Test Report

Product Name ： Motherboard
Model No. ： IMBM-B75A

Applicant ： ASUSTeK COMPUTER INC.
Address ： No. 15, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

Date of Receipt ： 2012/04/24
Issued Date ： 2012/05/10
Report No. ： 124485R-ITUSP01V01
Report Version ： V0.1-Draft

Testing Laboratory
0914

Test Report Certification

Issued Date : 2012/05/10
Report No. : 124485R-ITUSP01V01

Product Name	:	Motherboard
Applicant	:	ASUSTeK COMPUTER INC.
Address	:	No. 15, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.
Manufacturer	:	1. INFO-TEK ELECTRONICS(SUZHOU)CO.,LTD 2. Cal-Comp Electronics and Communications (suzhou) Co., Ltd 3. Danriver Technology (Guangzhou) Inc. 4. BOATEK ELECTRONIC CO.,LTD. 5. Global Brands Manufacture (Dongguan) Ltd 6. AAEON Technology Inc.
Address	:	1. 183 Jinfeng Rd., Suzhou, Jiangsu, PRC 2. Wujiang Export Processing Zone, No688,Pangjin Road, Wujiang Economic Development Zone, Jiangsu Province, China. 3. No.16 Baoying Dadao, Guangzhou Free Trade Zone. People's Republic of China 4. No.124 bubugao road, wu sha kong bavillage, chang an, dong guan, guang dong province 5. Yue Yuen Industrial Estate, Huang Jiang Town Dong Guan City, Guang Dong Province 6. 5F, No. 135, Lane 235, Pao Chiao Rd. Hsin-Tien Dist, New Taipei City, 231
Model No.	:	IMBM-B75A
EUT Rated Voltage	:	Power by PC
EUT Test Voltage	:	AC 120 V / 60 Hz
Trade Name	:	ASUS
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart B: 2011 Class A CISPR 22: 2008, ANSI C63.4: 2009
Test Result	:	Complied
Performed Location	:	Quietek Corporation (Linkou Laboratory) No. 5-22, Rueishu Keng, Linkou Dist., New Taipei City 24451, Taiwan. R.O.C TEL:+866-2-8601-3788 / FAX:+886-2-8601-3789

Documented By : Jinn Chen
(Senior Adm. Specialist / Jinn Chen)

Reviewed By : Kakira Wu
(Assistant Engineer / Kakira Wu)

Approved By :
(Manager / Vincent Lin)

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 scopes:

Taiwan R.O.C.	**:**	**BSMI, NCC, TAF**
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

NVLAP Lab Code : 200347-0

LinKou Testing Laboratory :
No. 5-22, Rueishu Keng, Linkou Dist., New Taipei City 24451, Taiwan. R.O.C
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789 E-Mail : service@quietek.com

NVLAP Lab Code: 200533-0

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

TABLE OF CONTENTS

1. General Information

1.1. EUT Description

Product Name	Motherboard
Trade Name	ASUS
Model No.	IMBM-B75A

Component	
CPU	Intel, Core i5-3330S, Speed: 2.7GHz
Motherboard	ASUS, IMBM-B75A
HDD	Seagate, ST500DM002
DVD R/W	SONY, DRU-880S
VGA Card	On Board
LAN Card	On Board
Sound Card	On Board
Power Supply	ENERMAX, EMR1350EWT-AS
DDR-RAM (4GB*4)	ATP, AQ12M64B8BKK05
Power Cord	Non-shielded, 1.8m

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: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case Mode 2: Intel i5-3330S 2.7GHz, HDMI2+HDMI3 1920*1200/60Hz, Close Case Mode 3: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Open Case	
Final Test Mode	
Conducted Emission	Mode 1: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case
Radiated Emission	Mode 1: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case Mode 3: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Open Case

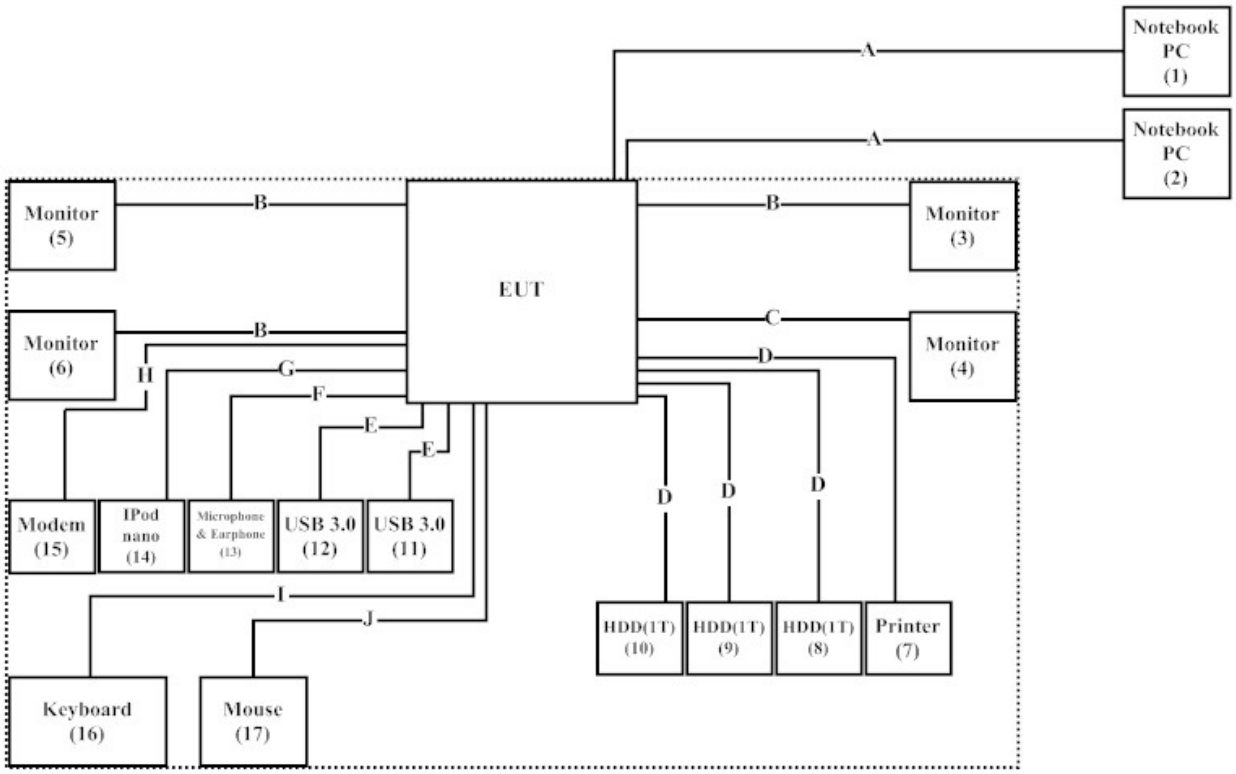
1.3. Tested System Details

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	Notebook PC	DELL	PP04X	2D2ZM1S	Non-Shielded, 1.8m
2	Notebook PC	DELL	PP04X	C8YYM1S	Non-Shielded, 1.8m
3	Monitor	DELL	U2410	CN-0J257M-728-01I-04NL	Non-Shielded, 1.8m
4	Monitor	DELL	U2410	CN-0J257M-72872-985-0A6L	Non-Shielded, 1.8m
5	Monitor	DELL	U2410	CN-0J257M-728-01I-04PL	Non-Shielded, 1.8m
6	Monitor	DELL	U2410	CN-0J257M-728-01I-038L	Non-Shielded, 1.8m
7	Printer	EPSON	StyLus C63	FAPY094321	Non-Shielded, 1.8m
8	HDD(1T)	ADATA	ASH02-1TU-CBK	1B3320071974	N/A
9	HDD(1T)	ADATA	ASH02-1TU-CBK	1B3320071985	N/A
10	HDD(1T)	ADATA	ASH02-1TU-CBK	1B3320071971	N/A
11	USB 3.0	WD	WDBACW0010HBK-SESN	WCAV5M998567	Non-Shielded, 1.8m
12	USB 3.0	WD	WDBACW0010HBK-SESN	WCAV5R656531	Non-Shielded, 1.8m
13	Microphone & Earphone	Ergotech	ET-E201	N/A	N/A
14	IPod nano	Apple	A1236	YM823SUQY0P	N/A
15	Modem	ACEEX	DM-1414	0102027559	Non-Shielded, 1.8m
16	Keyboard	Logitech	Y-SAH83	867893-0121	N/A
17	Mouse	Logitech	M-SBM96B	810-000439	N/A

