Verification of Compliance

Product Name	:	**PCI Half-Size SBC**
Model Number	:	**xxxxHSB-945Pxx-xxx-xxxxxxx**
		(Where x is 0-9 , A-Z , - or blank) for marketing purpose
Applicant	:	**AAEON Technology Inc.**
Address	:	**5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C.**
Report Number	:	**F-U070-0909-273**
Issue Date	:	**September 30, 2009**

Applicable Standards : **FCC Part 15, Subpart B Class A ITE**
ANSI C63.4:2003
Industry Canada ICES-003 Issue 4
CSA-IEC CISPR22: 02 Class A ITE

One sample of the designated product has been tested in our laboratory and found to be in compliance with the FCC rules cited above.

NVLAP LAB CODE 200575-0

TAF 0905
FCC CAB Code TW1053
IC Code 4699A
VCCI Accep. No. R-1527, C-1609, T-131, T-1441, G-10

Central Research Technology Co.
EMC Test Laboratory
11, Lane41, Fushuen St., Jungshan Chiu,
Taipei, Taiwan, 104, R.O.C.
Tel : 886-2-25984568
Fax: 886-2-25984546

J. Y. Shih

(Tsun-Yu Shih/ General Manager)

Date: September 30, 2009

FCC Test Report

for

PCI Half-Size SBC

Model Number	**:**	**xxxxHSB-945Pxx-xxx-xxxxxxx (Where x is 0-9, A-Z, - or blank) for marketing purpose**
Report Number	**:**	**F-U070-0909-273**
Date of Receipt	**:**	**September 24, 2009**
Date of Report	**:**	**September 30, 2009**

Prepared for

AAEON Technology Inc.

5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C.

Prepared by

Central Research Technology Co.

EMC Test Laboratory

11, Lane41, Fushuen St., Jungshan Chiu, Taipei, Taiwan, 104, R.O.C.

NVLAP LAB CODE 200575-0

Verification of Compliance

Equipment Under Test	**:**	PCI Half-Size SBC
Model No.	**:**	xxxxHSB-945Pxx-xxx-xxxxxxx (Where x is 0-9, A-Z, - or blank) for marketing purpose
Applicant	**:**	AAEON Technology Inc.
Address	**:**	5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C.
Applicable Standards	**:**	**FCC Part 15, Subpart B Class A ITE** **ANSI C63.4:2003** **Industry Canada ICES-003 Issue 4** **CSA-IEC CISPR22: 02 Class A ITE**
Date of Testing	**:**	September 24~25, 2009
Deviation	**:**	N/A
Condition of Test Sample	**:**	Engineering Sample

We, **Central Research Technology Co**., hereby certify that one sample of the designated product was tested in our facility during the period mentioned above. The test records, data evaluation and Equipment Under Test (EUT) configurations shown in the present report are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in the present report is in compliance with the requirements set forth in the standards mentioned above and apply to the tested sample identified in the present report only. The test report shall not be reproduced, except in its entirety, without the written approval of Central Research Technology Co.

PREPARED BY : Yiwen Huang , **DATE :** Sept. 30, 2009
(Yiwen Huang/System Executive)

APPROVED BY : J. Y. Shih , **DATE :** Sept. 30, 2009
(Tsun-Yu Shih/General Manager)

Contents

1. General Description

1.1 General Description of EUT

Equipment Under Test	:	PCI Half-Size SBC
Model No.	:	xxxxHSB-945Pxx-xxx-xxxxxxx (Where x is 0-9, A-Z, - or blank) for marketing purpose
Power in	:	Supplied by the power supply of the host system.
Highest Operating Frequency	:	1.6GHz
Manufacturer	:	AAEON Technology Inc.
Function Description	:	

The EUT is an engineering sample of the PCI Half-Size SBC. Please refer to the user's manual for the details.

The I/O ports of the EUT are listed below:

No.	I/O Port Type	Quantity
1	PS/2 port	1
2	USB port	5
3	D-Sub port	1
4	DVI port	1
5	RS232 port	4
6	Audio input port	1
7	Mic. port	1
8	Audio output port	1
9	LAN port	2

All the devices listed below to equip a host system are supplied by the manufacturer to be tested in this report.

Components	Model
M/B	HSB-945P
CPU	Intel Atom N270 1.6GHz
Memory	DSL DDR2-667 512MB/ELPIDA E5108AGBG-6E-E
HDD	WD800BB，80GB
PSU	FSP180-50PLA，180Watts

1.2 Test Mode

There are two test modes are shown as below for preliminary test.

Test Mode	Mode Description	
Mode 1	Expose case for EUT	DVI+D-Sub 1280 x 1024@60Hz
Mode 2	Enclosure case for EUT	

The Mode 2 was selected by its manufacturer to perform all tests. It was taken as the representative condition for the testing and its data are recorded in the present document.

1.3 Applied standards

According to the specifications of the manufacturers, the applied standard to evaluate the compliance of requirements is 47CFR Part 15, Subpart B and the measurement procedures specified in ANSI C63.4 are performed.

According to 47CFR Part 15 Section 15.33(b), the test frequency range of radiated emission measurements are listed below and the EUT herein shall be tested as:

Type of EUT	**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 40GHz, whichever is lower

All the test items are as following:

Applied Standards	**Test Items**	**Results**
FCC Part 15, Subpart B Class A ITE	☑ Conducted Emission Measurement	PASS
	☑ Radiated Emission Measurement	PASS

1.4 Test Setup for the EUT

The EUT is an unique unit connected with other necessary accessories and support units listed in the next section. It has been tested against each standard through the following steps:

a. Connect the host system and all the support units to the appropriate power source.
b. Turn on the host system and all the accessories and support units.
c. Install an EMC test software into host system and execute it under the Windows environment.
d. The EUT reads/ writes message from/ to the USB Flash Disks continuously.
e. The EUT plays the 1kHz sound signals to the earphone.
f. The EUT sends “H” patterns to the monitor which fills the whole screen of it.
g. The EUT sends messages to the modem.
h. The EUT sends “H” patterns to the printer which prints them on paper.
i. Another PC sends/ receives messages to/ from the EUT through a Hub by executing the command of “PING”.
j. Repeat and keep setup steps listed above before and during all tests.

