

Test Report

Product Name : Deuce, HUAWEI U8520, U8520, U8520-1,
HUAWEI U8520-1, HSDPA/ UMTS/ GPRS/
GSM/ EDGE Mobile Phone with Bluetooth
Model No. : U8520, HUAWEI U8520-1, HUAWEI U8520,
U8520-1
FCC ID : QISU8520-1

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. : 116S073R-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

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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. : U8520, HUAWEI U8520-1, HUAWEI U8520, U8520-1

EUT Voltage : DC 3.7V

Brand Name : HUAWEI

Applicable Standard : FCC Part 15 Subpart B: 2008 Class B
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 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:

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1. General Information

1.1. EUT Description

Product Name	Deuce, HUAWEI U8520, U8520, U8520-1, HUAWEI U8520-1, HSDPA/ UMTS/ GPRS/ GSM/ EDGE Mobile Phone with Bluetooth
Model No.	U8520, HUAWEI U8520-1, HUAWEI U8520, U8520-1
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/GPRS/EDGE: R99
Type of modulation	GMSK for GSM/GPRS 8PSK for EDGE
Antenna Gain	1dBi
3G	
Support Band	WCDMA Band I/WCDMA Band VIII
Release Version	UMTS FDD: Rel-5
Type of modulation	QPSK for WCDMA
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 MAX Output: 5Vdc, 1.0A
Adapter #2	Manufacturer: TECH-POWER INTERNATIONAL CO., LTD.
	M/N: HW-050100U1W
	Input: 100-240V~50/60Hz 0.2A MAX 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

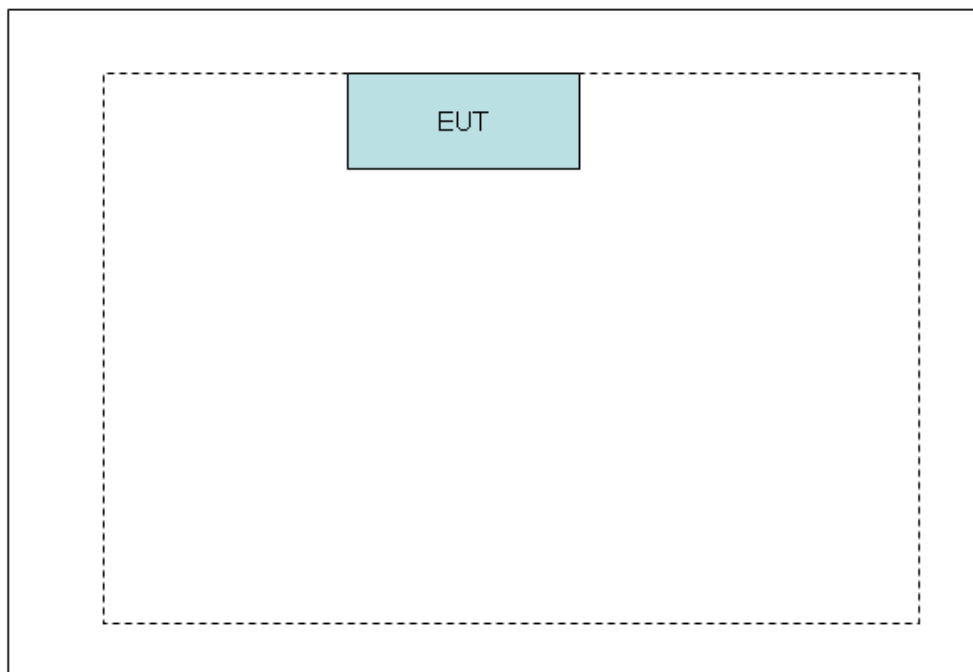
1.3. Tested System Details

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

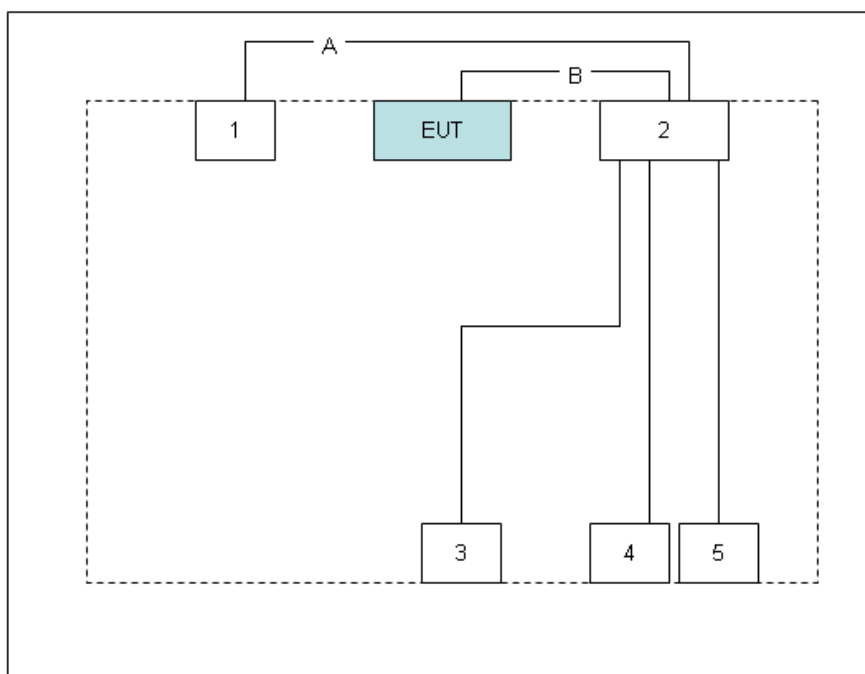
Product		Manufacturer	Model No.	Serial No.	Power Cord
1	LCD Monitor	Lenovo	L2361PWA	3M03896A0520853	Non-Shielded, 1.8m
2	PC	DELL	DCMF	11DMF2X	Non-Shielded, 1.8m
3	iPod	Apple	A1199	7J71085BVQ5	Power by PC
4	Microphone& Earphone	SOMIC	V85	N/A	Power by PC
5	USB Mouse	DELL	MOC5UO	10D00JJL	Power by PC
6	Signal Generator	Agilent	E4438C	MY49070163	N/A

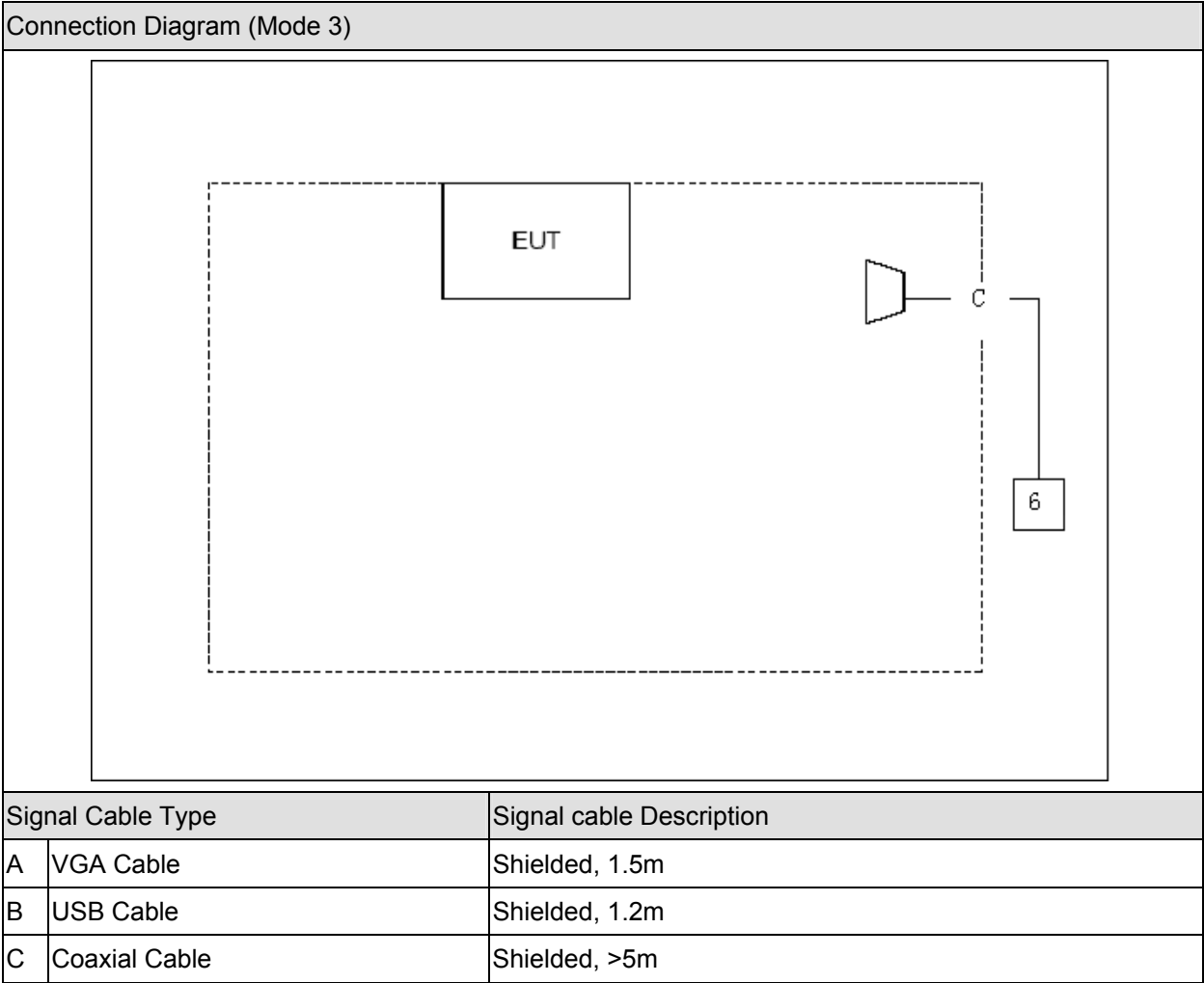
1.4. Configuration of Tested System

Connection Diagram (Mode 1)



Connection Diagram (Mode 2)





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

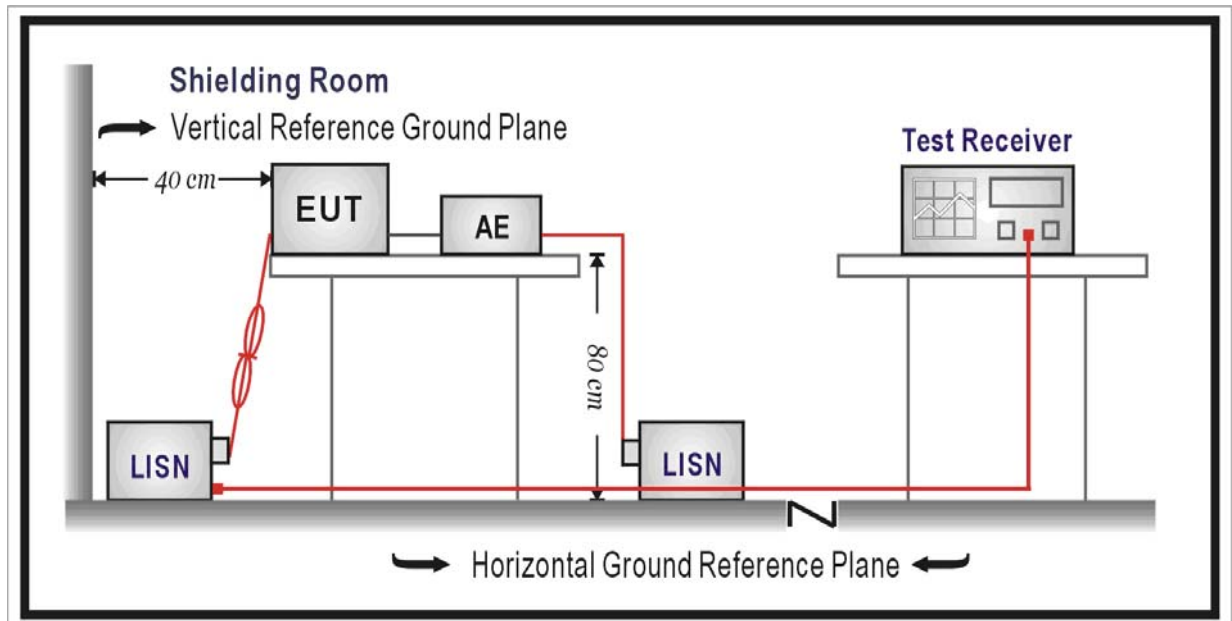
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	25
	Humidity (%RH)	25-75	50
	Barometric pressure (mbar)	860-1060	950-1000

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.