1.4. Configuration of Tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, 3m, two PCS.
B	HDMI Cable	Shielded, 1.8m, three PCS.
C	D-SUB Cable	Shielded, 1.8m, with two ferrite cores bonded.
D	USB Cable	Shielded, 1.8m, four PCS.
E	USB 3.0 Cable	Shielded, 1m, two PCS.
F	Microphone & Earphone Cable	Non-Shielded, 1.6m
G	Audio Cable	Non-Shielded, 1.6m
H	RS-232 Cable	Shielded, 1.5m
I	Keyboard Cable	Shielded, 1.8m
J	Mouse Cable	Shielded, 1.8m

1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment.
3	Personal Computer reads data from disk.
4	Personal Computer sends “H” pattern to Monitor.
5	Personal Computer reads and writes data into and from modem.
7	Repeat the above procedure (4) to (6).

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 Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart B: 2011 Class A, ANSI C63.4: 2009	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart B: 2011 Class A, ANSI C63.4: 2009	Yes	No

2.2. List of Test Equipment

Conducted Emission / SR1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	R&S	ESCS 30	100366	2011/11/15
LISN	R&S	ESH3-Z5	836679/023	2012/01/12
LISN	R&S	ENV216	100085	2012/02/13
Pulse Limiter	R&S	ESH3-Z2	357.8810.52-1	2011/09/16

Radiated Emission / Site1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Bilog Antenna	Schaffner Chase	CBL6112B	2918	2011/07/22
EMI Test Receiver	R&S	ESCS 30	100121	2012/03/07
Pre-Amplifier	QTK	N/A	N/A	2011/07/06
CXA Signal Analyzer	Agilent	N9000A	MY50510072	2012/02/24
Site1 NSA	QTK	N/A	N/A	2011/07/06

Radiated Emission / CB7

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	Agilent	E4440A	MY46185846	2011/12/12
Horn Antenna	ETS-Lindgren	3117	00135205	2012/03/30
Horn Antenna	SCHWARZBECK	9120D	576	2011/11/14
Pre-Amplifier	QuieTek	AP-180C	CHM/071920	2011/07/12
CB7 VSWR	QTK	N/A	N/A	2011/08/25

2.3. Measurement Uncertainty

Conducted Emission

The measurement uncertainty is evaluated as ± 2.26 dB.

Radiated Emission

The measurement uncertainty is evaluated as ± 3.19 dB.

2.4. Test Environment

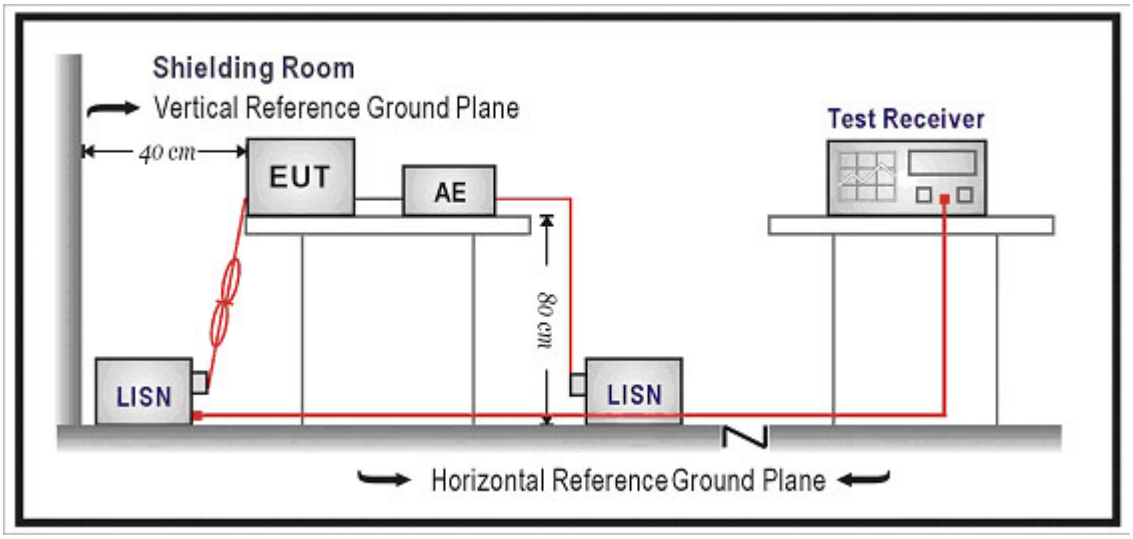
Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	15-35	24.3
	Humidity (%RH)	25-75	68
	Barometric pressure (mbar)	860-1060	950-1000
Radiated Emission	Temperature (°C)	15-35	22.9
	Humidity (%RH)	25-75	70
	Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

3.1. Test Specification

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

3.2. Test Setup



3.3. Limit

Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	79	66
0.50-5.0	73	60
5.0 - 30	73	60

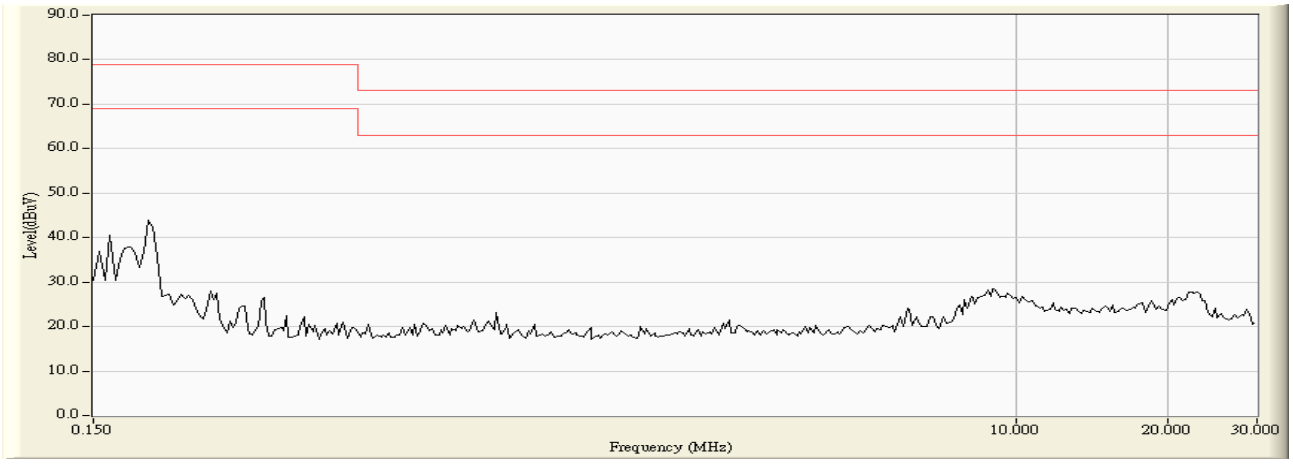
Remarks: In the above table, the tighter limit applies at the band edges.