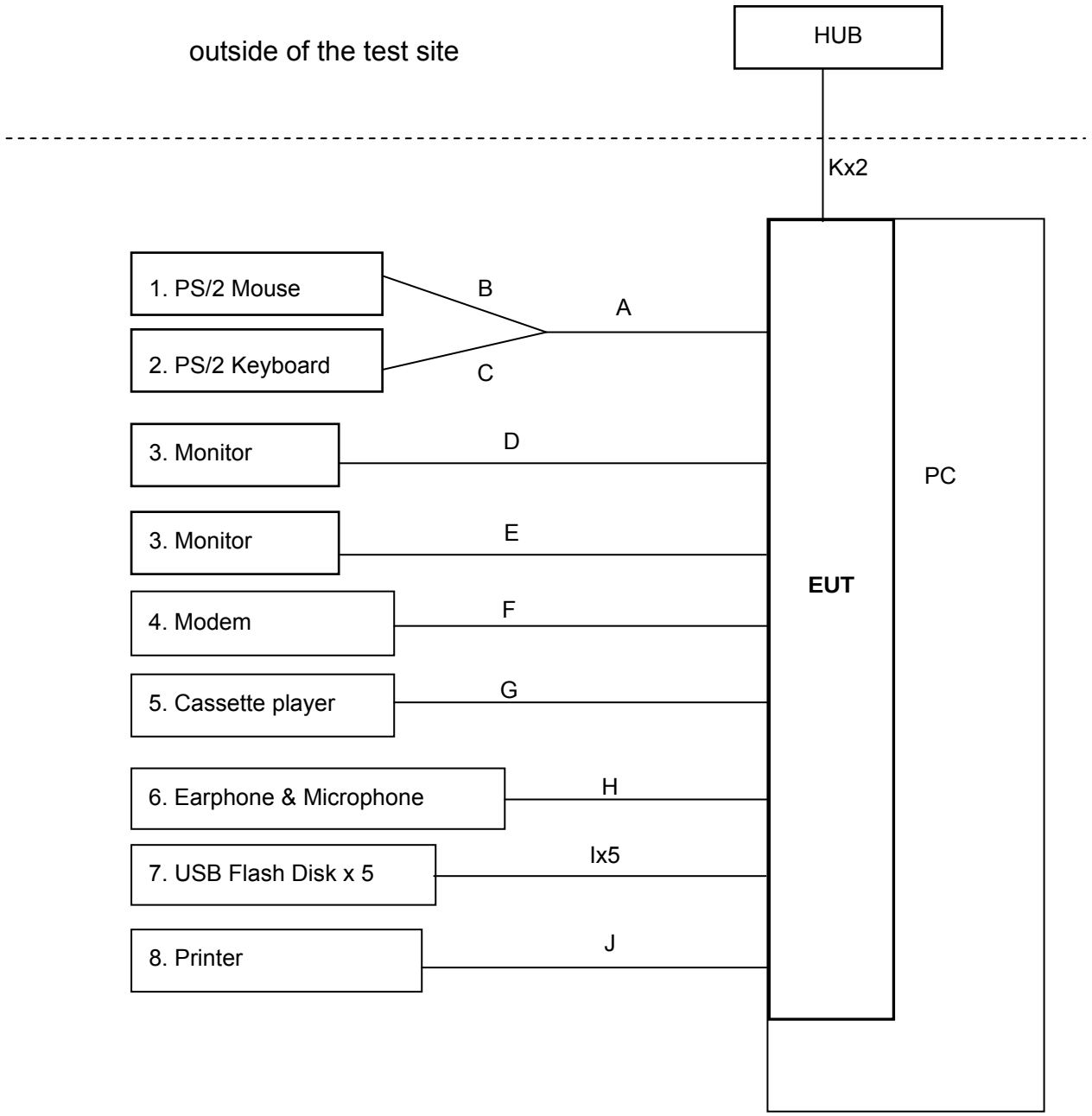
EUT I/O ports / Peripherals	Exerciser Program (software)	Version of Program
EUT	WIN EMC+EMC Test + 1kHz	V1.5
Monitor		
USB Flash Disk		

1.5 The Support Units

No.	Unit	Model No./ Serial No.	FCC ID	Trade Name	Power Cord	Supported by lab.
1	PS/2 Mouse	MO71KC / 515044951	DoC	DELL	N/A	✓
2	PS/2 Keyboard	SK-8110/ MY-05N456-71619-53A-0546	DoC	DELL	N/A	✓
3	Monitor	2408WFP / CN-0G293H-74261-87C-0NLS-A00	DoC	DELL	1.8m	✓
		2408WFP / CN-0G293H-74261-96M-068S	DoC	DELL	1.8m	✓
4	Modem	DM-1414/ 0205002867	IFAXDM1414	ACEEX	1.9m	✓
		DM-1414/ 0505012779	IFAXDM1414	ACEEX	1.9m	✓
		DM-1414/ 0505012774	IFAXDM1414	ACEEX	1.9m	✓
		DM-1414/ 0609026980	IFAXDM1414	ACEEX	1.9m	✓
5	Cassette player	RQ-L11/ 4-717523-100921-1	N/A	Panasonic	N/A	✓
6	Earphone & Microphone	MIC-4/ 2008-008	N/A	SCE	N/A	✓

No.	Unit	Model No./ Serial No.	FCC ID	Trade Name	Power Cord	Supported by lab.
7	USB Flash Disk	U172/ 100-017	D0C	PQI	N/A	✓
		U172/ 100-028	D0C	PQI	N/A	✓
		U172/ 100-036	D0C	PQI	N/A	✓
		U172/ 100-043	D0C	PQI	N/A	✓
		U172/ 100-047	D0C	PQI	N/A	✓
8	Printer	LQ-300+/ DCGY099001	N/A	EPSON	1.9m	✓

1.6 Layout of the Setup



Connecting Cables :

No.	Cable	Length	Shielded	Core	Shielded Backshell	Supported by lab.	Note
A	PS/2 Cable	0.2m	✓				
B	PS/2 Mouse Cable	1.8m	✓			✓	
C	PS/2 Keyboard Cable	2.0m	✓			✓	
D	VGA Cable	1.7m	✓	✓		✓	2 cores
E	DVI Cable	1.8m	✓	✓		✓	2 cores
F	Modem Cable	1.8m	✓	✓		✓	2 cores
G	Audio Cable	1.5m	✓			✓	
H	Earphone & Microphone Cable	1.8m	✓			✓	
I	USB Cable	1.8m	✓			✓	
J	Printer Cable	1.8m	✓			✓	
K	LAN Cable	>3m				✓	

(Note: The details Cable A is shown in the photographs in Attachment 1.)