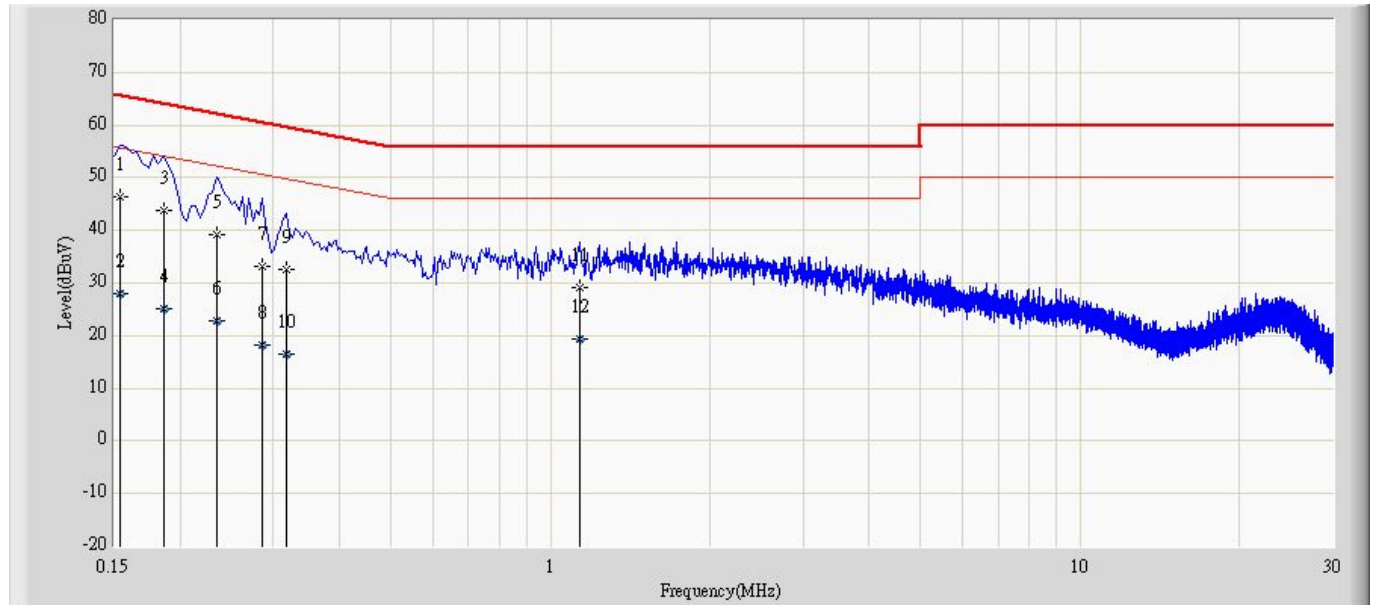
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Deviation from Test Standard

No deviation.

3.6. Test Result

Engineer: Jack	
Site: TR1	Time: 2011/07/17 - 12:55
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	*	0.154	46.459	36.778	-19.322	65.781	9.681	QP
2		0.154	27.852	18.171	-27.929	55.781	9.681	AV
3		0.186	43.909	34.248	-20.304	64.213	9.661	QP
4		0.186	25.232	15.571	-28.981	54.213	9.661	AV
5		0.234	39.283	29.631	-23.023	62.307	9.652	QP
6		0.234	22.942	13.290	-29.364	52.307	9.652	AV
7		0.286	33.269	23.613	-27.371	60.640	9.656	QP
8		0.286	18.263	8.607	-32.377	50.640	9.656	AV
9		0.318	32.500	22.842	-27.259	59.759	9.658	QP
10		0.318	16.421	6.763	-33.338	49.759	9.658	AV
11		1.134	29.169	19.469	-26.831	56.000	9.700	QP
12		1.134	19.246	9.546	-26.754	46.000	9.700	AV

Engineer: Jack

Site: TR1

Time: 2011/07/17 - 12:59

Limit: FCC_Part15.107_CE_AC Power_ClassB

Margin: 0

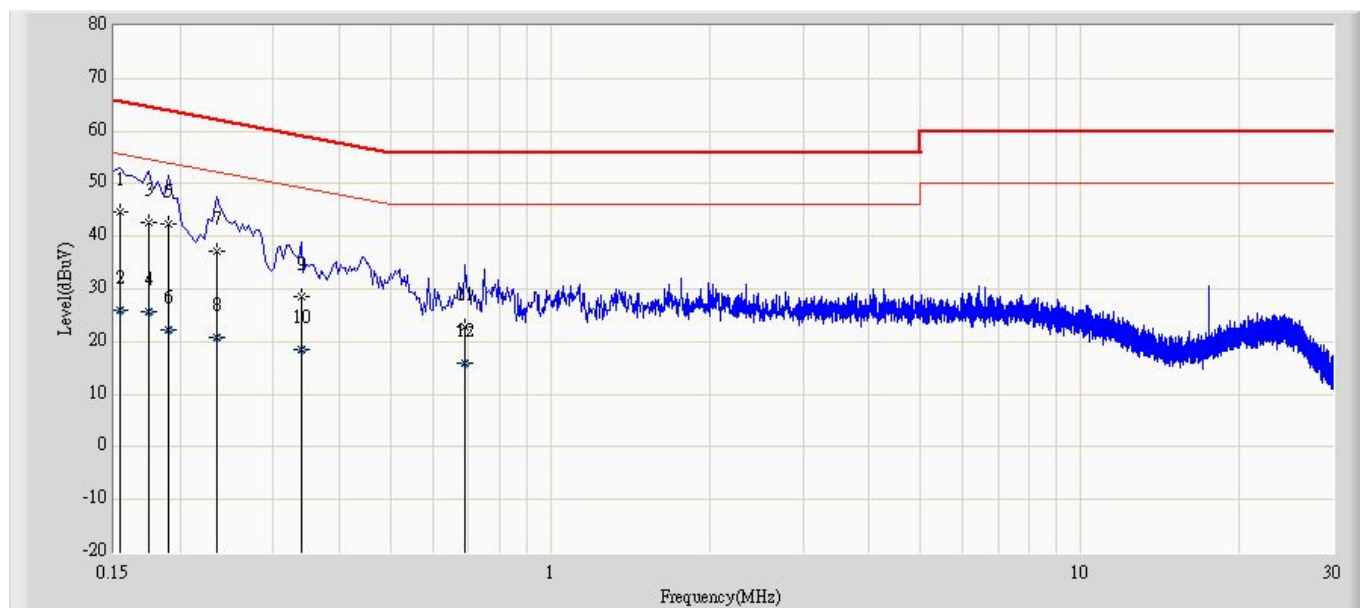
Probe: ENV216_101044(0.009-30MHz)

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	44.735	35.128	-21.046	65.781	9.607	QP
2		0.154	25.876	16.269	-29.905	55.781	9.607	AV
3		0.174	42.777	33.135	-21.990	64.767	9.642	QP
4		0.174	25.748	16.105	-29.019	54.767	9.642	AV
5		0.190	42.264	32.582	-21.772	64.037	9.682	QP
6		0.190	22.346	12.664	-31.690	54.037	9.682	AV
7		0.234	37.315	27.608	-24.991	62.307	9.708	QP
8		0.234	20.899	11.192	-31.407	52.307	9.708	AV
9		0.338	28.566	18.865	-30.686	59.252	9.701	QP
10		0.338	18.589	8.888	-30.664	49.252	9.701	AV
11		0.690	22.804	13.104	-33.196	56.000	9.700	QP
12		0.690	15.885	6.185	-30.115	46.000	9.700	AV

Engineer: Jack

Site: TR1

Time: 2011/07/14 - 09:10

Limit: FCC_Part15.107_CE_AC Power_ClassB

Margin: 0

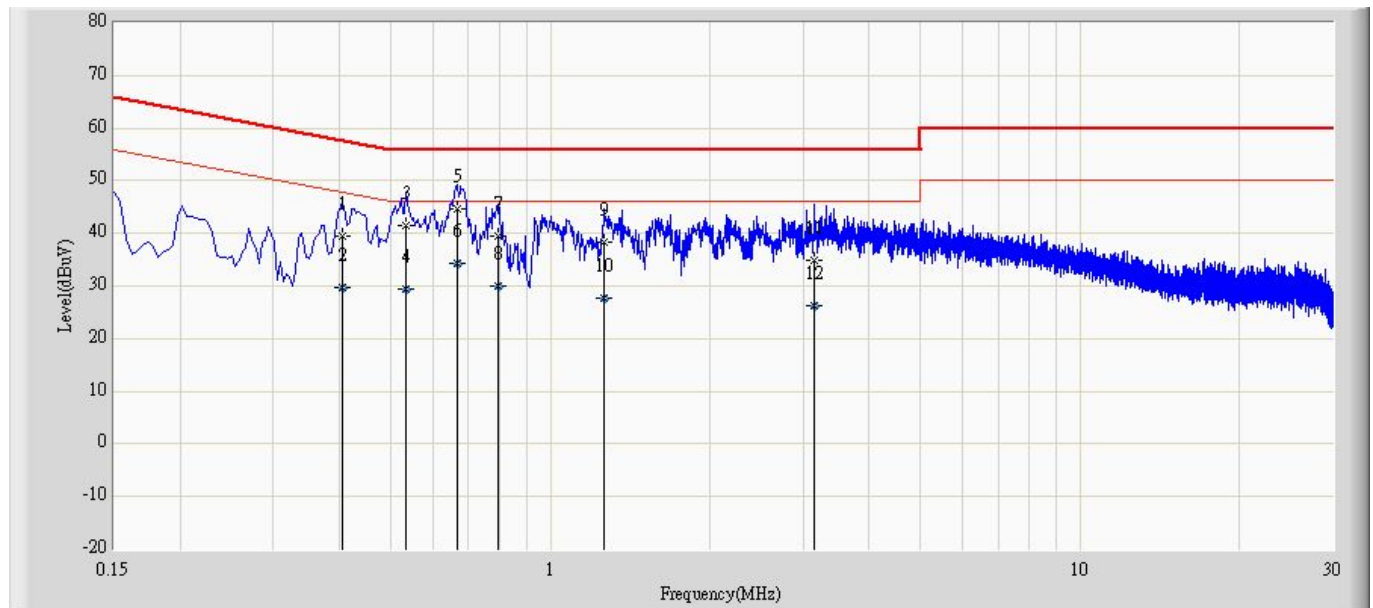
Probe: ENV216_101044(0.009-30MHz)

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		0.406	39.573	29.904	-18.156	57.730	9.670	QP
2		0.406	29.728	20.059	-18.001	47.730	9.670	AV
3		0.534	41.593	31.912	-14.407	56.000	9.682	QP
4		0.534	29.470	19.788	-16.530	46.000	9.682	AV
5	*	0.666	44.754	35.066	-11.246	56.000	9.688	QP
6		0.666	34.379	24.690	-11.621	46.000	9.688	AV
7		0.798	39.492	29.802	-16.508	56.000	9.690	QP
8		0.798	29.924	20.234	-16.076	46.000	9.690	AV
9		1.266	38.370	28.670	-17.630	56.000	9.700	QP
10		1.266	27.620	17.920	-18.380	46.000	9.700	AV
11		3.146	34.819	25.060	-21.181	56.000	9.759	QP
12		3.146	26.213	16.454	-19.787	46.000	9.759	AV