3.4. Test Procedure

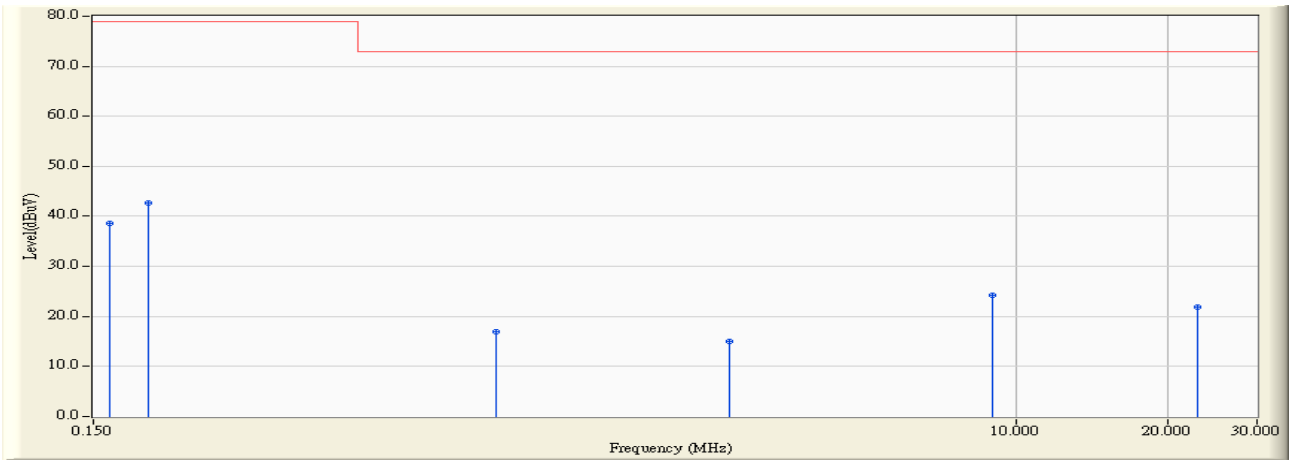
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.
(Please refers to the block diagram of the test setup and photographs.)
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. Test Result

Site : SR1	**Time : 2012/05/02 - 11:23**
Limit : CISPR_A_00M_QP	**Margin : 10**
EUT : Motherboard	**Probe : ENV_216_L1 - Line1**
Power : AC 120V/60Hz	**Note : Mode 1**



Site : SR1	**Time : 2012/05/02 - 11:24**
Limit : CISPR_A_00M_QP	**Margin : 0**
EUT : Motherboard	**Probe : ENV_216_L1 - Line1**
Power : AC 120V/60Hz	**Note : Mode 1**

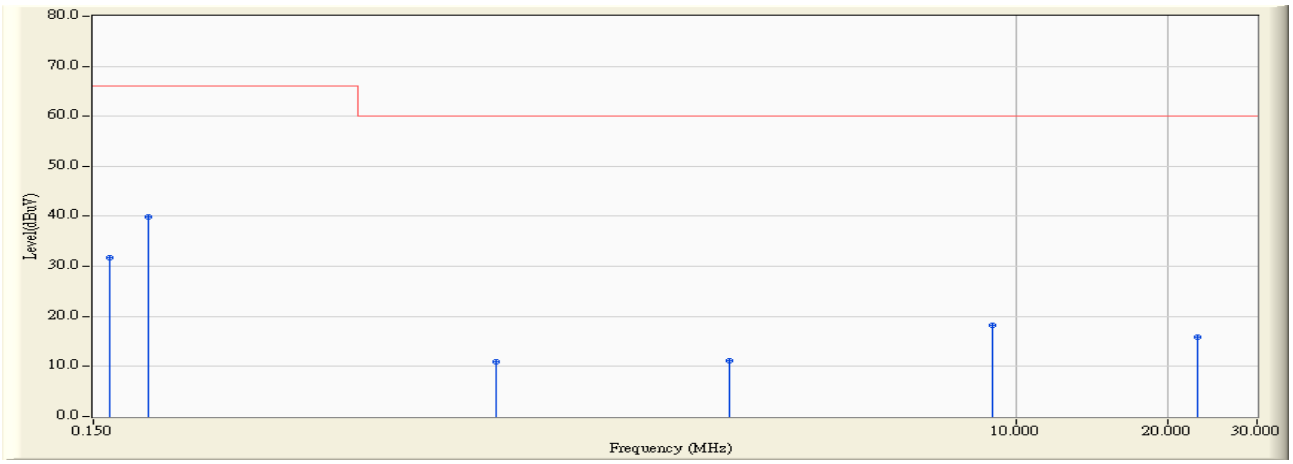


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	9.820	28.770	38.590	-40.410	79.000	QUASIPEAK
2	*	0.193	9.820	32.910	42.730	-36.270	79.000	QUASIPEAK
3		0.939	9.820	7.070	16.890	-56.110	73.000	QUASIPEAK
4		2.712	9.840	5.070	14.910	-58.090	73.000	QUASIPEAK
5		9.009	9.981	14.330	24.311	-48.689	73.000	QUASIPEAK
6		22.935	10.140	11.630	21.770	-51.230	73.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : SR1	**Time : 2012/05/02 - 11:25**
Limit : CISPR_A_00M_AV	**Margin : 0**
EUT : Motherboard	**Probe : ENV_216_L1 - Line1**
Power : AC 120V/60Hz	**Note : Mode 1**

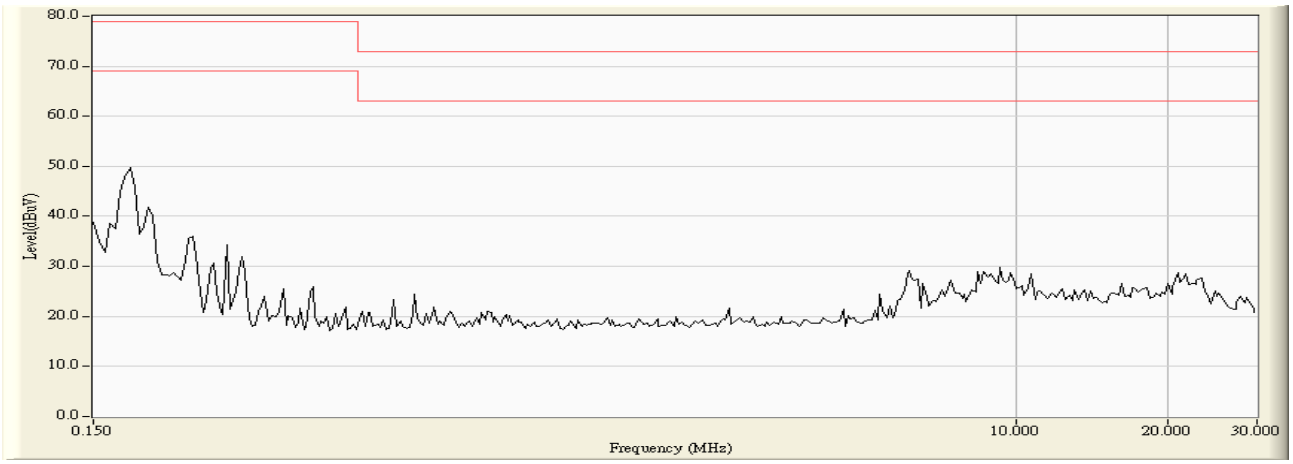


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.162	9.820	21.940	31.760	-34.240	66.000	AVERAGE
2	*	0.193	9.820	30.030	39.850	-26.150	66.000	AVERAGE
3		0.939	9.820	1.080	10.900	-49.100	60.000	AVERAGE
4		2.712	9.840	1.330	11.170	-48.830	60.000	AVERAGE
5		9.009	9.981	8.220	18.201	-41.799	60.000	AVERAGE
6		22.935	10.140	5.770	15.910	-44.090	60.000	AVERAGE