1.7 Test Capability

Test Facility

The test facility used for evaluating the conformance of the EUT with each standard in the present report meets what required in CISPR16-1-4, CISPR16-2-3 and ANSI C63.4.

Test Room	Type of Test Room	Descriptions
TR1	10m semi-anechoic chamber (23m × 14m × 9m)	Complying with the NSA requirements in documents CISPR 22 and ANSI C63.4. for the radiated emission measurement.
TR11	3m semi-anechoic chamber (9m × 6m × 6m)	
TR5	Shielding Room (8m × 5m × 4m)	For the conducted emission measurement.

Test Laboratory Competence Information

Central Research Technology Co. has been accredited / filed / authorized by the agencies listed in the following table.

Certificate	Nation	Agency	Code	Mark
Accreditation Certificate	USA	NVLAP	200575-0	ISO/IEC 17025
	R.O.C. (Taiwan)	TAF	0905	ISO/IEC 17025
	R.O.C. (Taiwan)	BSMI	SL2-IN-E-0033, SL2-IS-E-0033, SL2-R1/R2-E-0033, SL2-A1-E-0033	ISO/IEC 17025
Site Filing Document	USA	FCC	474046,TW1053	Test facility list & NSA Data
	Canada	IC	4699A-1,-3	Test facility list & NSA Data
	Japan	VCCI	R-1527,C-1609,T-131,T-1441, G-10	Test facility list & NSA Data
Authorization Certificate	Germany	TUV	10021687-2007	ISO/IEC 17025
	Norway	Nemko	ELA 212	ISO/IEC 17025

The copy of each certificate can be downloaded from our web site: www.crc-lab.com

2. Conducted Emission Measurement

Test Result : PASS

2.1 Limits for Emission Measurement

☑ Limits for conducted disturbances at the power mains

Frequency (MHz)	Class A Equipment		Class B Equipment	
	Quasi-peak (dBμV)	Average (dBμV)	Quasi-peak (dBμV)	Average (dBμV)
0.15 to 0.5	79	66	66 – 56	56 – 46
0.5 to 5	73	60	56	46
5 to 30	73	60	60	50

Note 1- The lower limit shall apply at the transition frequency.
Note 2- The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz for Class B equipment.

2.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Test Receiver	R&S	ESCS 30/ 836858/021	Jan. 13, 2009	Jan. 13, 2010
LISN	R&S	ESH2-Z5/ 836613/001	Aug. 14, 2009	Aug. 14, 2010
2nd LISN	R&S	ENV4200/ 833209/010	Jan. 13, 2009	Jan. 13, 2010
50Ω terminator	N/A	N/A/ 001	Aug. 26, 2009	Aug. 26, 2010
RF Switch	N/A	RSU28/ 338965/002	Aug. 26, 2009	Feb. 26, 2010
RF Cable	N/A	N/A/ C0052 ~ 56	Aug. 26, 2009	Feb. 26, 2010
Test Software	Audix	e3/ Ver. 5.2004-2-19k	NCR	NCR
TR5 shielded room	ETS LINDGREN	TR5/ 15353-F	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

Measurement Uncertainty

The assessed measurement uncertainty with a suitable coverage factor K to ensure 95% confidence level for the normal distribution are shown as below, the values are less than U_{cispr} in table 1 of CISPR 16-4-2.

Equipment	Model Number	Uncertainty Value
LISN	ESH2-Z5	3.1dB
	ENV 4200	3.8dB

2.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a non-conducted table with a height of 0.8 meters above the reference ground plane and 0.4 meters from the conducting wall of the shielded room. Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 12 millimeters above the reference ground plane.

c. Connect the EUT's power source to the appropriate power mains through the LISN.

d. All the other peripherals are connected to the 2nd LISN, if any.

e. The LISN was placed 0.8 meters from the EUT and at least 0.8 meters from other units and other metal planes.

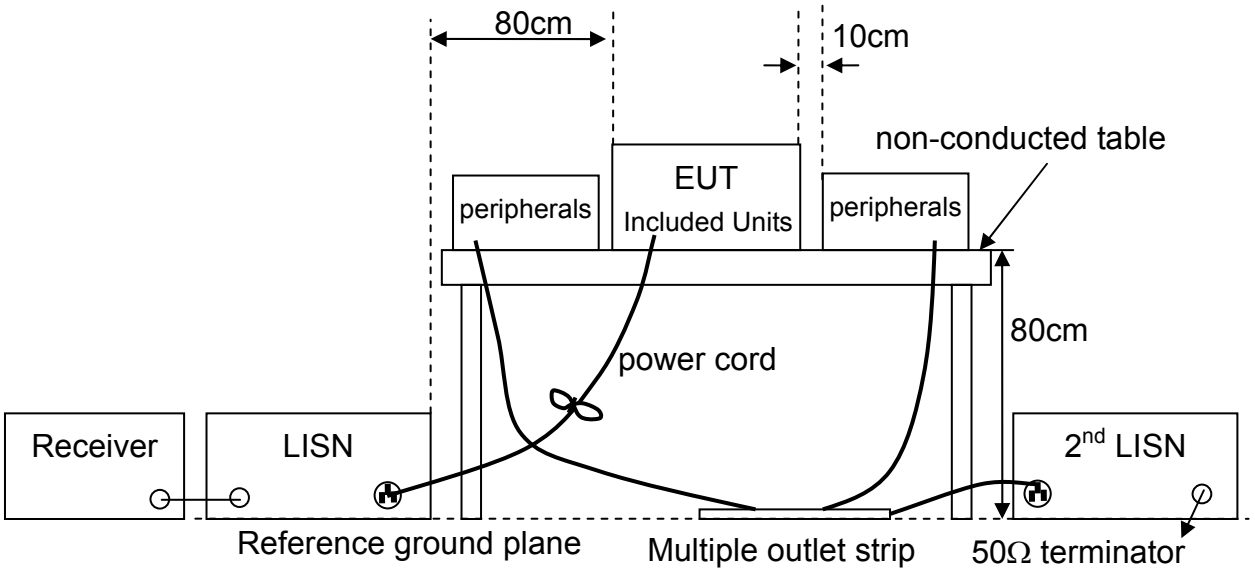
f. Measure the conducted emissions on each power line (Neutral Line and Line 1 – Hot side) of the EUT's power source by using the test receiver connected to the coupling RF output port of LISN.