Engineer: Jack

Site: TR1

Time: 2011/07/17 - 12:51

Limit: FCC_Part15.107_CE_AC Power_ClassB

Margin: 0

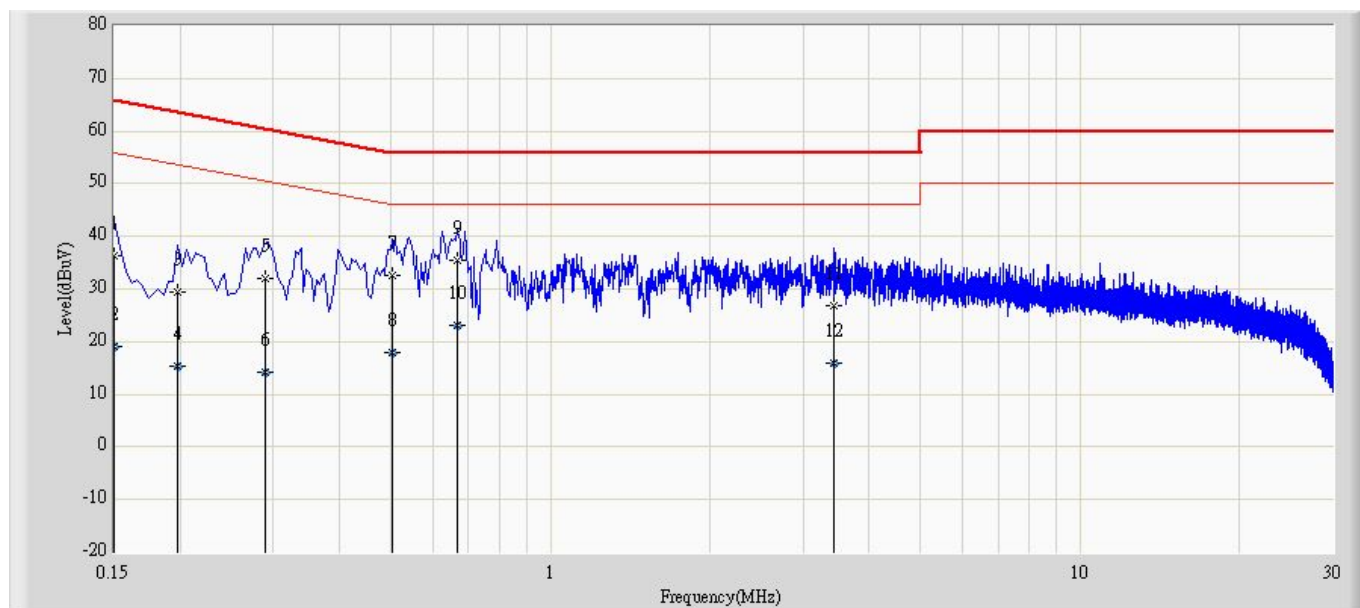
Probe: ENV216_101044(0.009-30MHz)

Polarity: Neutral

EUT: Mobile Phone

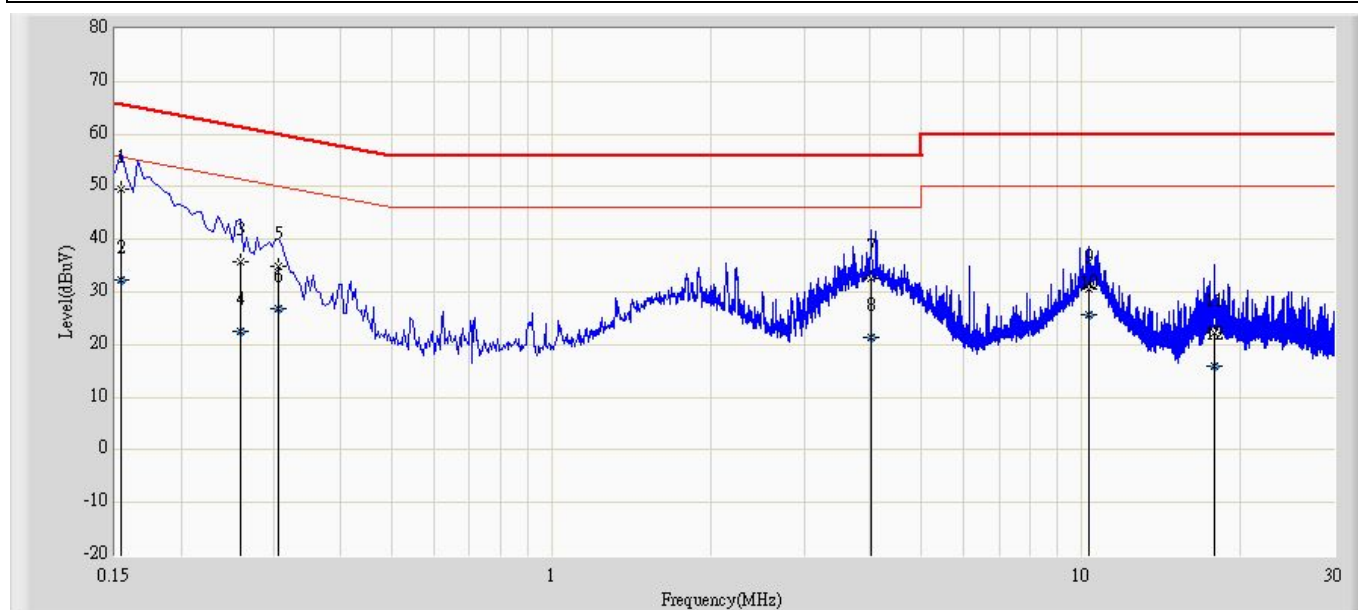
Power: AC 120V/60Hz

Note: Mode 1: Charging + Camera On with Adapter #2



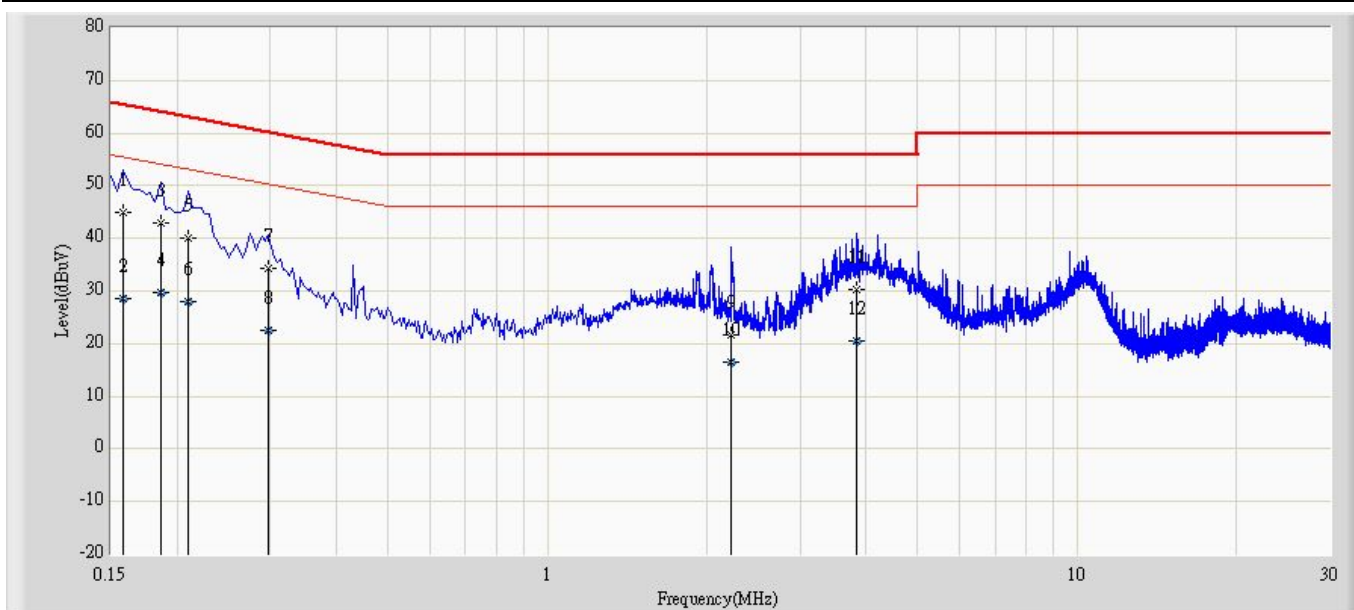
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.150	36.333	26.723	-29.667	66.000	9.610	QP
2		0.150	19.050	9.440	-36.950	56.000	9.610	AV
3		0.198	29.338	19.648	-34.356	63.694	9.690	QP
4		0.198	15.243	5.553	-38.451	53.694	9.690	AV
5		0.290	32.122	22.418	-28.402	60.524	9.704	QP
6		0.290	14.282	4.578	-36.242	50.524	9.704	AV
7		0.502	32.665	22.964	-23.335	56.000	9.700	QP
8		0.502	17.790	8.090	-28.210	46.000	9.700	AV
9	*	0.666	35.485	25.785	-20.515	56.000	9.700	QP
10		0.666	23.121	13.421	-22.879	46.000	9.700	AV
11		3.422	26.912	17.134	-29.088	56.000	9.779	QP
12		3.422	16.053	6.274	-29.947	46.000	9.779	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/15 - 08:52
Limit: EN55022_CE_Mains_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	*	0.154	49.540	39.858	-16.242	65.781	9.681	QP
2		0.154	32.307	22.625	-23.475	55.781	9.681	AV
3		0.258	35.713	26.059	-25.783	61.496	9.654	QP
4		0.258	22.513	12.859	-28.982	51.496	9.654	AV
5		0.306	34.749	25.092	-25.329	60.078	9.657	QP
6		0.306	26.857	17.200	-23.221	50.078	9.657	AV
7		4.010	32.472	22.678	-23.528	56.000	9.794	QP
8		4.010	21.460	11.667	-24.540	46.000	9.794	AV
9		10.370	30.697	20.734	-29.303	60.000	9.964	QP
10		10.370	25.550	15.586	-24.450	50.000	9.964	AV
11		17.810	22.256	12.101	-37.744	60.000	10.155	QP
12		17.810	15.834	5.679	-34.166	50.000	10.155	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/15 - 08:56
Limit: EN55022_CE_Mains_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	*	0.158	44.861	35.257	-20.707	65.568	9.604	QP
2		0.158	28.674	19.070	-26.894	55.568	9.604	AV
3		0.186	42.904	33.230	-21.309	64.213	9.674	QP
4		0.186	29.599	19.925	-24.615	54.213	9.674	AV
5		0.210	39.919	30.218	-23.287	63.205	9.701	QP
6		0.210	27.973	18.272	-25.233	53.205	9.701	AV
7		0.298	34.227	24.523	-26.072	60.298	9.703	QP
8		0.298	22.587	12.883	-27.711	50.298	9.703	AV
9		2.226	21.604	11.871	-34.396	56.000	9.733	QP
10		2.226	16.392	6.659	-29.608	46.000	9.733	AV
11		3.830	30.292	20.498	-25.708	56.000	9.794	QP
12		3.830	20.656	10.861	-25.344	46.000	9.794	AV

Engineer: Jack

Site: TR1

Time: 2011/07/17 - 15:07

Limit: FCC_Part15.107_CE_AC Power_ClassB

Margin: 0

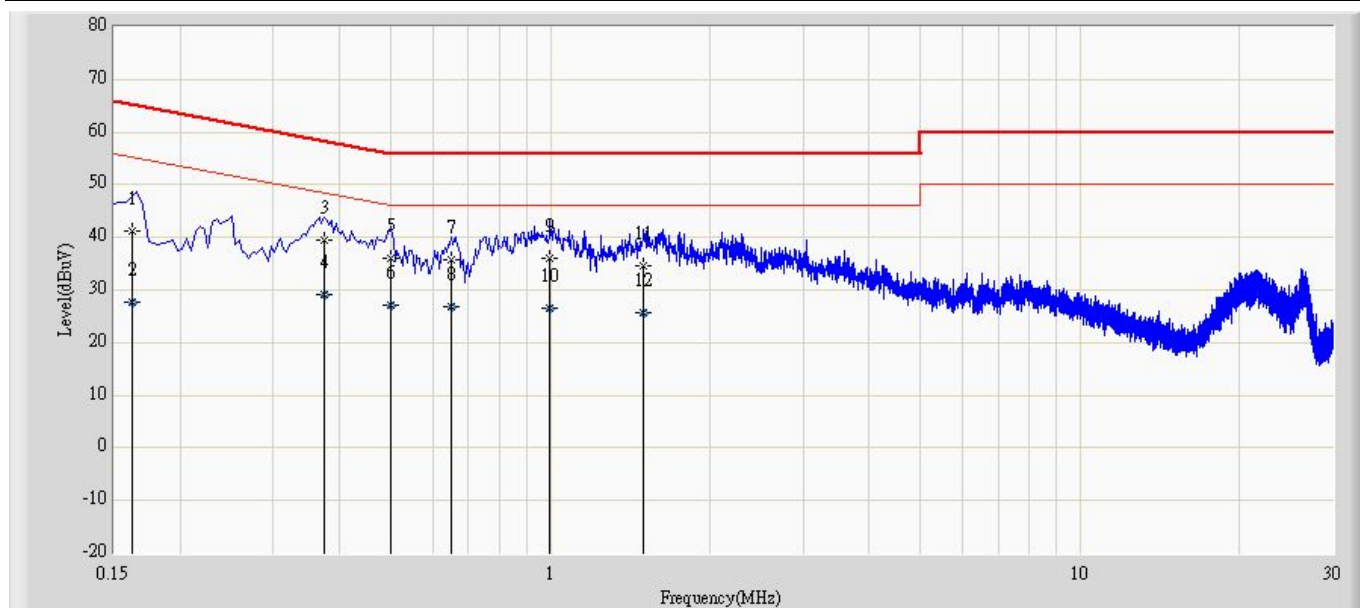
Probe: ENV216_101044(0.009-30MHz)