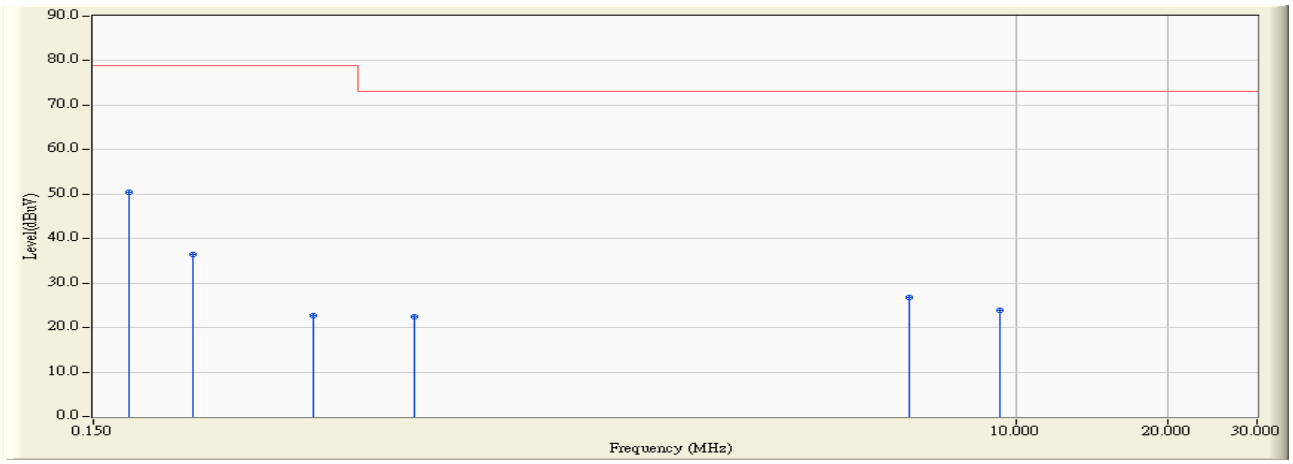
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : SR1	**Time : 2012/05/02 - 11:27**
Limit : CISPR_A_00M_QP	**Margin : 10**
EUT : Motherboard	**Probe : ENV_216_N - Line2**
Power : AC 120V/60Hz	**Note : Mode 1**



Site : SR1	**Time : 2012/05/03 - 09:28**
Limit : CISPR_A_00M_QP	**Margin : 0**
EUT : Motherboard	**Probe : ENV_216_N - Line2**
Power : AC 120V/60Hz	**Note : Mode 1**

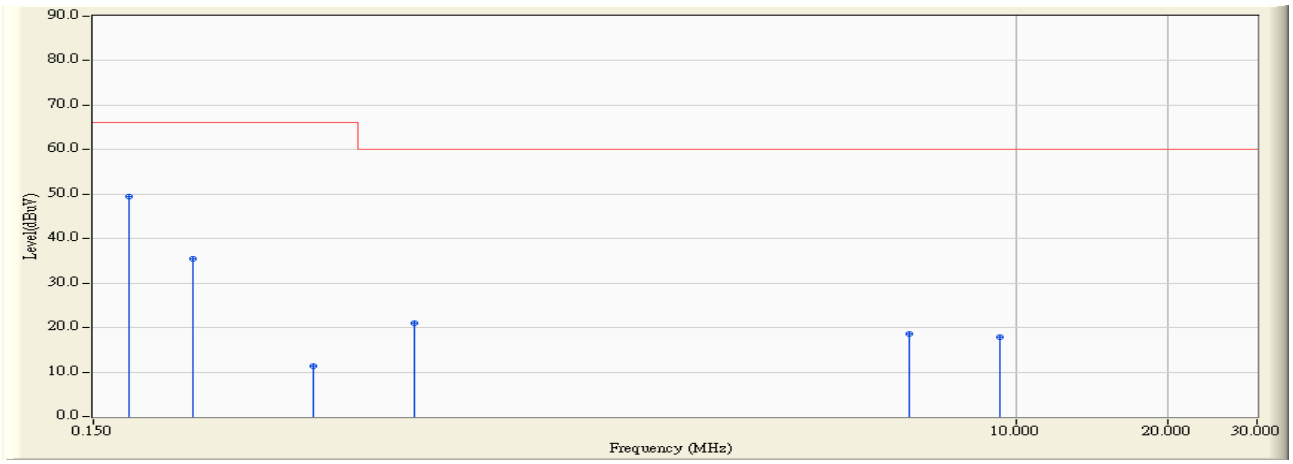


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.177	9.860	40.530	50.390	-28.610	79.000	QUASIPEAK
2		0.236	9.860	26.550	36.410	-42.590	79.000	QUASIPEAK
3		0.408	9.870	12.770	22.640	-56.360	79.000	QUASIPEAK
4		0.646	9.870	12.510	22.380	-50.620	73.000	QUASIPEAK
5		6.166	9.942	16.830	26.772	-46.228	73.000	QUASIPEAK
6		9.330	10.043	13.770	23.813	-49.187	73.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : SR1	**Time : 2012/05/03 - 09:28**
Limit : CISPR_A_00M_AV	**Margin : 0**
EUT : Motherboard	**Probe : ENV_216_N - Line2**
Power : AC 120V/60Hz	**Note : Mode 1**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.177	9.860	39.720	49.580	-16.420	66.000	AVERAGE
2		0.236	9.860	25.630	35.490	-30.510	66.000	AVERAGE
3		0.408	9.870	1.400	11.270	-54.730	66.000	AVERAGE
4		0.646	9.870	11.120	20.990	-39.010	60.000	AVERAGE
5		6.166	9.942	8.620	18.562	-41.438	60.000	AVERAGE
6		9.330	10.043	7.790	17.833	-42.167	60.000	AVERAGE

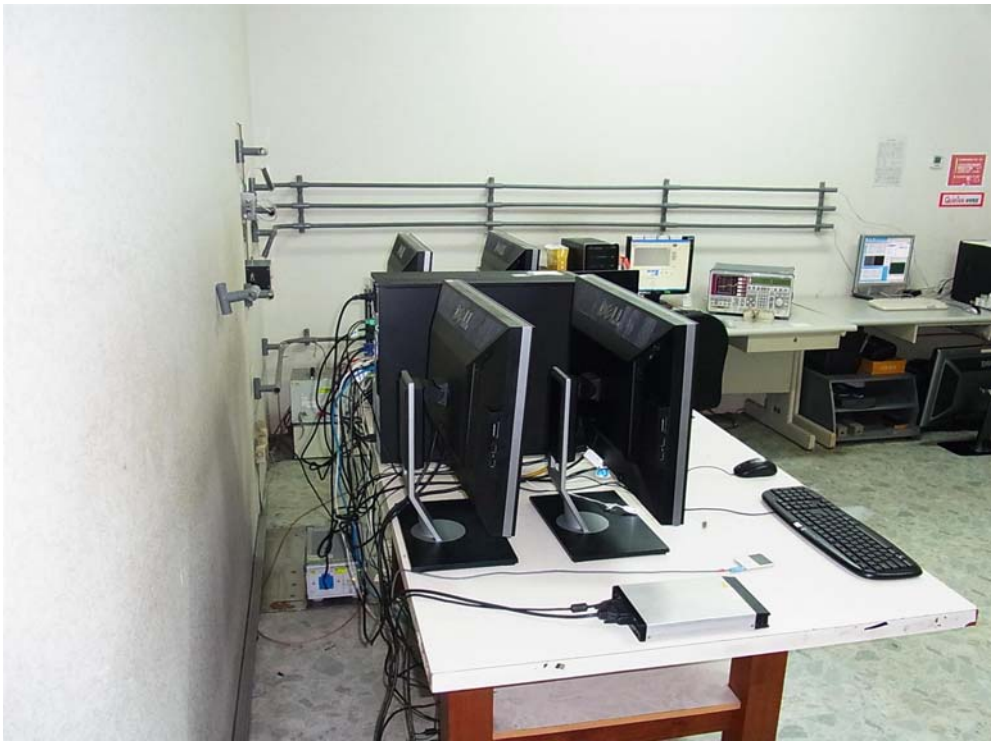
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3.6. Test Photograph