g. Rapidly scan the signal from 150kHz to 30MHz by using the receiver through the Maximum-Peak detector to determine those frequencies associated with higher emission levels for each measured line.

h. Then measure the maximum level of conducted disturbance for each frequency found from step g. by using the receiver through the Quasi-Peak and Average detectors per CISPR 16-1.

i. Record the level for each frequency and compare with the required limit.

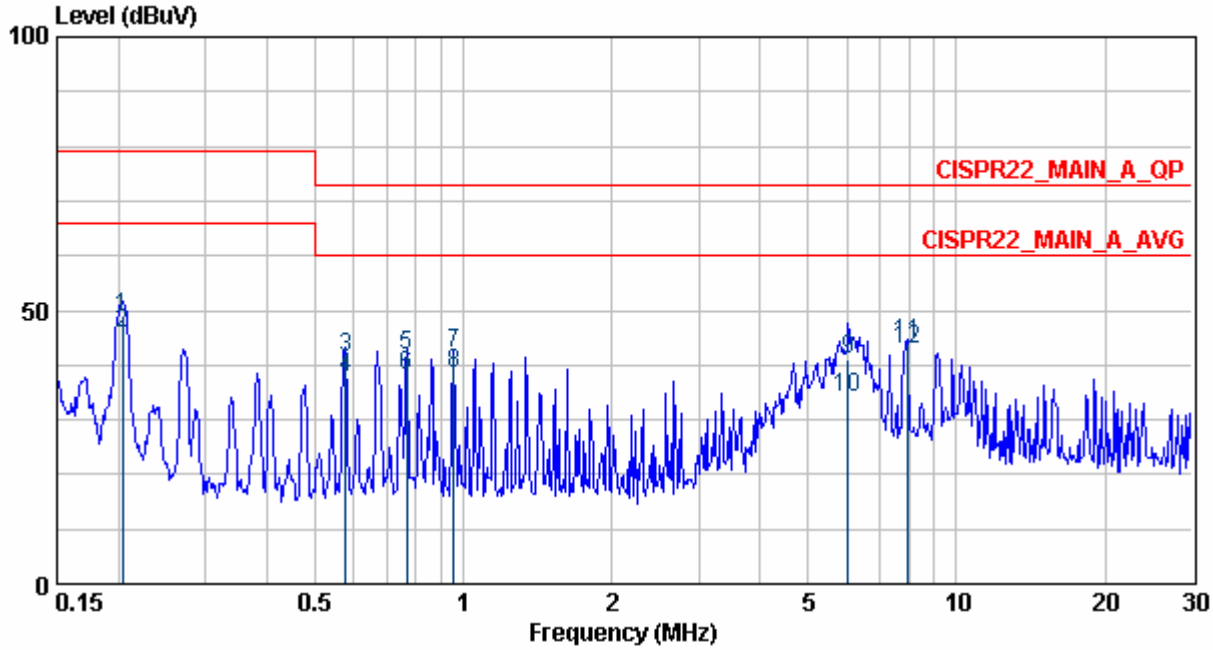
2.4 Test Configurations



2.5 Photographs of the Test Configurations

2.6 Test Results

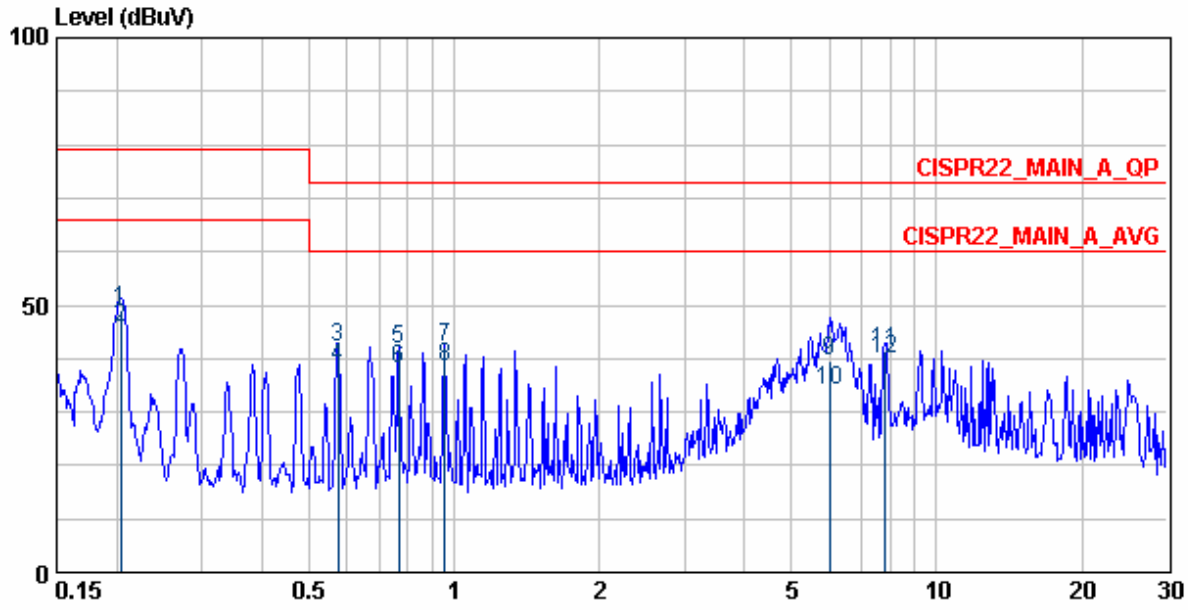
Test Mode	:	Mode 2			
Test Voltage	:	120V/60Hz to the host system			
Tester	:	Albert	**Temperature**	:	29°C
Humidity	:	65%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**Line**



