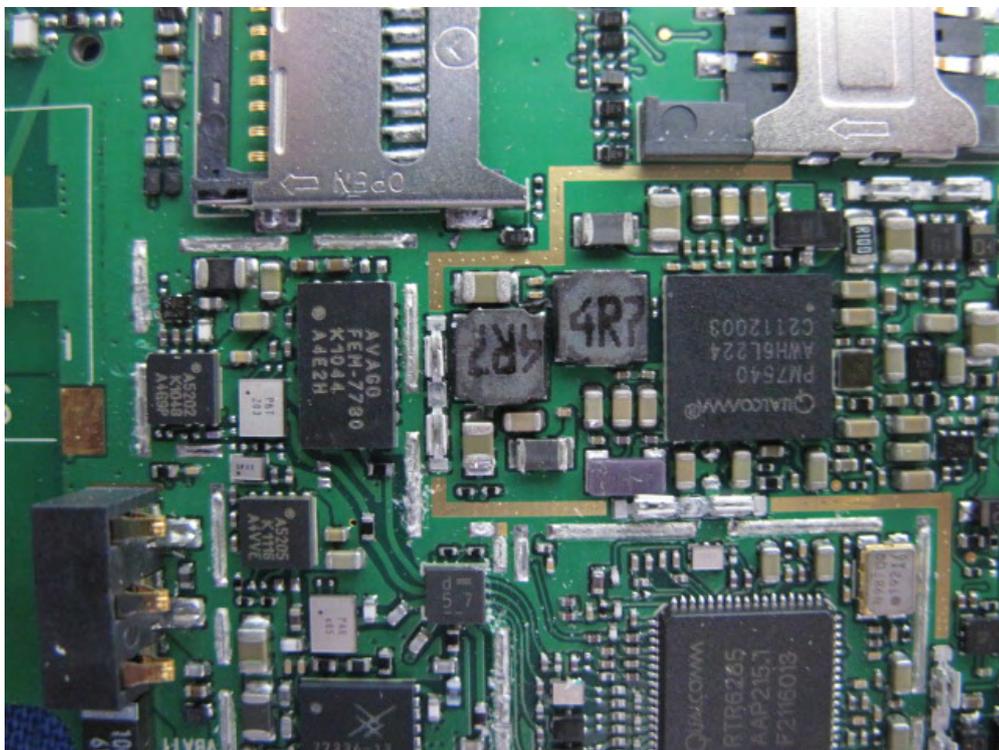
(14) EUT Photo



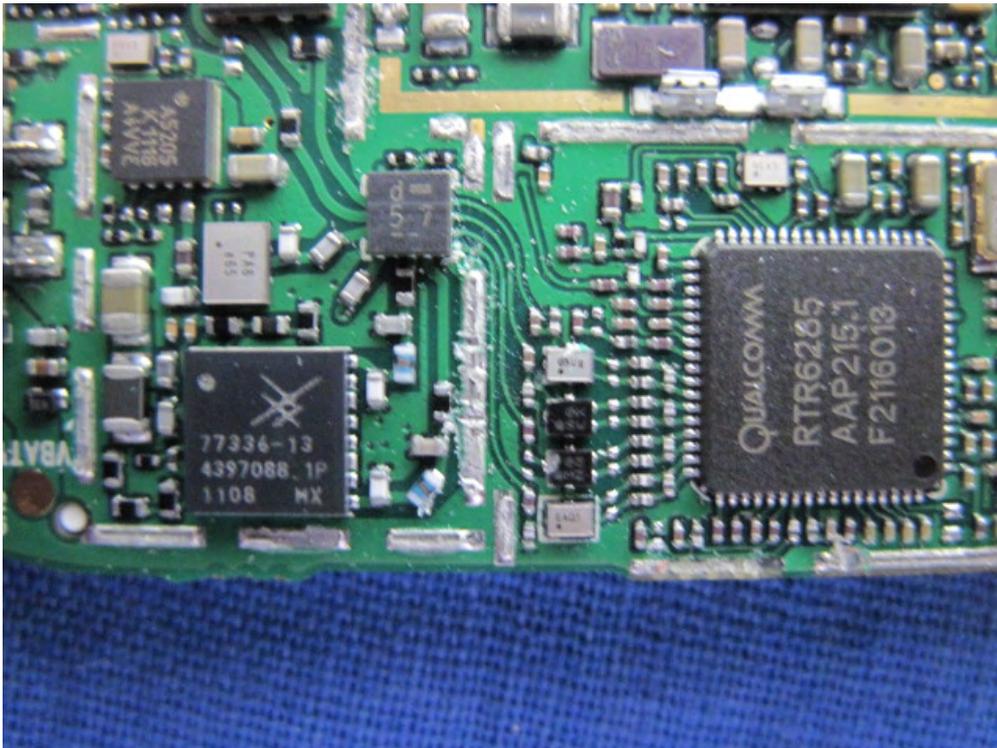
(15) EUT Photo



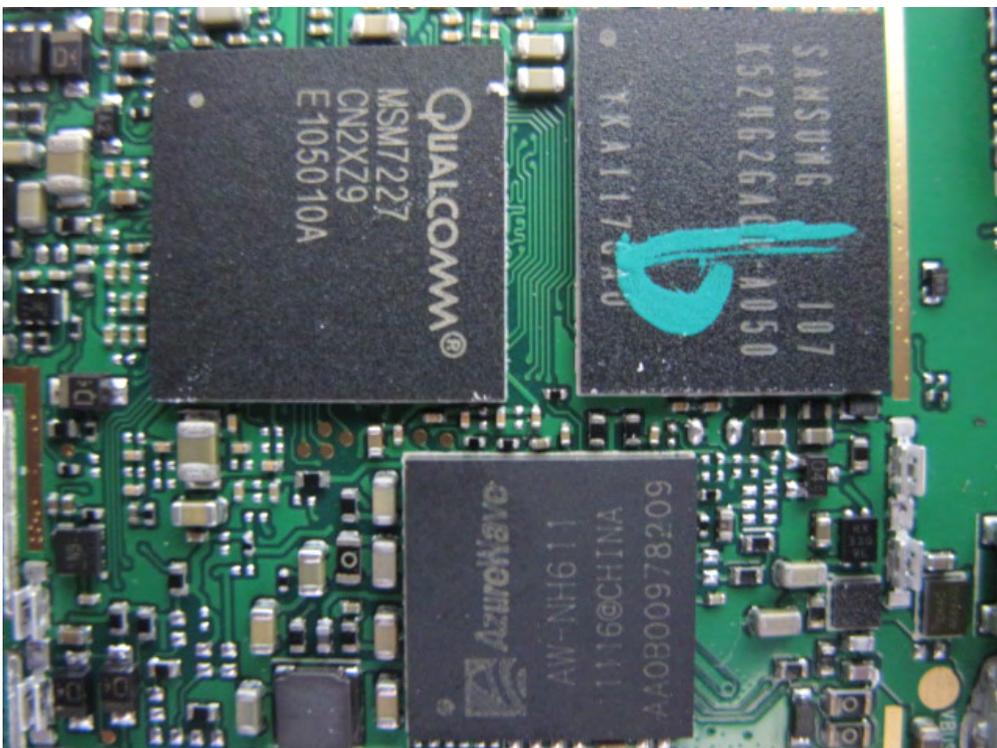
(16) EUT Photo



(17) EUT Photo



(18) EUT Photo



(19) EUT Photo (Adapter #1)



(20) EUT Photo (Adapter #1)



(21) EUT Photo (Adapter #1)



(22) EUT Photo (Adapter #2)



(23) EUT Photo (Adapter #2)



(24) EUT Photo (Adapter #2)



(25) EUT Photo