Test Mode : Mode 1: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case
Description : Front View of Conducted Test

Test Mode : Mode 1: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case
Description : Back View of Conducted Test



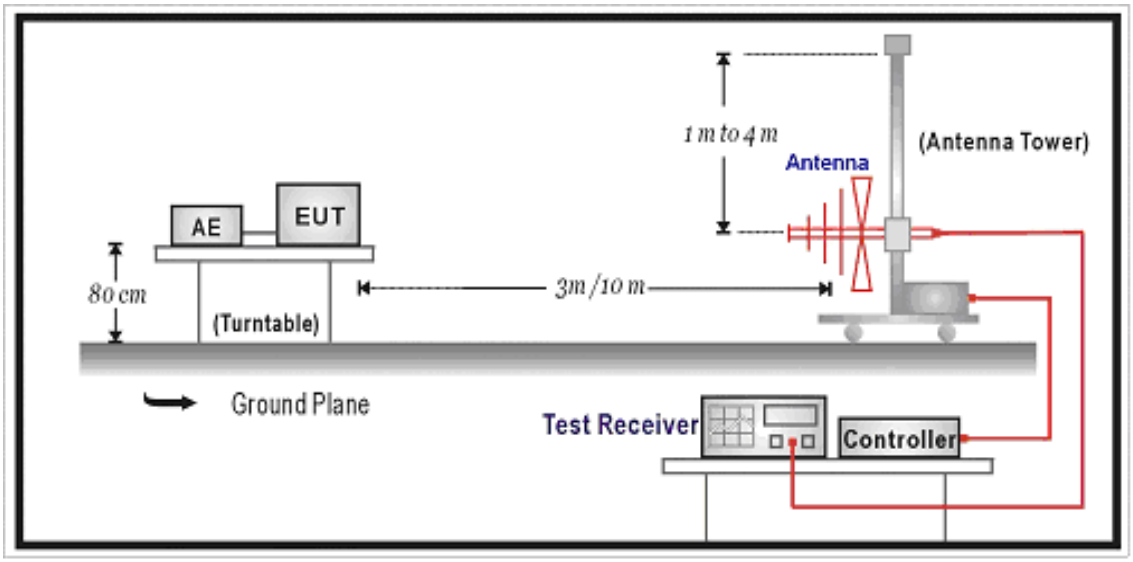
4. Radiated Emission

4.1. Test Specification

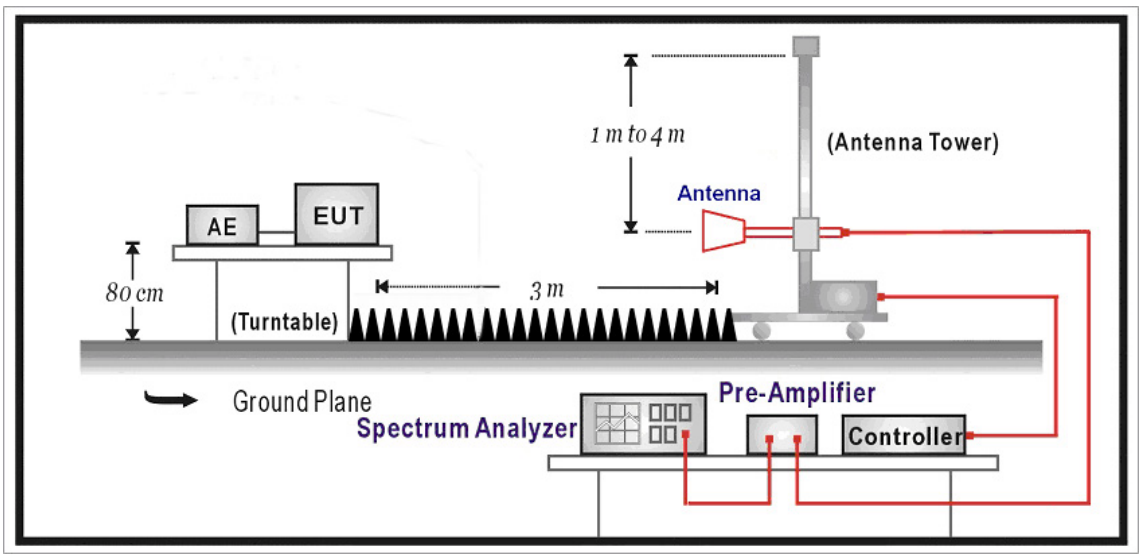
According to EMC Standard : FCC Part 15 Subpart B, ANSI C63.4

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

Under 1GHz test shall not exceed the following value:

Limits		
Frequency (MHz)	Distance (m)	dBuV/m
30 – 230	10	40
230 – 1000	10	47

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
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.

Above 1GHz test shall not exceed the following value:

FCC Part 15 Subpart B Paragraph 15.109 Limits (dBuV/m)		
Frequency (MHz)	Distance(m)	dBuV/m
30-88	10	39
88-216	10	43.5
216-960	10	46.4
Above 960	10	49.5

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
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.
3. RF Voltage (dBuV/m) = 20 log RF Voltage (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 and 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 folowing 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	5^{th} 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.

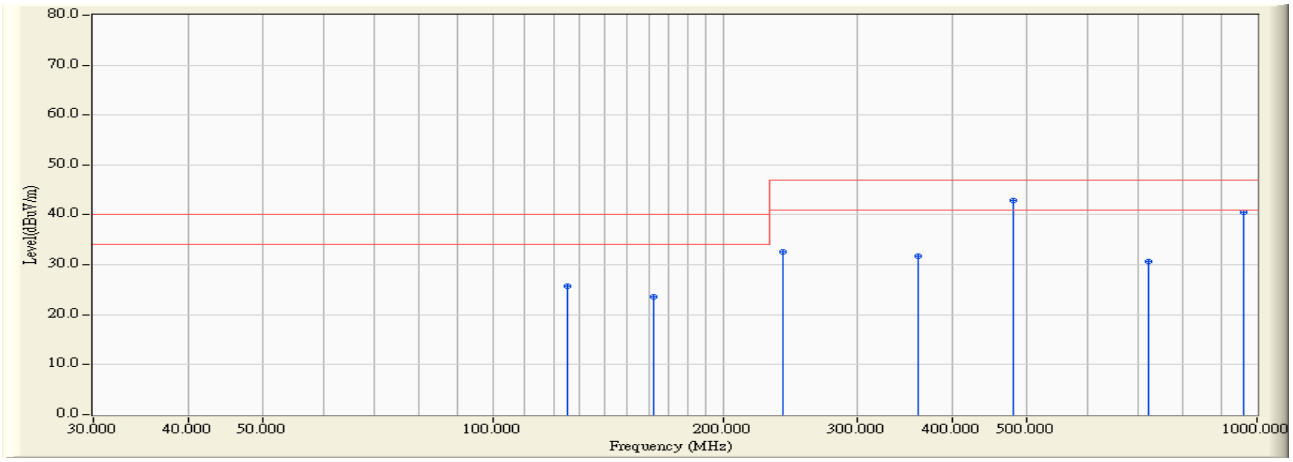
For class A, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and above 1GHz.