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		0.162	41.153	31.473	-24.207	65.361	9.680	QP
2		0.162	27.645	17.965	-27.716	55.361	9.680	AV
3	*	0.374	39.512	29.851	-18.899	58.412	9.662	QP
4		0.374	28.996	19.335	-19.415	48.412	9.662	AV
5		0.498	36.025	26.346	-20.008	56.033	9.680	QP
6		0.498	27.053	17.374	-18.980	46.033	9.680	AV
7		0.650	35.657	25.970	-20.343	56.000	9.687	QP
8		0.650	26.740	17.053	-19.260	46.000	9.687	AV
9		0.998	35.948	26.248	-20.052	56.000	9.700	QP
10		0.998	26.597	16.897	-19.403	46.000	9.700	AV
11		1.502	34.607	24.897	-21.393	56.000	9.710	QP
12		1.502	25.746	16.036	-20.254	46.000	9.710	AV

Engineer: Jack

Site: TR1

Time: 2011/07/17 - 15:11

Limit: FCC_Part15.107_CE_AC Power_ClassB

Margin: 0

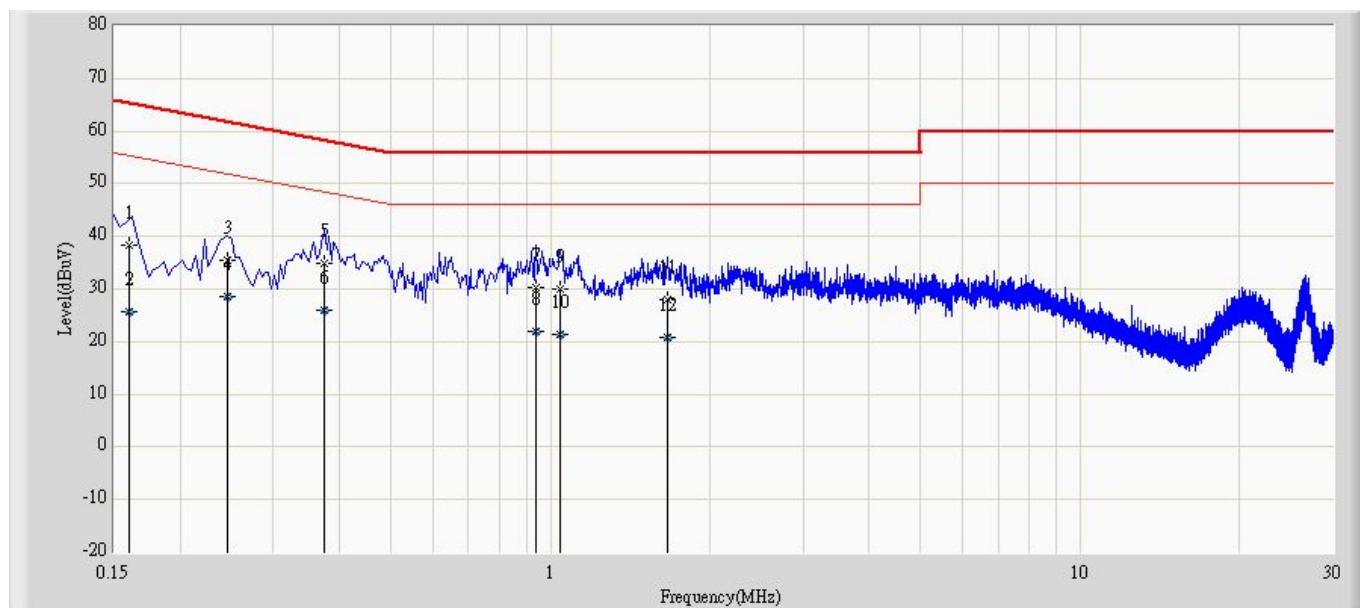
Probe: ENV216_101044(0.009-30MHz)

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		0.160	38.421	28.814	-27.028	65.449	9.607	QP
2		0.160	25.674	16.067	-29.775	55.449	9.607	AV
3		0.246	35.415	25.708	-26.476	61.891	9.707	QP
4		0.246	28.604	18.897	-23.287	51.891	9.707	AV
5		0.374	34.888	25.189	-23.524	58.412	9.698	QP
6	*	0.374	26.052	16.353	-22.360	48.412	9.698	AV
7		0.938	30.252	20.542	-25.748	56.000	9.710	QP
8		0.938	21.936	12.226	-24.064	46.000	9.710	AV
9		1.042	29.953	20.243	-26.047	56.000	9.710	QP
10		1.042	21.405	11.695	-24.595	46.000	9.710	AV
11		1.662	28.002	18.282	-27.998	56.000	9.720	QP
12		1.662	20.863	11.143	-25.137	46.000	9.720	AV

Engineer: Jack

Site: TR1

Time: 2011/07/17 - 14:59

Limit: FCC_Part15.107_CE_AC Power_ClassB

Margin: 0

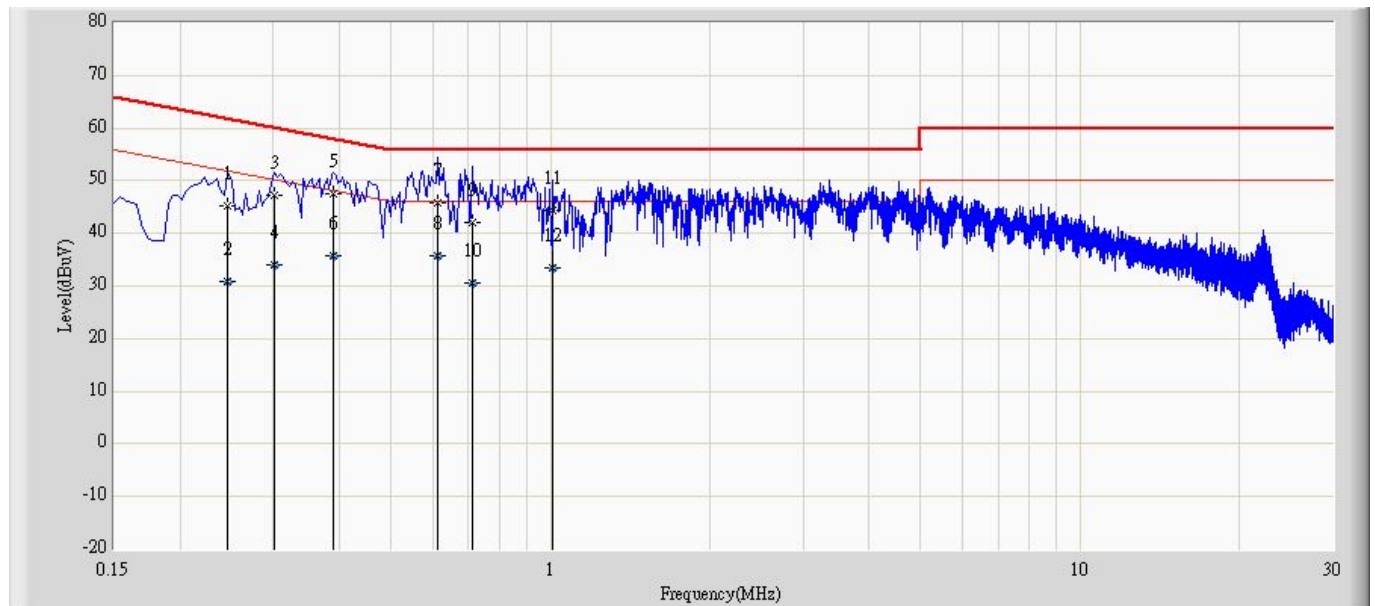
Probe: ENV216_101044(0.009-30MHz)

Polarity: Line

EUT: Mobile Phone

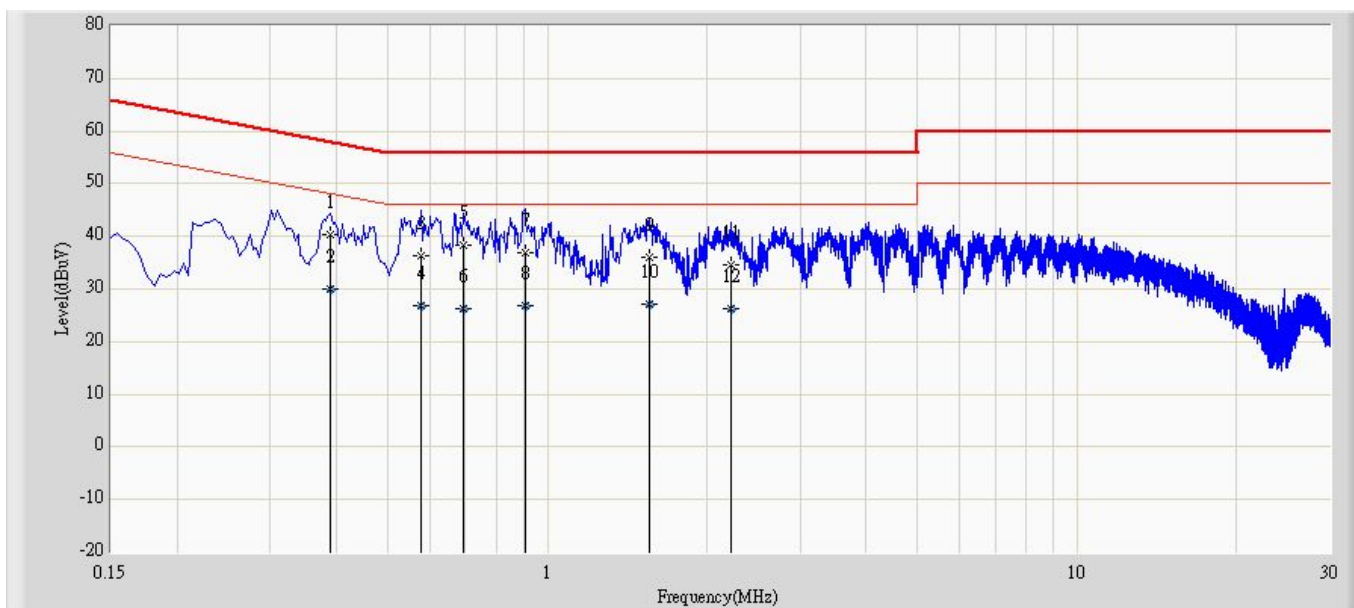
Power: AC 120V/60Hz

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		0.246	45.209	35.556	-16.682	61.891	9.653	QP
2		0.246	30.996	21.343	-20.895	51.891	9.653	AV
3		0.302	47.158	37.502	-13.029	60.188	9.657	QP
4		0.302	33.916	24.259	-16.272	50.188	9.657	AV
5		0.390	47.520	37.857	-10.544	58.064	9.663	QP
6		0.390	35.793	26.130	-12.271	48.064	9.663	AV
7	*	0.614	45.739	36.053	-10.261	56.000	9.686	QP
8		0.614	35.702	26.016	-10.298	46.000	9.686	AV
9		0.714	42.005	32.315	-13.995	56.000	9.690	QP
10		0.714	30.711	21.021	-15.289	46.000	9.690	AV
11		1.010	44.297	34.597	-11.703	56.000	9.700	QP
12		1.010	33.360	23.660	-12.640	46.000	9.700	AV

Engineer: Jack	
Site: TR1	Time: 2011/07/17 - 15:03
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		0.390	40.294	30.596	-17.770	58.064	9.697	QP
2		0.390	29.889	20.191	-18.175	48.064	9.697	AV
3		0.578	36.451	26.751	-19.549	56.000	9.700	QP
4		0.578	26.863	17.163	-19.137	46.000	9.700	AV
5	*	0.694	38.249	28.549	-17.751	56.000	9.700	QP
6		0.694	26.212	16.512	-19.788	46.000	9.700	AV
7		0.906	37.018	27.308	-18.982	56.000	9.710	QP
8		0.906	26.923	17.213	-19.077	46.000	9.710	AV
9		1.558	36.049	26.329	-19.951	56.000	9.720	QP
10		1.558	27.034	17.314	-18.966	46.000	9.720	AV
11		2.218	34.470	24.738	-21.530	56.000	9.733	QP
12		2.218	26.148	16.415	-19.852	46.000	9.733	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