	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.20	48.90	0.20	48.70	79.00	-30.10	LINE	QP
2 @	0.20	45.74	0.20	45.54	66.00	-20.26	LINE	AVERAGE
3	0.58	41.43	0.26	41.17	73.00	-31.57	LINE	QP
4 @	0.58	37.80	0.26	37.54	60.00	-22.20	LINE	AVERAGE
5	0.77	41.70	0.26	41.44	73.00	-31.30	LINE	QP
6 @	0.77	38.04	0.26	37.78	60.00	-21.96	LINE	AVERAGE
7	0.96	42.21	0.31	41.90	73.00	-30.79	LINE	QP
8 @	0.96	38.49	0.31	38.18	60.00	-21.51	LINE	AVERAGE
9	6.02	41.17	0.67	40.50	73.00	-31.83	LINE	QP
10 @	6.02	34.23	0.67	33.56	60.00	-25.77	LINE	AVERAGE
11 @	7.94	44.13	0.73	43.40	73.00	-28.87	LINE	QP
12 @	7.94	42.82	0.73	42.09	60.00	-17.18	LINE	AVERAGE

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode	:	Mode 2			
Test Voltage	:	120V/60Hz to the host system			
Tester	:	Albert	**Temperature**	:	29°C
Humidity	:	65%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**Neutral**



	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.20	49.00	0.20	48.80	79.00	-30.00	NEUTRAL	QP
2 @	0.20	45.85	0.20	45.65	66.00	-20.15	NEUTRAL	AVERAGE
3	0.57	42.01	0.27	41.74	73.00	-30.99	NEUTRAL	QP
4 @	0.57	38.41	0.27	38.14	60.00	-21.59	NEUTRAL	AVERAGE
5	0.77	41.71	0.27	41.44	73.00	-31.29	NEUTRAL	QP
6 @	0.77	38.05	0.27	37.78	60.00	-21.95	NEUTRAL	AVERAGE
7	0.96	42.17	0.31	41.86	73.00	-30.83	NEUTRAL	QP
8 @	0.96	38.49	0.31	38.18	60.00	-21.51	NEUTRAL	AVERAGE
9	5.99	39.54	0.63	38.91	73.00	-33.46	NEUTRAL	QP
10 @	5.99	34.12	0.63	33.49	60.00	-25.88	NEUTRAL	AVERAGE
11	7.81	41.22	0.66	40.56	73.00	-31.78	NEUTRAL	QP
12 @	7.81	40.08	0.66	39.42	60.00	-19.92	NEUTRAL	AVERAGE

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

3. Radiated Emission Measurement

Test Result : PASS

3.1 Limits for Emission Measurement

☑ Limits for radiated disturbances below 1000MHz

Frequency (MHz)	Class A Equipment (10m distance)	Class B Equipment (3m distance)
	Quasi-peak (dBμV/m)	Quasi-peak (dBμV/m)
30 to 88	39.1	40
88 to 216	43.5	43.5
216 to 960	46.4	46
960 to 1000	49.5	54
Note 1- The lower limit shall apply at the transition frequency. Note 2- Additional provisions may be required for cases where interference occurs. Note 3- According to 15.109(g), as an alternative to the radiated emission limits shown above, digital devices may be shown to comply with the standards (CISPR), Pub. 22 shown as below.		
30 to 230	40	30
230 to 1000	47	37

☐ Limits for radiated disturbances in the frequency range 1000MHz ~ 2000MHz at a measuring distance of 10m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dBμV/m)	Average (dBμV/m)	Peak (dBμV/m)	Average (dBμV/m)
1 to 2	69.5	49.5	63.5	43.5

☑ Limits for radiated disturbances above 1000MHz at a measuring distance of 3m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dBμV/m)	Average (dBμV/m)	Peak (dBμV/m)	Average (dBμV/m)
1 to 40	80	60	74	54

3.2 Test Instruments

☑ For Measurement at the distance of 10m

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESCS 30/ 836858/020	Aug. 17, 2009	Aug. 17, 2010
Broadband Antenna	R&S	HL-562/ 360543/007	March 12, 2009	March 12, 2010
Broadband Antenna	R&S	HL-562/ 830547/010	Dec. 16, 2008	Dec. 16, 2009
Pre-Amplifier	Mini Circuit	ZKL-2/ 001	Aug. 26, 2009	Feb. 26, 2010
Pre-Amplifier	Mini Circuit	ZKL-2/ 002	Aug. 26, 2009	Feb. 26, 2010
Spectrum	R&S	FSP7/ 100384	Dec. 16, 2008	Dec. 16, 2009
Spectrum	R&S	FSP 7/ 100108	June 1, 2009	June 1, 2010
RF Cable	JYEBAO	0214/ C0049	July 22, 2009	Jan. 22, 2010
RF Cable	JYEBAO	0214/ C0050	July 22, 2009	Jan. 22, 2010
Test Software	Audix	e3/ Ver. 4.3.714.e	NCR	NCR
TR1 Semi - anechoic Chamber	ETS. LINDGREN	TR1/ 17627-B	Nov. 22, 2008	Nov. 22, 2009

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.
3. The calibration date of the semi-anechoic chamber listed above is the date of NSA measurement.