For class B, the measurement distance between the EUT and antenna is 10 meters for under 1GHz and 3 meters for above 1GHz.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30) is 120 kHz and above 1GHz is 1MHz.

4.5. Test Result

Site : Site1	**Time : 2012/05/02 - 10:04**
Limit : CISPR_A_10M_QP	**Margin : 6**
EUT : Motherboard	**Probe : Site1_CBL6112_10M_0726 - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 1**

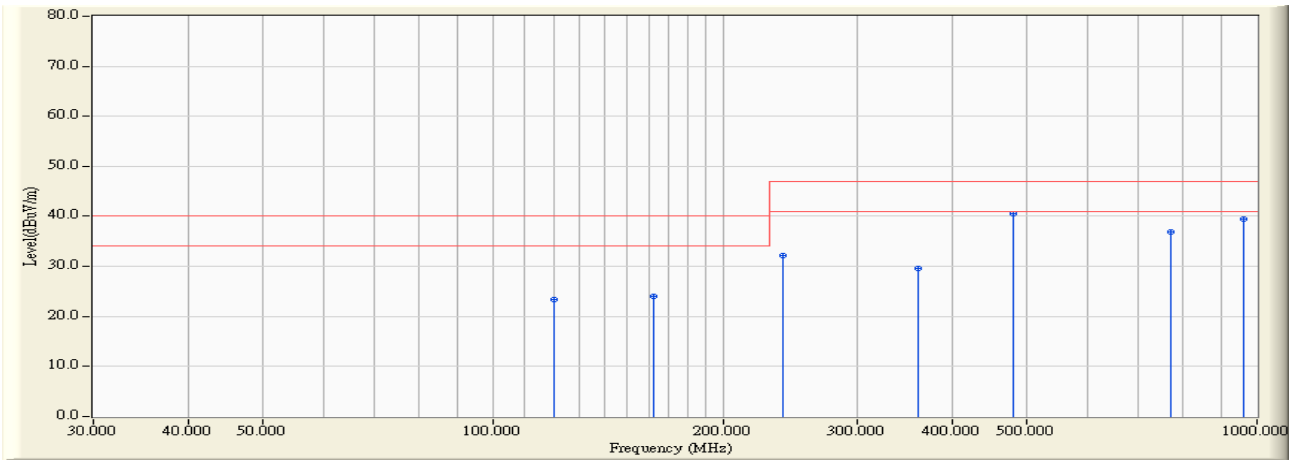


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		125.000	14.019	11.800	25.819	-14.181	40.000	QUASIPEAK
2		162.000	12.220	11.300	23.520	-16.480	40.000	QUASIPEAK
3		240.000	14.204	18.400	32.604	-14.396	47.000	QUASIPEAK
4		360.012	19.063	12.600	31.663	-15.337	47.000	QUASIPEAK
5	*	480.018	22.272	20.700	42.972	-4.028	47.000	QUASIPEAK
6		720.000	26.020	4.600	30.620	-16.380	47.000	QUASIPEAK
7		960.040	28.842	11.800	40.642	-6.358	47.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site1	**Time : 2012/05/02 - 10:04**
Limit : CISPR_A_10M_QP	**Margin : 6**
EUT : Motherboard	**Probe : Site1_CBL6112_10M_0726 - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 1**

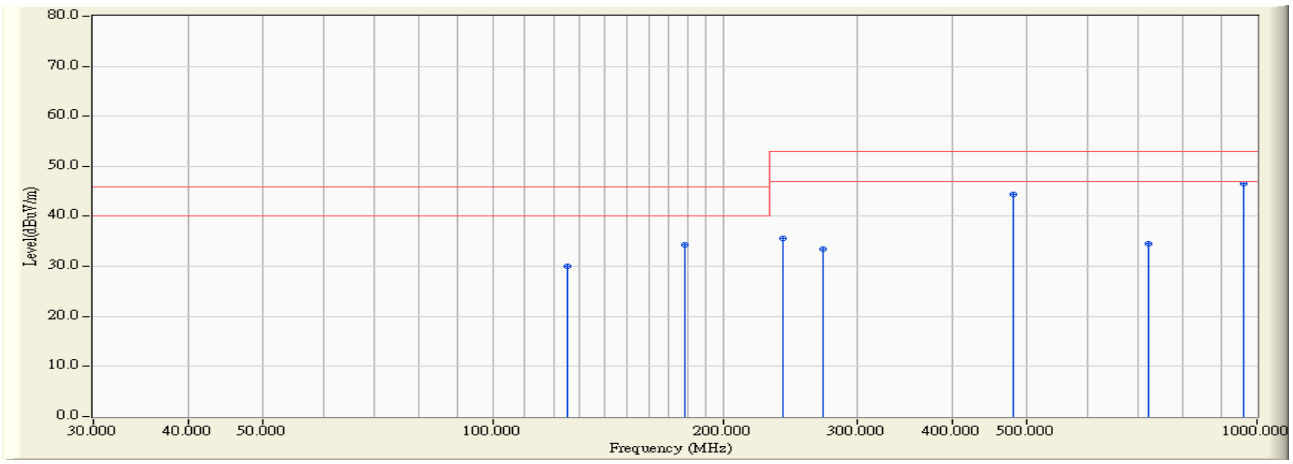


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		120.000	13.802	9.600	23.402	-16.598	40.000	QUASIPEAK
2		162.000	12.220	11.700	23.920	-16.080	40.000	QUASIPEAK
3		240.000	14.204	17.900	32.104	-14.896	47.000	QUASIPEAK
4		360.000	19.063	10.500	29.563	-17.437	47.000	QUASIPEAK
5	*	480.022	22.272	18.300	40.573	-6.427	47.000	QUASIPEAK
6		770.037	26.619	10.200	36.819	-10.181	47.000	QUASIPEAK
7		960.041	28.842	10.700	39.542	-7.458	47.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site1	**Time : 2012/05/02 - 10:05**
Limit : CNS13438_A_10M_open_QP	**Margin : 6**
EUT : Motherboard	**Probe : Site1_CBL6112_10M_0726 - HORIZONTAL**
Power : AC 120V/60Hz	**Note : Mode 3**