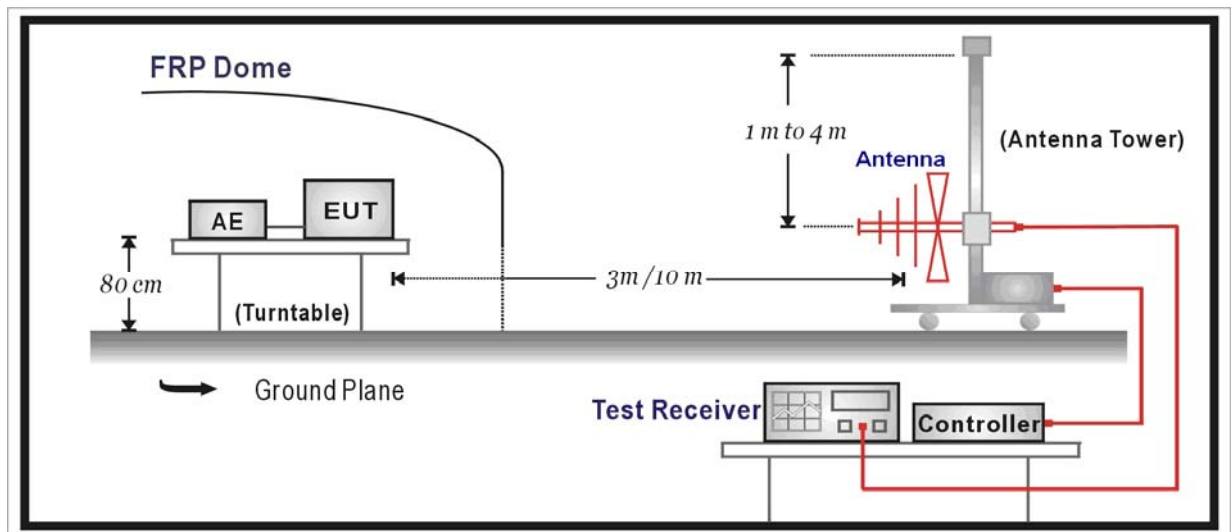
4. Radiated Emission

4.1. Test Specification

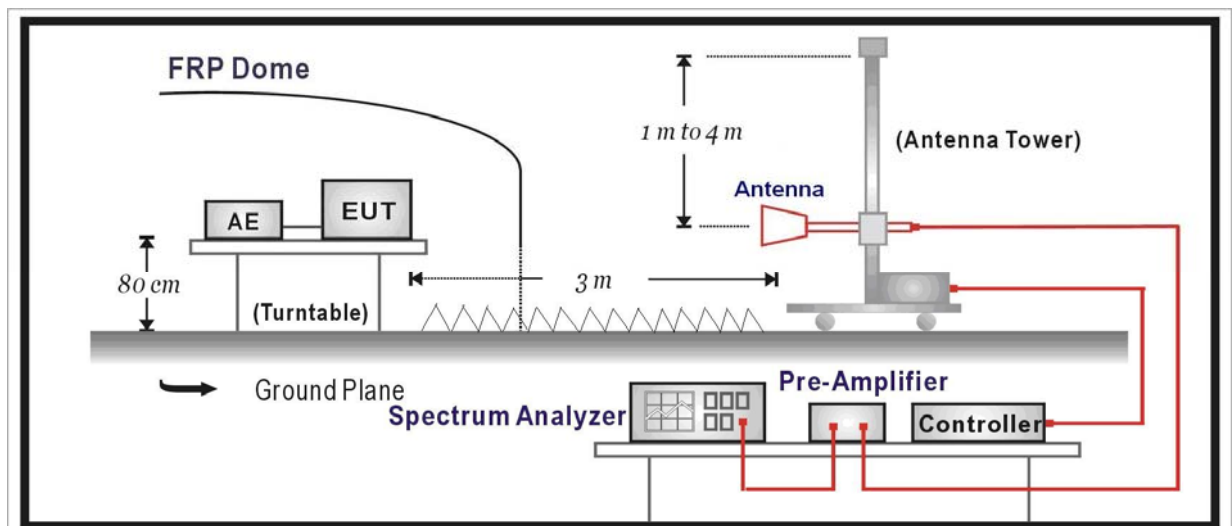
According to EMC Standard: FCC Part 15 Subpart B Class B, ANSI C63.4

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.

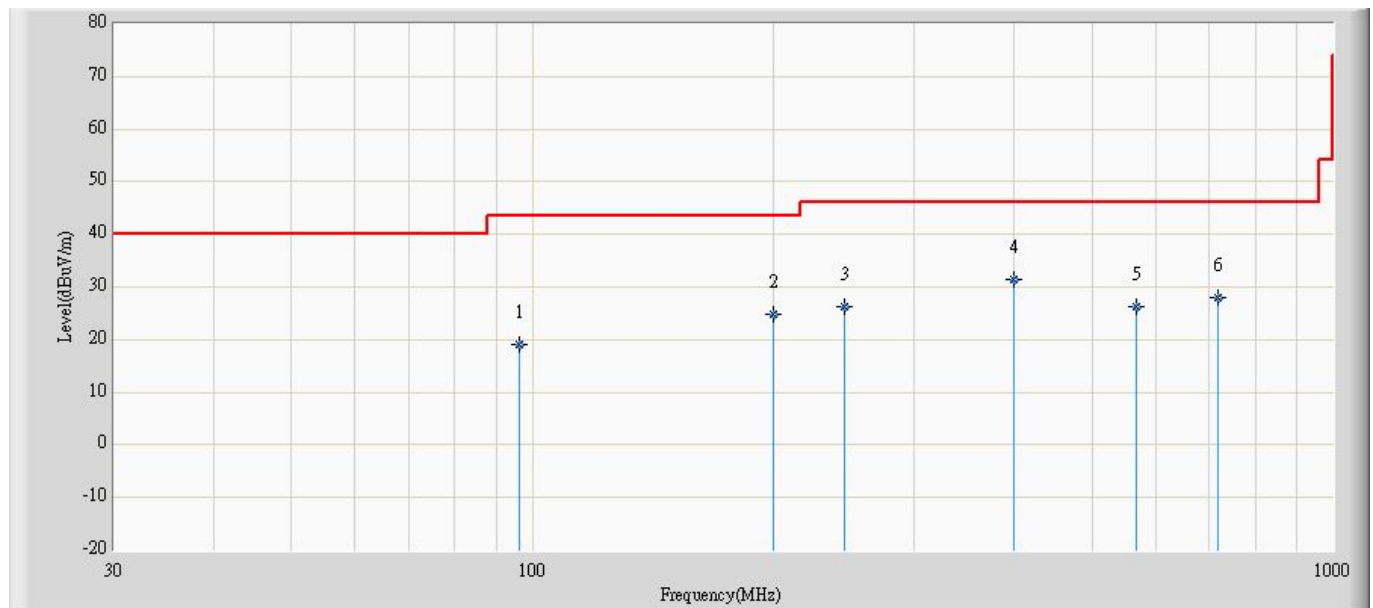
Note: When measurement above 1GHz, the horn antenna will bend down a little (as horn antenna have the narrow beamwidth) in order to find the maximum emission of EUT.

4.5. Deviation from Test Standard

No deviation.

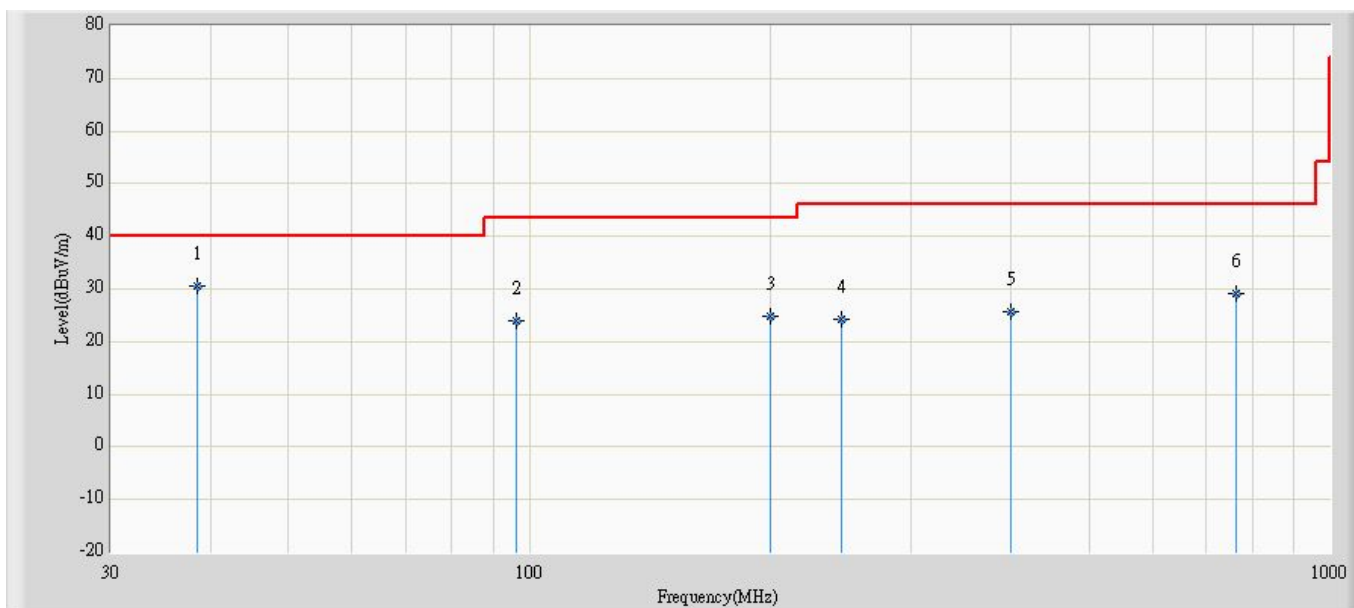
4.6. Test Result

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			96.445	19.216	8.371	-24.284	43.500	10.845	QP
2			199.992	24.922	14.699	-18.578	43.500	10.223	QP
3			245.825	26.296	13.286	-19.704	46.000	13.010	QP
4		*	399.934	31.415	13.692	-14.585	46.000	17.723	QP
5			567.986	26.181	5.517	-19.819	46.000	20.664	QP
6			718.821	27.948	5.994	-18.052	46.000	21.953	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		*	38.366	30.511	16.916	-9.489	40.000	13.595	QP
2			96.445	23.972	13.127	-19.528	43.500	10.845	QP
3			199.992	24.915	14.692	-18.585	43.500	10.223	QP
4			245.704	24.264	11.264	-21.736	46.000	13.000	QP
5			400.055	25.631	7.901	-20.369	46.000	17.730	QP
6			762.593	29.053	6.648	-16.947	46.000	22.404	QP

Engineer: Jack

Site: AC2

Time: 2011/07/16 - 18:33

Limit: FCC_Part15.109_RE(3m)_ClassB

Margin: 0

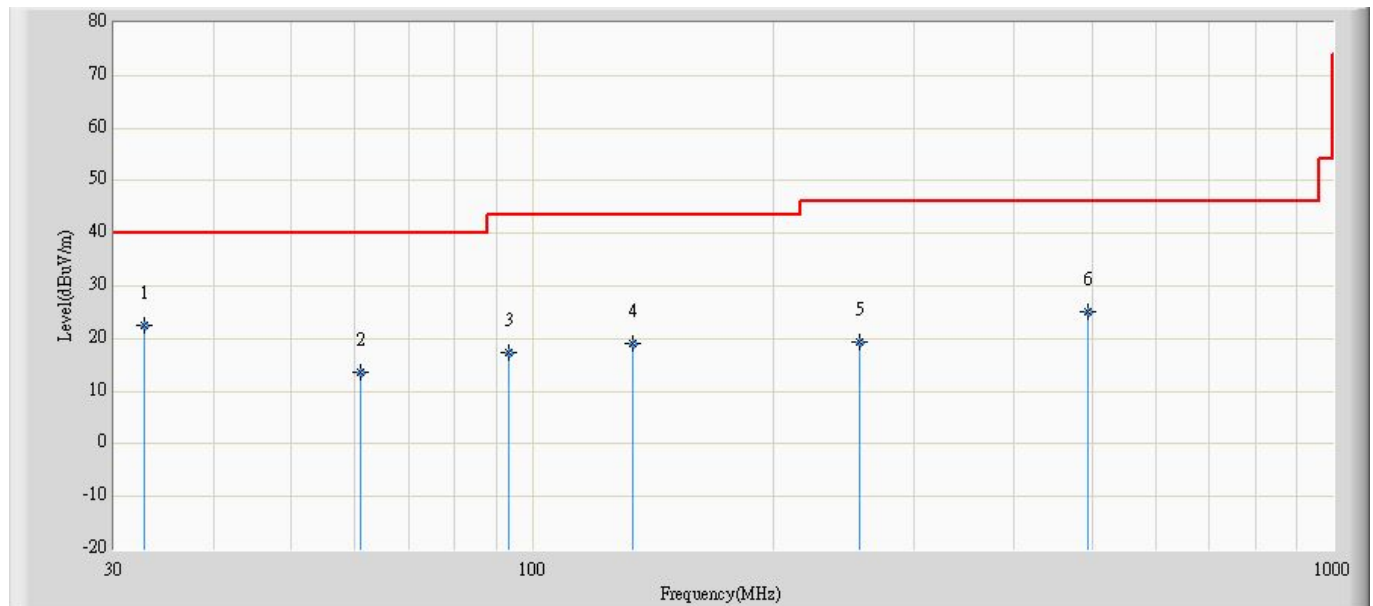
Probe: CBL6112D_27611(30-1000MHz)