☑ For Measurement at the distance of 3m

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESCI/ 100019	Nov. 25 2008	Nov. 25, 2009
Bi-Log Antenna	EMCO	3142C/ 52088	July 22, 2009	July 22, 2010
Horn Antenna	EMCO	3117/ 57416	March 3, 2009	March 3, 2010
Pre-Amplifier	Mini Circuit	ZKL-2/ 004	Aug. 10, 2009	Feb. 10, 2010
	MITEQ	AMF-4D-005180-24-10P/ 1072961	Dec. 19, 2008	Dec. 19, 2009
	MITEQ	AFS6-02001800-35-10P-6/ 866643	Dec. 19, 2008	Dec. 19, 2009
Spectrum Analyzer	Agilent	E4407B/ MY45106795	March 19, 2009	March 19, 2010
RF Cable	N/A	N/A/ C0080	Aug 10, 2009	Feb. 10, 2010
RF Cable	N/A	N/A/ C0081	April 24, 2009	Oct. 23, 2009
Test Software	Audix	e3/ Ver. 4.3.714.e	NCR	NCR
TR11 Semi - anechoic Chamber	ETS. LINDGREN	TR11/ 906-A	June 29, 2009	June 29, 2010

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.
3. The calibration date of the semi-anechoic chamber listed above is the date of NSA measurement.

Measurement Uncertainty

The assessed measurement uncertainty with a suitable coverage factor K to ensure 95% confidence level for the normal distribution are shown as below, the values are less than U_{cispr} in table 1 of CISPR 16-4-2.

Test Site (Measuring distance)	**Polarization**	**Frequency Range**	
		30MHz ~200MHz	200MHz ~1000MHz
TR1(10m)	Horizontal	3.5dB	3.4dB
	Vertical	3.6dB	3.2dB
TR11(3m)	Horizontal	2.8dB	3.4dB
	Vertical	3.5dB	2.8dB

Test Site (Measuring distance)	**Polarization**	**Frequency Range**
		1GHz ~18GHz
TR11(3m)	Horizontal	2.5dB
	Vertical	2.5dB

3.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a non-conducted table with a height of 0.8 meters above the reference ground plane in the semi-anechoic chamber. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 12 millimeters above the reference ground plane in the semi-anechoic chamber.

c. For the measurement of frequency below 1000MHz, the EUT was set 10m away from the interference receiving antenna for the limit of Class A equipment or CISPR 22. For Class B equipment and the measurement of frequency above 1000MHz, the EUT was set 3m away from the interference receiving antenna.

d. Rapidly sweep the signal in the test frequency range by using the spectrum through the Maximum-peak detector.

e. Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4 meters above the reference ground plane continuously to determine at least six frequencies associated with higher emission levels and record them.

f. For measurement of frequency above 1000MHz, the beamwidth of receiving horn antenna should keep covering EUT when the receiving horn antenna height varied.

g. Then measure each frequency found from step e. by using the spectrum with rotating the EUT and positioning the receiving antenna height to determine the maximum level.

h. Finely tune the antenna and turntable around the recorded position of each frequency found from step f.

i. For measurement of frequency below 1000MHz, set the receiver detector to be Quasi-Peak per CISPR 16-1 to find out the maximum level occurred.

j. For measurement of frequency above 1000MHz, set the spectrum detector to be Peak or Average to find out the maximum level occurred, if any.

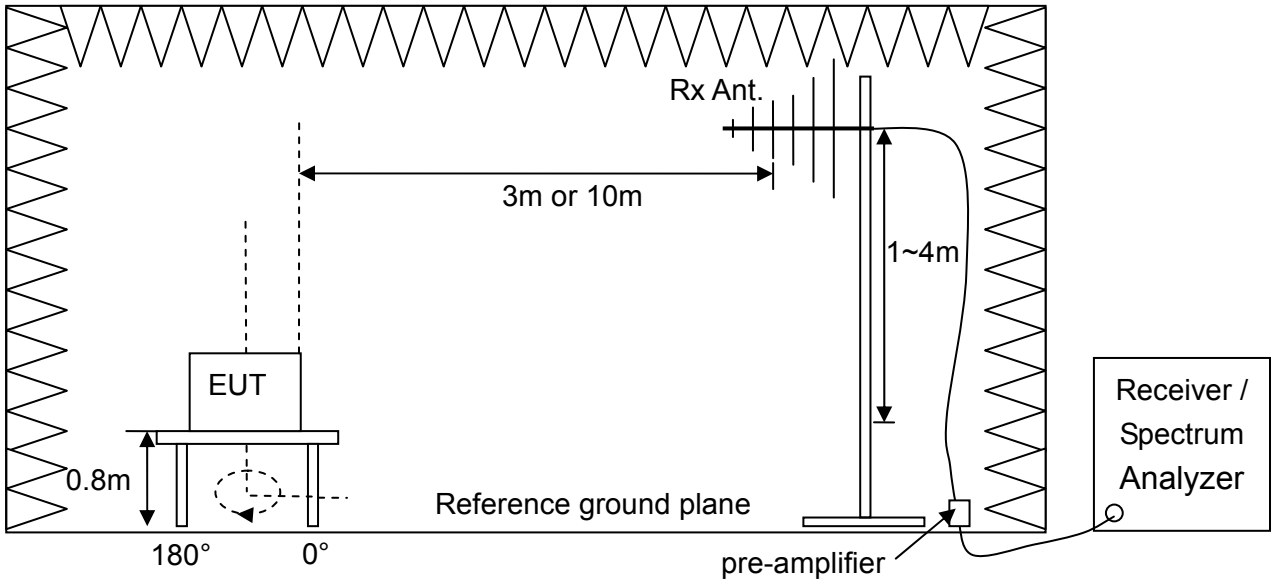
k. Record frequency, azimuth angle of the turntable, height, and polarization of the receiving antenna and compare the maximum level with the required limit.

l. Change the receiving antenna to another polarization to measure radiated emission by following step d. to k. again.