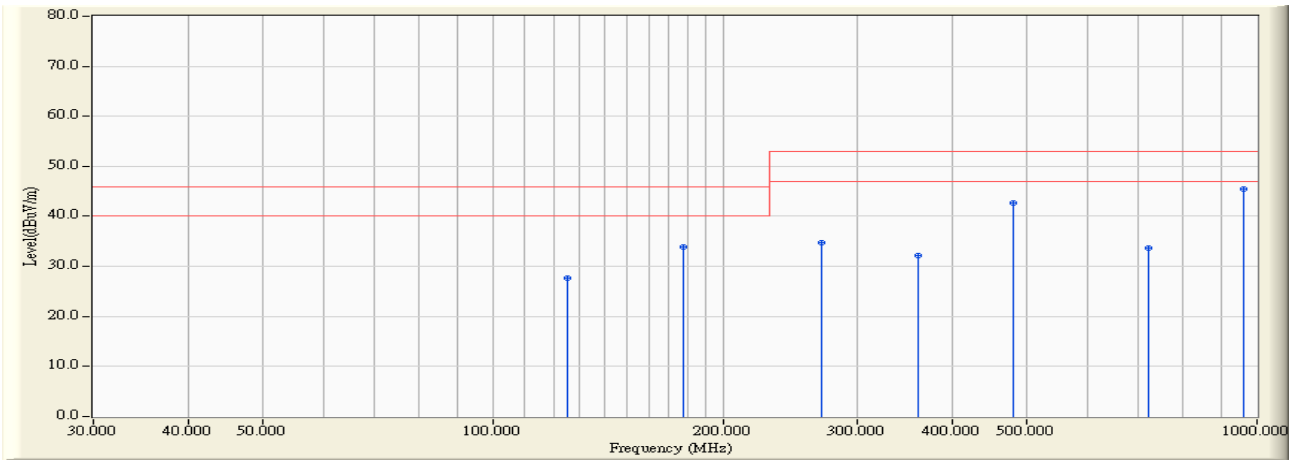


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		125.000	14.019	16.100	30.119	-15.881	46.000	QUASIPEAK
2	*	178.000	11.337	23.000	34.337	-11.663	46.000	QUASIPEAK
3		240.000	14.204	21.500	35.704	-17.296	53.000	QUASIPEAK
4		269.943	15.904	17.580	33.484	-19.516	53.000	QUASIPEAK
5		480.018	22.272	22.100	44.372	-8.628	53.000	QUASIPEAK
6		720.000	26.020	8.500	34.520	-18.480	53.000	QUASIPEAK
7	*	960.000	28.842	17.800	46.642	-6.358	53.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site1	**Time : 2012/05/02 - 10:05**
Limit : CNS13438_A_10M_open_QP	**Margin : 6**
EUT : Motherboard	**Probe : Site1_CBL6112_10M_0726 - VERTICAL**
Power : AC 120V/60Hz	**Note : Mode 3**

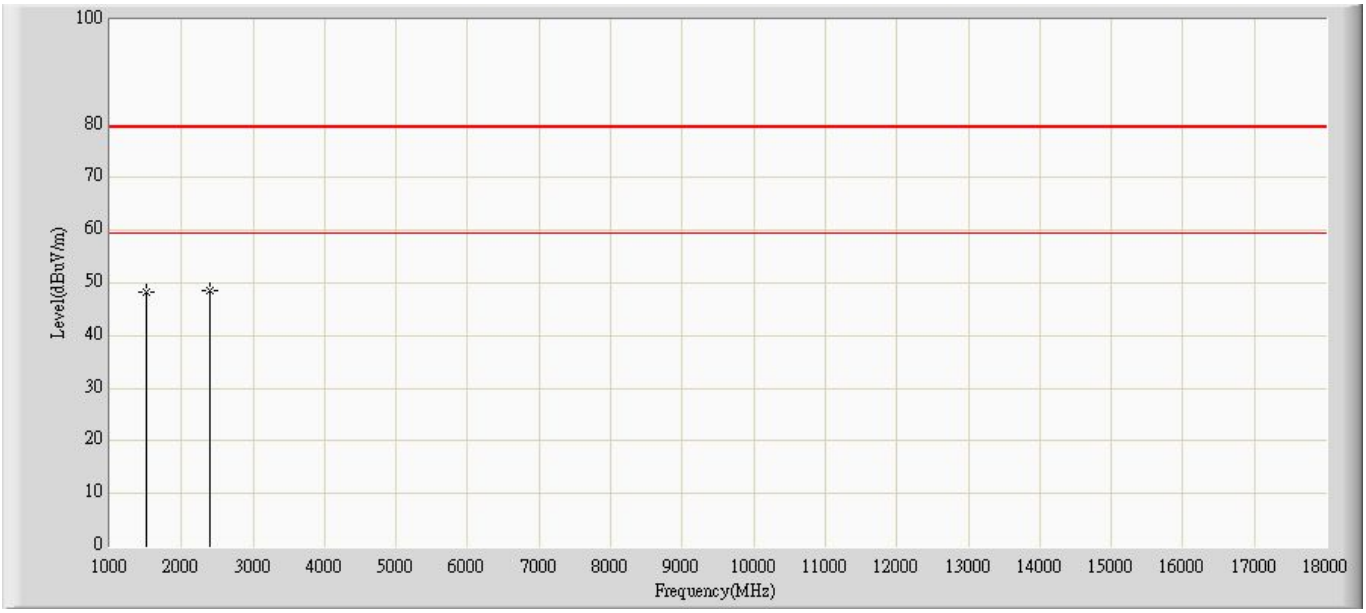


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		125.000	14.019	13.700	27.719	-18.281	46.000	QUASIPEAK
2		177.700	11.357	22.600	33.957	-12.043	46.000	QUASIPEAK
3		269.000	15.932	18.800	34.732	-18.268	53.000	QUASIPEAK
4		360.000	19.063	13.100	32.163	-20.837	53.000	QUASIPEAK
5		480.021	22.272	20.500	42.773	-10.227	53.000	QUASIPEAK
6		720.000	26.020	7.700	33.720	-19.280	53.000	QUASIPEAK
7	*	960.000	28.842	16.600	45.442	-7.558	53.000	QUASIPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site: CB7	Time: 2012/04/27 - 17:13
Limit: FCC_A_(Above_1G)	Margin: 0
Probe: CB7_Horn_3117_1204	Polarity: Horizontal
EUT : Motherboard	Power: AC 120V/60Hz
Note : Mode 1	

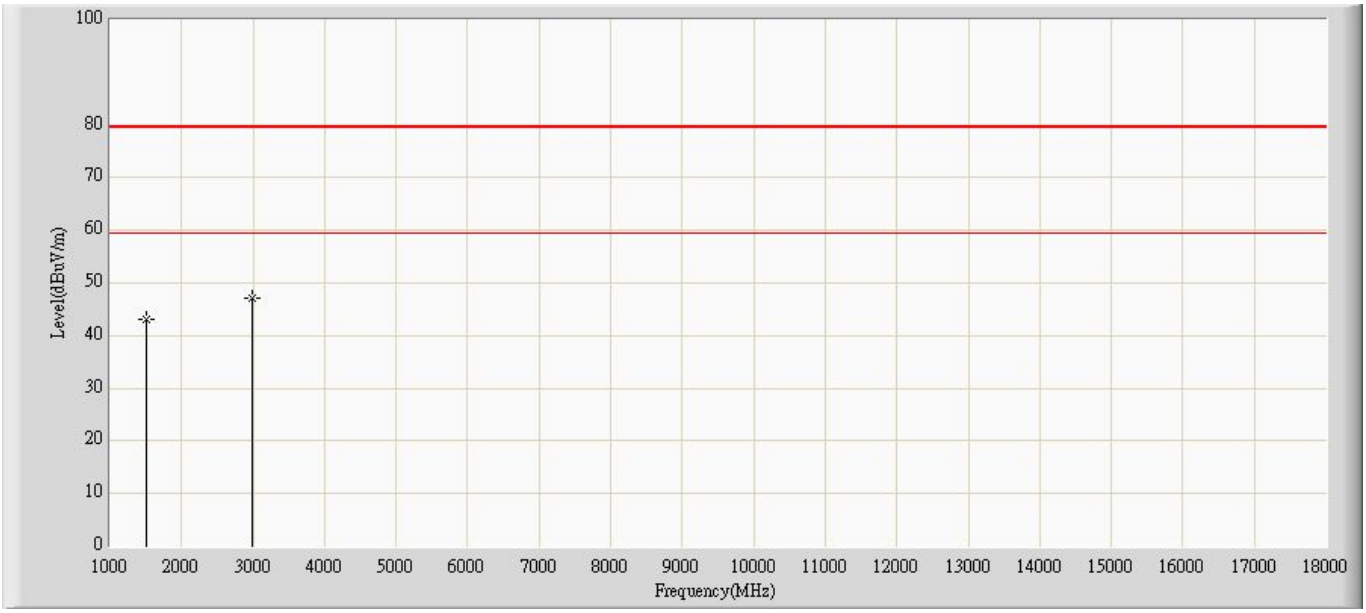


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1498.000	48.166	52.190	-31.334	79.500	-4.024	PK
2		*	2385.000	48.484	48.060	-31.016	79.500	0.424	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: CB7	Time: 2012/04/27 - 17:13
Limit: FCC_A_(Above_1G)	Margin: 0
Probe: CB7_Horn_3117_1204	Polarity: Vertical
EUT : Motherboard	Power: AC 120V/60Hz
Note : Mode 1	