Polarity: Horizontal

EUT: Mobile Phone

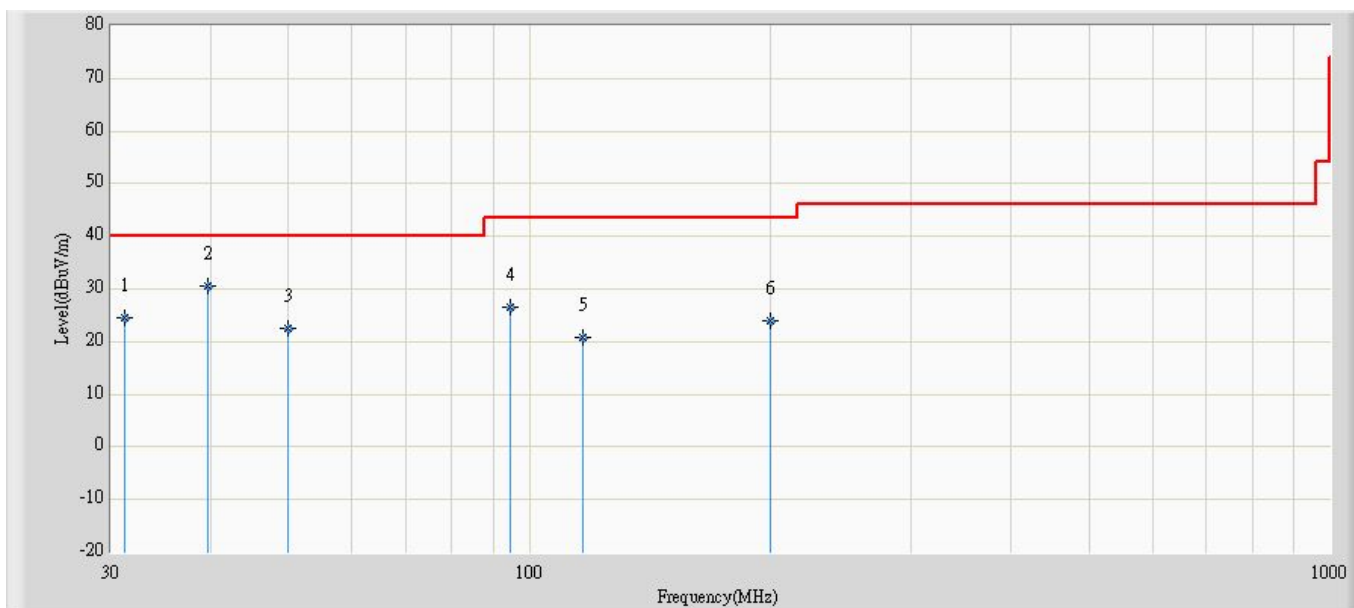
Power: AC 120V/60Hz

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		*	32.667	22.613	5.920	-17.387	40.000	16.692	QP
2			60.919	13.545	7.476	-26.455	40.000	6.069	QP
3			93.535	17.487	7.072	-26.013	43.500	10.415	QP
4			133.426	19.044	6.658	-24.456	43.500	12.386	QP
5			256.374	19.455	5.594	-26.545	46.000	13.861	QP
6			494.266	24.997	5.637	-21.003	46.000	19.360	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			31.212	24.587	6.987	-15.413	40.000	17.600	QP
2		*	39.579	30.478	17.542	-9.522	40.000	12.936	QP
3			49.885	22.468	14.208	-17.532	40.000	8.260	QP
4			94.747	26.530	15.898	-16.970	43.500	10.632	QP
5			116.330	20.902	8.252	-22.598	43.500	12.650	QP
6			199.992	23.954	13.731	-19.546	43.500	10.223	QP

Engineer: Jack

Site: AC2

Time: 2011/07/16 - 18:03

Limit: FCC_Part15.109_RE(3m)_ClassB

Margin: 0

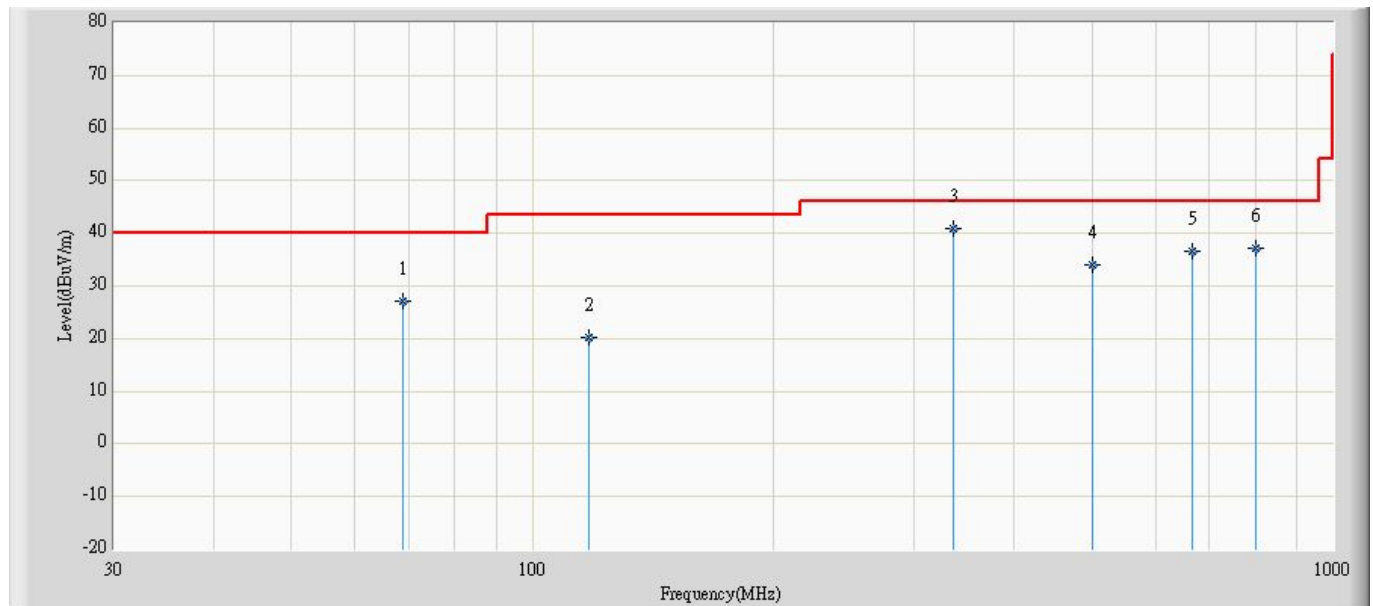
Probe: CBL6112D_27611(30-1000MHz)

Polarity: Horizontal

EUT: Mobile Phone

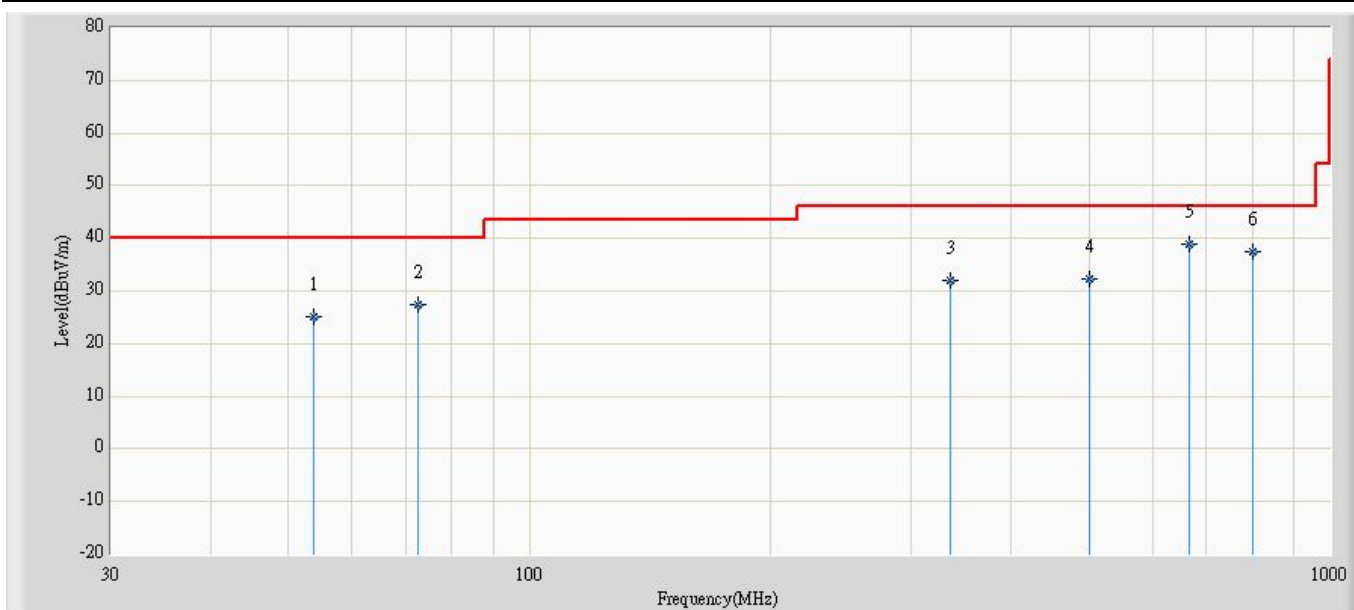
Power: AC 230V/50Hz

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			69.011	27.055	21.182	-12.945	40.000	5.873	QP
2			117.378	20.170	7.498	-23.330	43.500	12.672	QP
3		*	335.997	40.955	25.316	-5.045	46.000	15.639	QP
4			499.940	33.964	14.588	-12.036	46.000	19.375	QP
5			666.714	36.726	15.306	-9.274	46.000	21.420	QP
6			799.666	37.305	14.771	-8.695	46.000	22.535	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 230V/50Hz
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			53.773	25.237	17.964	-14.763	40.000	7.273	QP
2			72.698	27.552	21.299	-12.448	40.000	6.253	QP
3			335.991	31.974	16.335	-14.026	46.000	15.639	QP
4			499.920	32.397	13.022	-13.603	46.000	19.375	QP
5		*	666.668	38.996	17.576	-7.004	46.000	21.420	QP
6			799.968	37.542	15.004	-8.458	46.000	22.538	QP