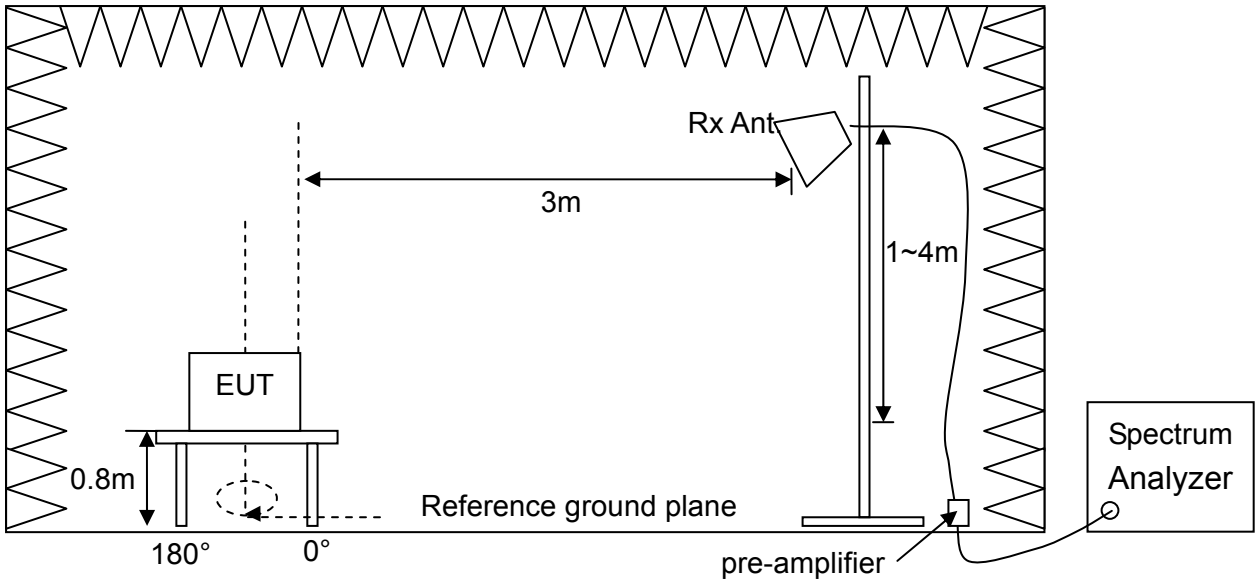
m. If the peak emission level measured from step e. is 4dB lower than the limit specified, then the emission values presented will be the peak value only. Otherwise, accurate Q.P. value will be measured and presented.

3.4 Test Configurations

Radiated Emission Measurement below 2000MHz



Radiated Emission Measurement above 1000MHz (if any)