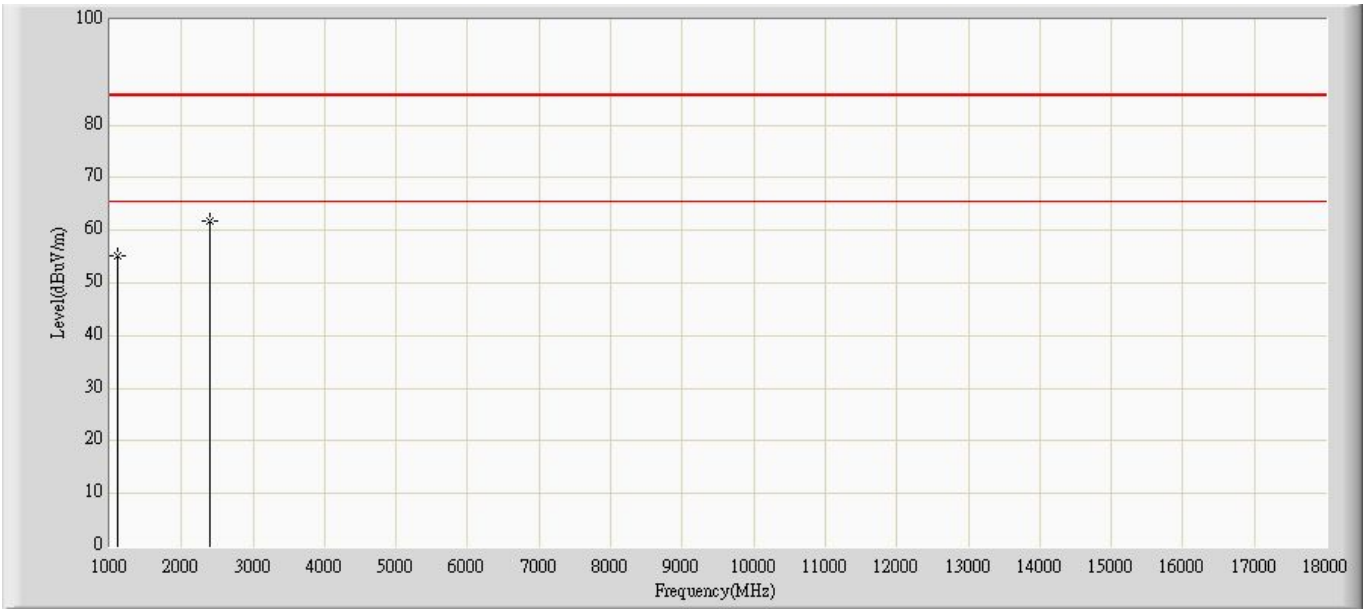


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1498.000	43.236	47.260	-36.264	79.500	-4.024	PK
2		*	2996.000	47.088	45.240	-32.412	79.500	1.848	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: CB7	Time: 2012/04/27 - 17:22
Limit: FCC_A_Open(Above_1G)	Margin: 0
Probe: CB7_Horn_3117_1204	Polarity: Horizontal
EUT : Motherboard	Power: AC 120V/60Hz
Note : Mode 3	

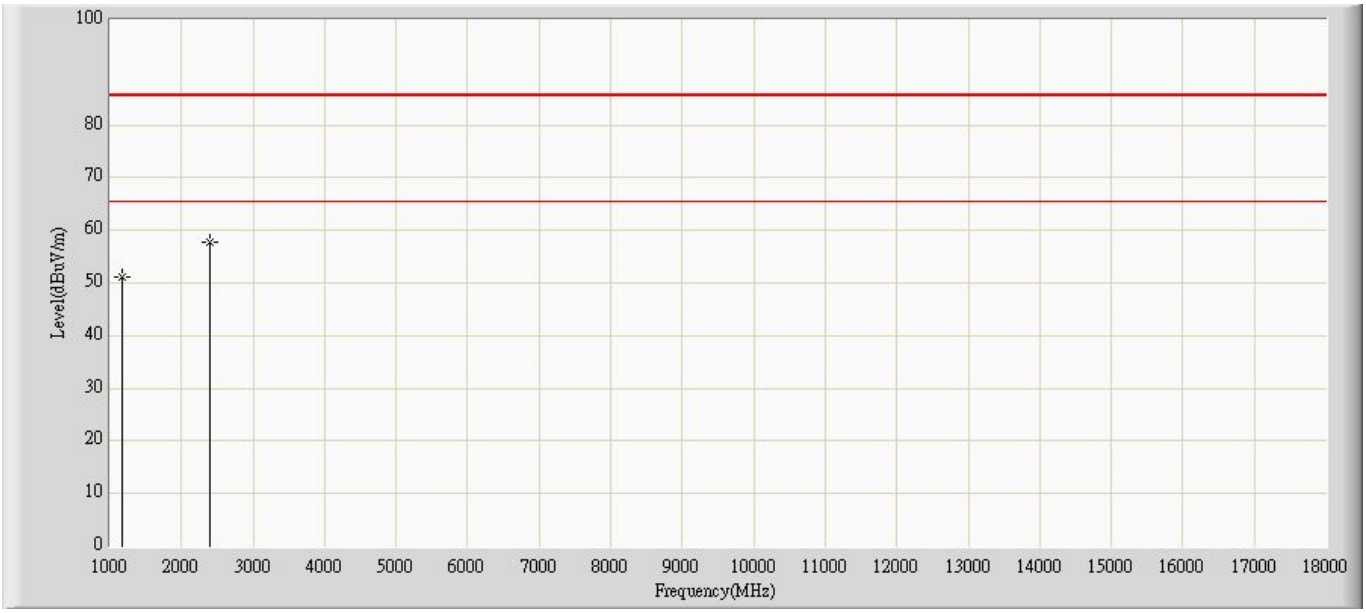


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1102.000	55.126	59.720	-30.374	85.500	-4.594	PK
2		*	2402.000	61.788	61.320	-23.712	85.500	0.467	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Site: CB7	Time: 2012/04/27 - 17:23
Limit: FCC_A_Open(Above_1G)	Margin: 0
Probe: CB7_Horn_3117_1204	Polarity: Vertical
EUT : Motherboard	Power: AC 120V/60Hz
Note : Mode 3	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			1160.000	51.071	55.480	-34.429	85.500	-4.409	PK
2		*	2385.000	57.654	57.230	-27.846	85.500	0.424	PK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4.6. Test Photograph

Test Mode : Mode 1: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case
Description : Front View of Radiated Test

Test Mode : Mode 1: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case
Description : Back View of Radiated Test

Test Mode : Mode 1: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Close Case
Description : Front View of High Frequency Radiated Test

Test Mode : Mode 3: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Open Case
Description : Front View of Radiated Test

Test Mode : Mode 3: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Open Case
Description : Back View of Radiated Test

Test Mode : Mode 3: Intel i5-3330S 2.7GHz, D-SUB+HDMI1 1920*1200/60Hz, Open Case
Description : Front View of High Frequency Radiated Test

5. Attachment

➢ EUT Photograph

(1) EUT Photo

(2) EUT Photo

(3) EUT Photo