Engineer: Jack

Site: AC2

Time: 2011/07/20 - 12:11

Limit: FCC_Part15.109_RE(3m)_ClassB

Margin: 0

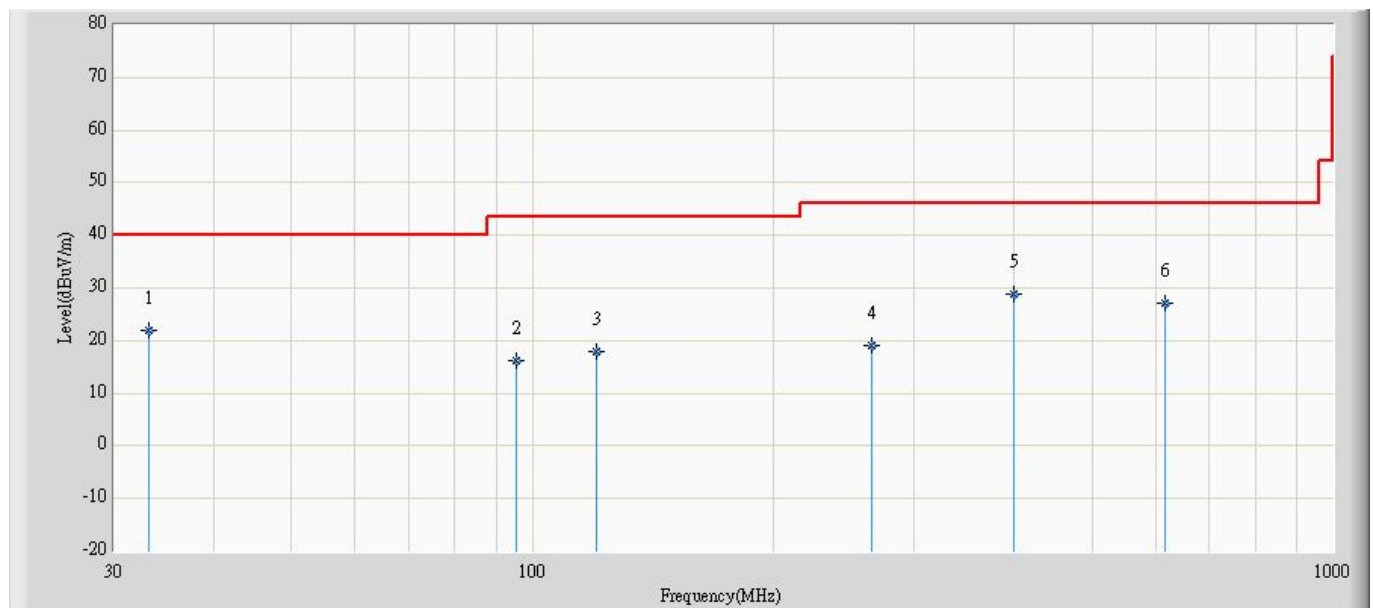
Probe: CBL6112D_27611(30-1000MHz)

Polarity: Horizontal

EUT: Mobile Phone

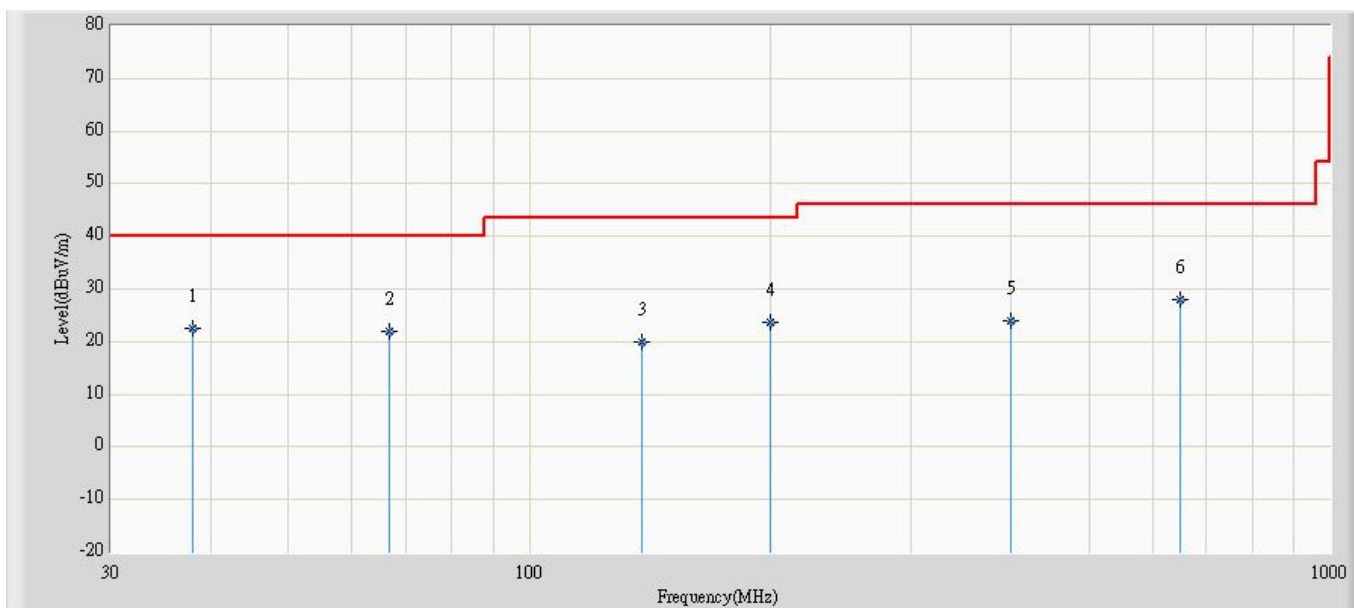
Power: AC 120V/60Hz

Note: Mode 3: GPS Receive with Adapter #1



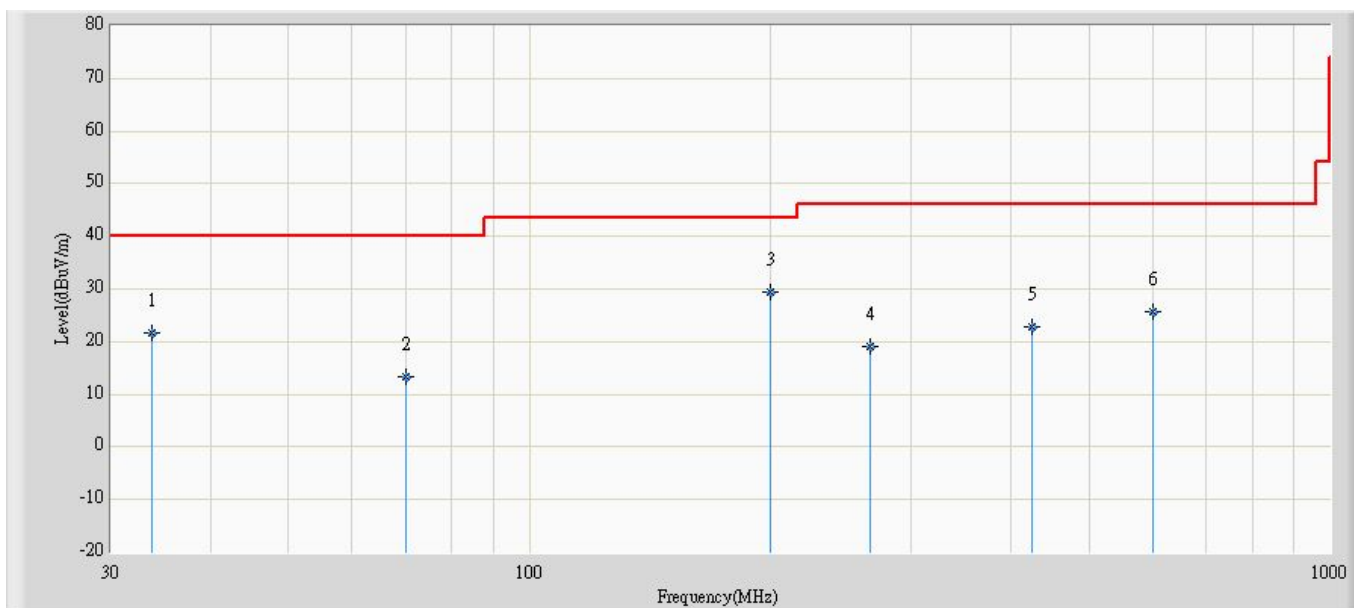
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			33.153	21.929	5.043	-18.071	40.000	16.887	QP
2			95.354	16.127	5.446	-27.373	43.500	10.681	QP
3			120.331	17.855	5.265	-25.645	43.500	12.590	QP
4			265.346	19.067	4.806	-26.933	46.000	14.260	QP
5		*	399.934	28.807	10.852	-17.193	46.000	17.955	QP
6			616.244	27.019	5.977	-18.981	46.000	21.041	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	



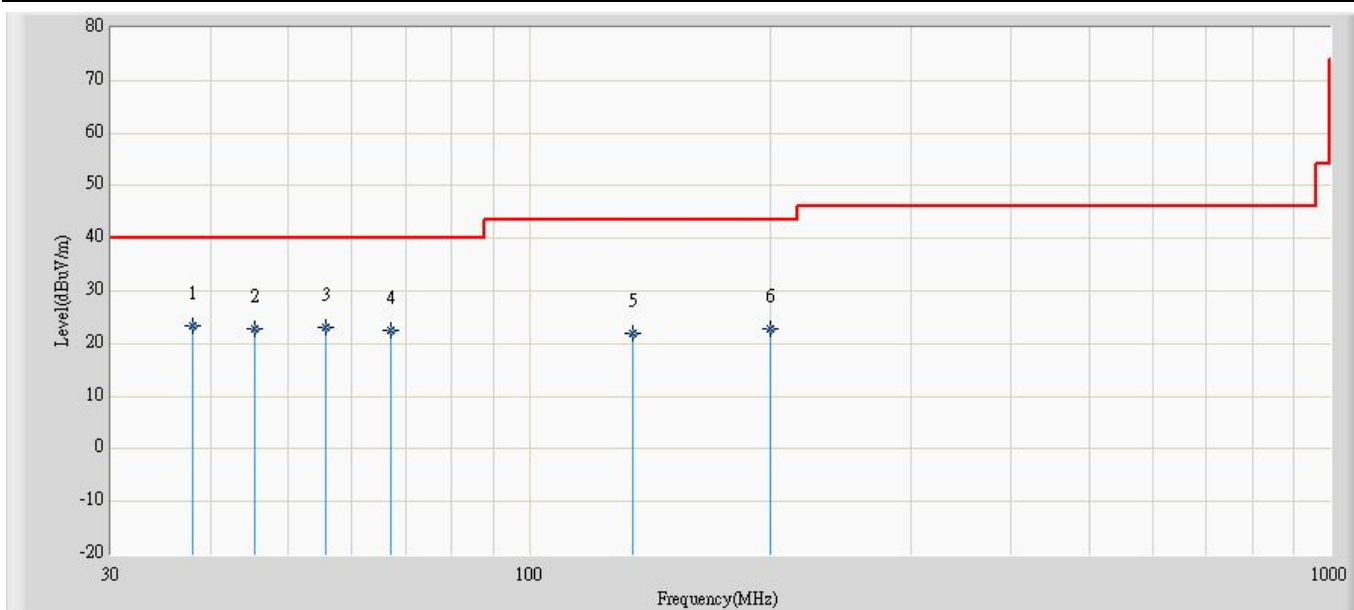
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	38.002	22.596	8.496	-17.404	40.000	14.100	QP
2			66.860	21.913	15.665	-18.087	40.000	6.248	QP
3			138.398	19.895	7.806	-23.605	43.500	12.089	QP
4			199.992	23.542	13.317	-19.958	43.500	10.226	QP
5			399.934	23.998	6.043	-22.002	46.000	17.955	QP
6			648.981	27.986	6.601	-18.014	46.000	21.385	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			33.759	21.656	5.067	-18.344	40.000	16.589	QP
2			70.012	13.373	6.982	-26.627	40.000	6.391	QP
3		*	199.992	29.531	19.306	-13.969	43.500	10.226	QP
4			266.801	19.130	4.948	-26.870	46.000	14.182	QP
5			424.062	22.752	4.419	-23.248	46.000	18.332	QP
6			600.360	25.823	4.873	-20.177	46.000	20.950	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		*	37.881	23.353	9.186	-16.647	40.000	14.167	QP
2			45.399	22.750	12.610	-17.250	40.000	10.140	QP
3			55.705	23.113	16.510	-16.887	40.000	6.603	QP
4			67.103	22.404	16.159	-17.596	40.000	6.245	QP
5			134.396	21.982	9.561	-21.518	43.500	12.421	QP
6			199.871	22.759	12.534	-20.741	43.500	10.225	QP

Engineer: Jack

Site: AC5

Time: 2011/07/20 - 12:52

Limit: FCC_Part15.109_RE(3m)_ClassB

Margin: 0

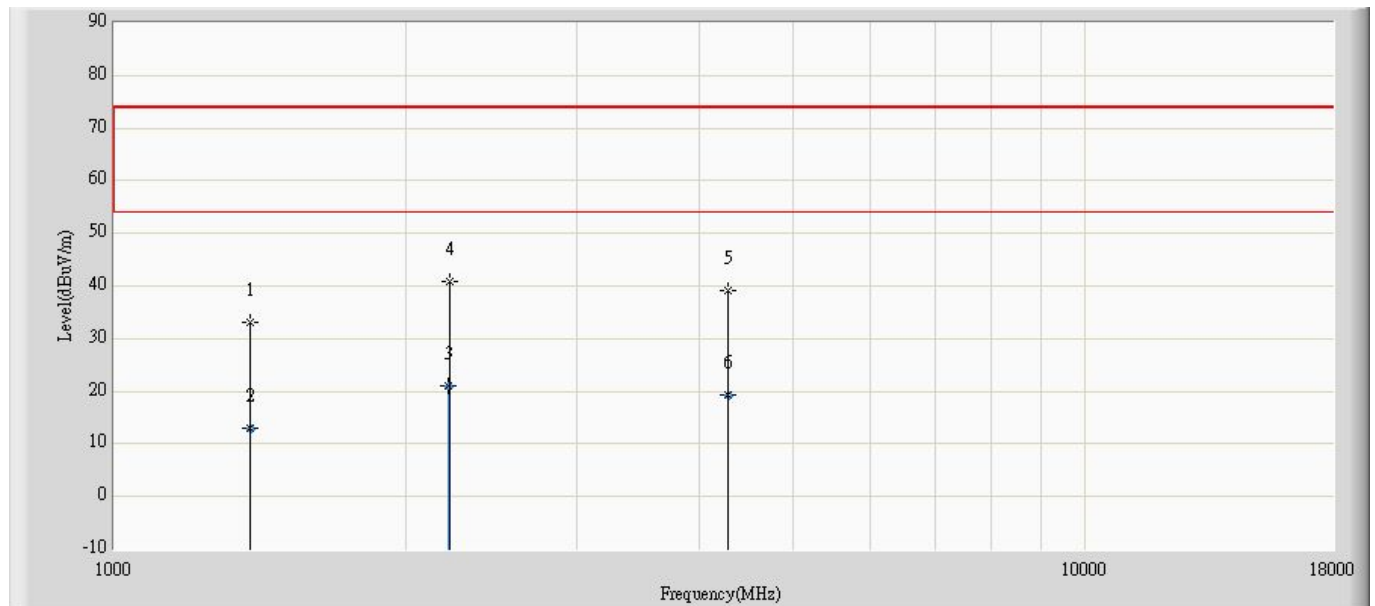
Probe: BBHA9120D_499(1-18GHz)

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			1382.500	32.995	53.980	-41.005	74.000	-20.985	PK
2			1382.500	12.912	33.897	-41.088	54.000	-20.985	AV
3		*	2212.500	20.906	38.124	-33.094	54.000	-17.218	AV
4			2215.500	40.852	58.073	-33.148	74.000	-17.221	PK
5			4289.500	39.258	52.913	-34.742	74.000	-13.654	PK
6			4289.500	19.339	32.994	-34.661	54.000	-13.654	AV

Engineer: Jack

Site: AC5

Time: 2011/07/20 - 12:52

Limit: FCC_Part15.109_RE(3m)_ClassB

Margin: 0

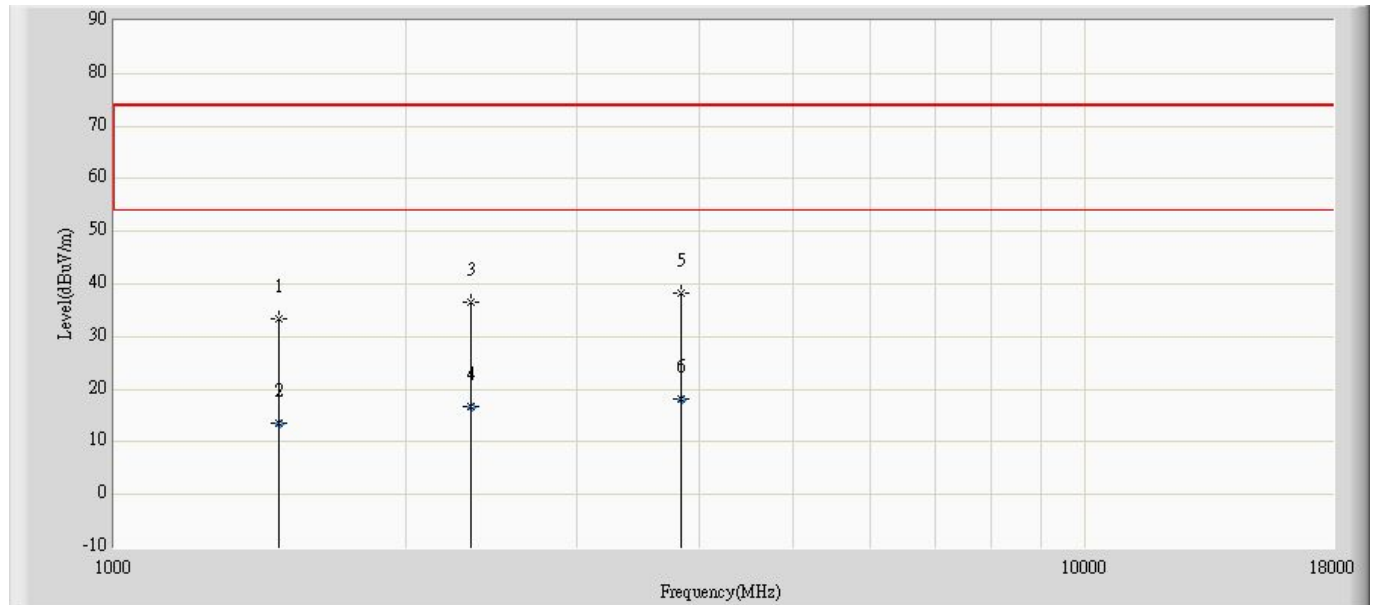
Probe: BBHA9120D_499(1-18GHz)

Polarity: Vertical

EUT: Mobile Phone

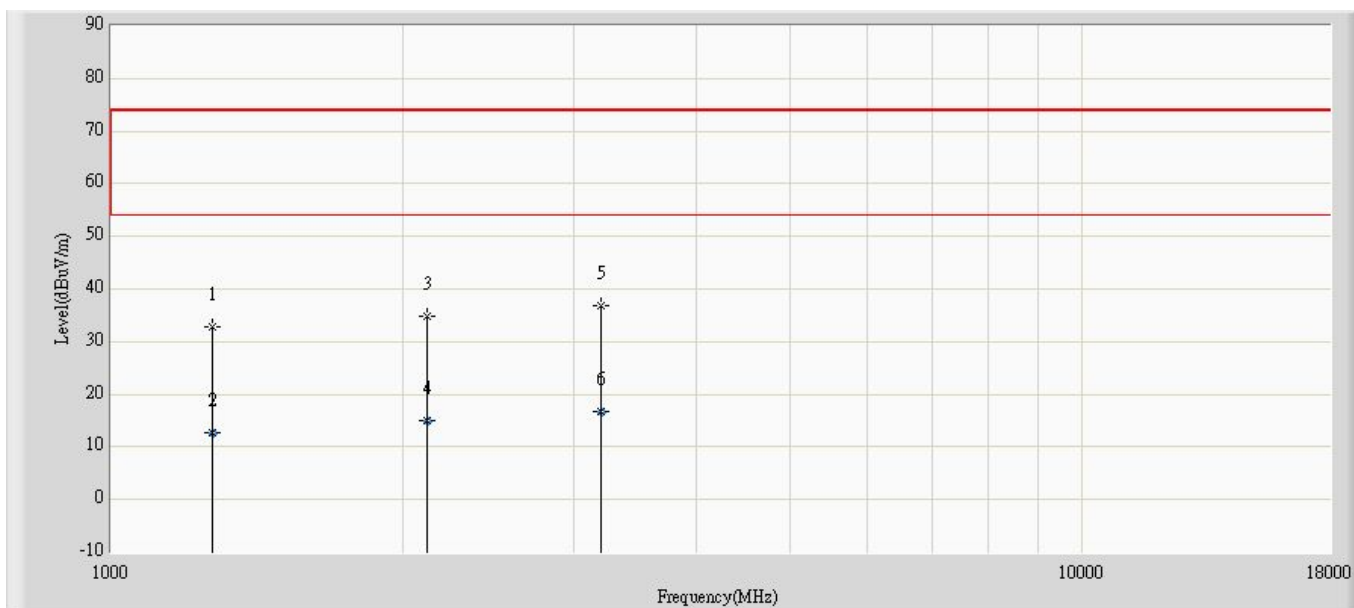
Power: AC 120V/60Hz

Note: Mode 3: GPS Receive with Adapter #1



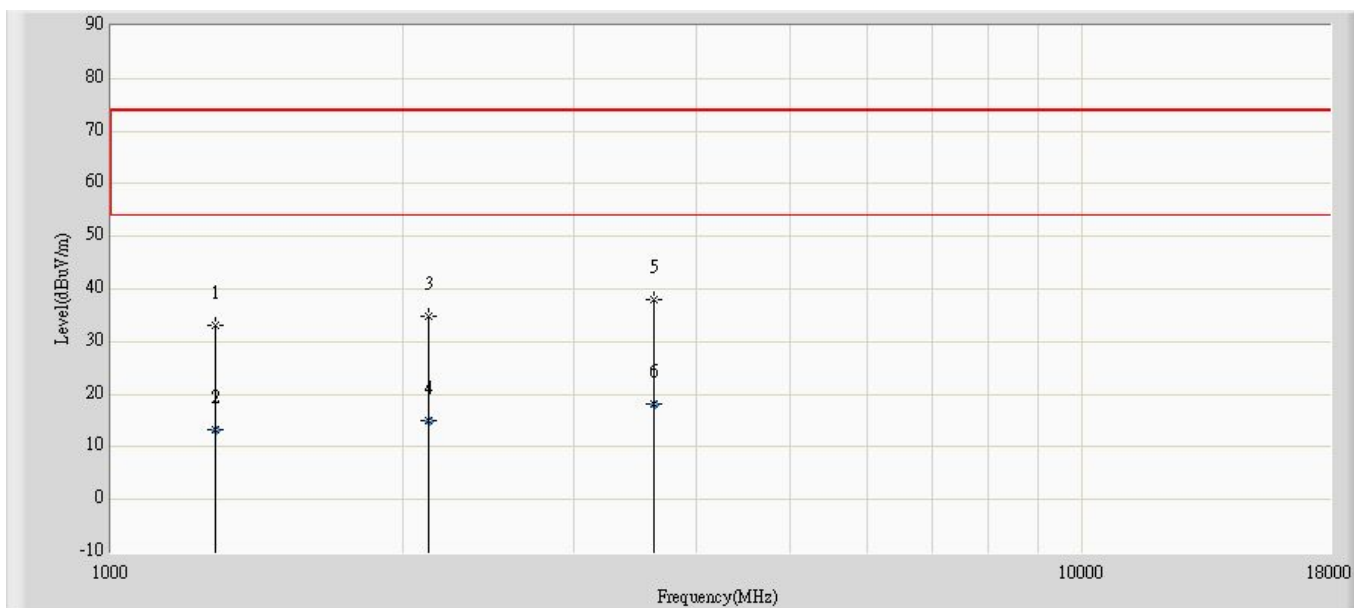
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1476.000	33.354	54.360	-40.646	74.000	-21.006	PK
2			1476.000	13.435	34.441	-40.565	54.000	-21.006	AV
3			2334.500	36.686	53.855	-37.314	74.000	-17.170	PK
4			2334.500	16.812	33.981	-37.188	54.000	-17.170	AV
5		*	3839.000	38.357	52.942	-35.643	74.000	-14.585	PK
6			3839.000	18.302	32.887	-35.698	54.000	-14.585	AV

Engineer: Jack	
Site: AC5	Time: 2011/07/20 - 12:52
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			1272.000	32.764	54.173	-41.236	74.000	-21.409	PK
2			1272.000	12.804	34.213	-41.196	54.000	-21.409	AV
3			2113.500	34.948	52.864	-39.052	74.000	-17.916	PK
4			2113.500	14.998	32.914	-39.002	54.000	-17.916	AV
5		*	3193.000	36.777	52.672	-37.223	74.000	-15.895	PK
6			3193.000	16.652	32.547	-37.348	54.000	-15.895	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			1280.500	33.111	54.465	-40.889	74.000	-21.354	PK
2			1280.500	13.158	34.513	-40.842	54.000	-21.354	AV
3			2122.000	34.811	52.663	-39.189	74.000	-17.852	PK
4			2122.000	14.889	32.741	-39.111	54.000	-17.852	AV
5			3626.500	38.019	53.044	-35.981	74.000	-15.026	PK
6		*	3626.500	18.108	33.134	-35.892	54.000	-15.026	AV