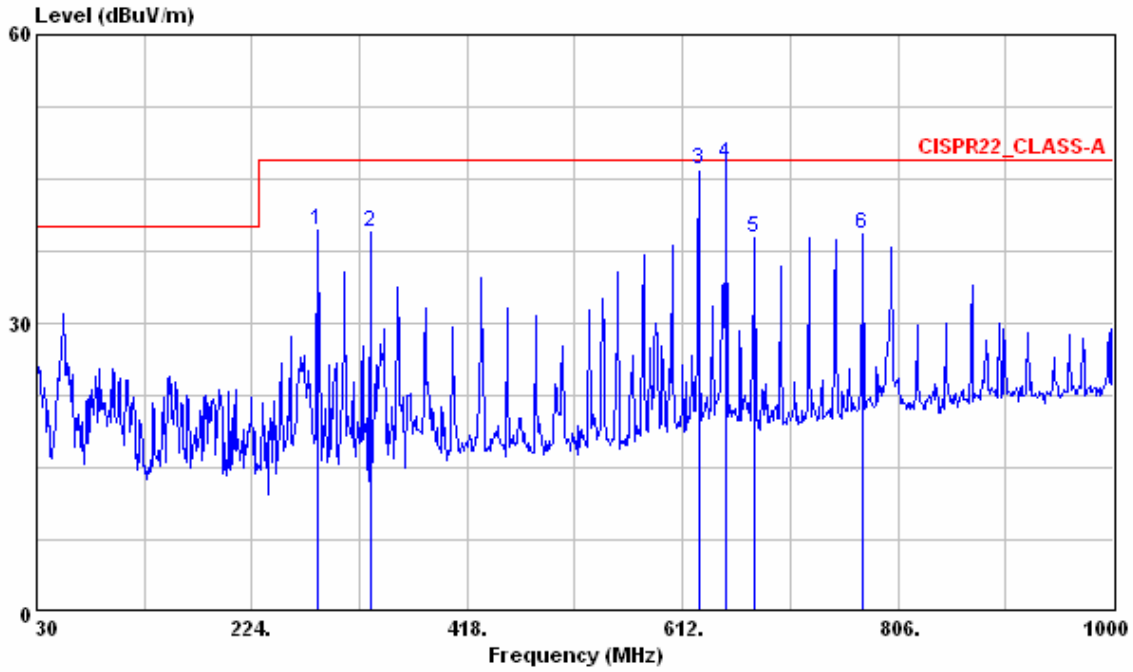


3.5 Photographs of the Test Configurations

3.6 Test Results

Radiated Emission Measurement below 1000MHz

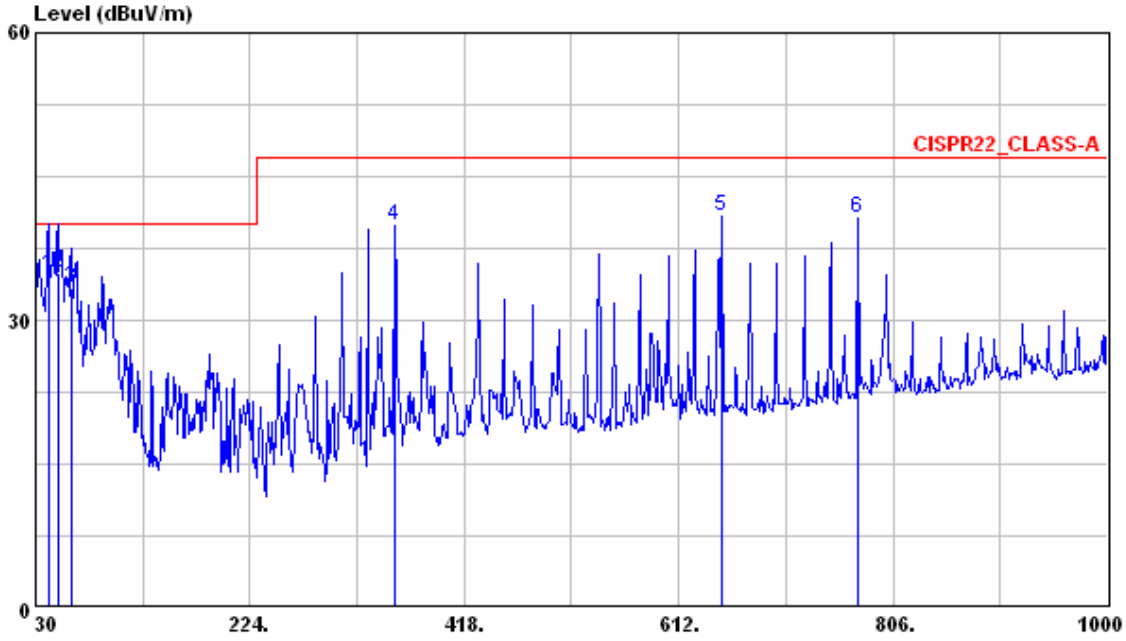
Test Mode	:	Mode 2			
Test Voltage	:	120V/60Hz to the host system			
Tester	:	Carl Yan	**Temperature**	:	27°C
Humidity	:	67%RH	**Frequency Range**	:	30MHz~1GHz
IF Bandwidth	:	120kHz	**Polarization**	:	**Horizontal**



	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Table Pos	Ant Pos	Pol/Phase	Remark
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB	deg	cm		
1	283.170	39.60	-16.76	56.36	47.00	-7.40	---	---	HORIZONTAL	Peak
2	330.700	39.51	-15.28	54.79	47.00	-7.49	---	---	HORIZONTAL	Peak
3 @	626.780	46.05	-8.27	54.32	47.00	-0.95	276	139	HORIZONTAL	QP
4 @	651.356	46.66	-7.79	54.45	47.00	-0.34	280	122	HORIZONTAL	QP
5	676.990	38.85	-7.51	46.36	47.00	-8.15	---	---	HORIZONTAL	Peak
6	774.960	39.20	-6.04	45.24	47.00	-7.80	---	---	HORIZONTAL	Peak

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.
3. Q.P is abbreviation of quasi-peak.

Test Mode	:	Mode 2			
Test Voltage	:	120V/60Hz to the host system			
Tester	:	Carl Yan	**Temperature**	:	27°C
Humidity	:	67%RH	**Frequency Range**	:	30MHz~1GHz
IF Bandwidth	:	120kHz	**Polarization**	:	**Vertical**

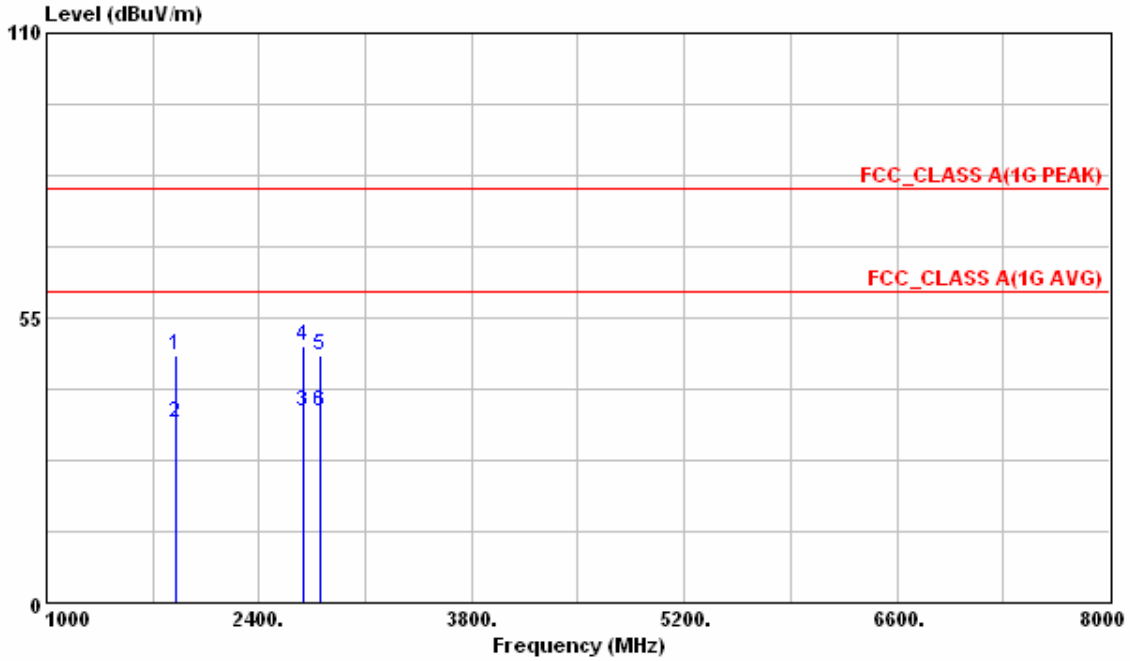


	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Table Pos	Ant Pos	Pol/Phase	Remark
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB	deg	cm		
1	41.363	34.75	-16.17	50.92	40.00	-5.25	98	113	VERTICAL	QP
2 @	50.370	35.00	-21.49	56.49	40.00	-5.00	350	102	VERTICAL	QP
3	62.500	33.27	-23.08	56.35	40.00	-6.73	154	107	VERTICAL	QP
4	354.950	39.78	-13.61	53.39	47.00	-7.22	---	---	VERTICAL	Peak
5	651.770	40.80	-6.58	47.38	47.00	-6.20	---	---	VERTICAL	Peak
6	774.960	40.68	-4.71	45.39	47.00	-6.32	---	---	VERTICAL	Peak

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.
3. Q.P is abbreviation of quasi-peak.

Radiated Emission Measurement above 1000MHz

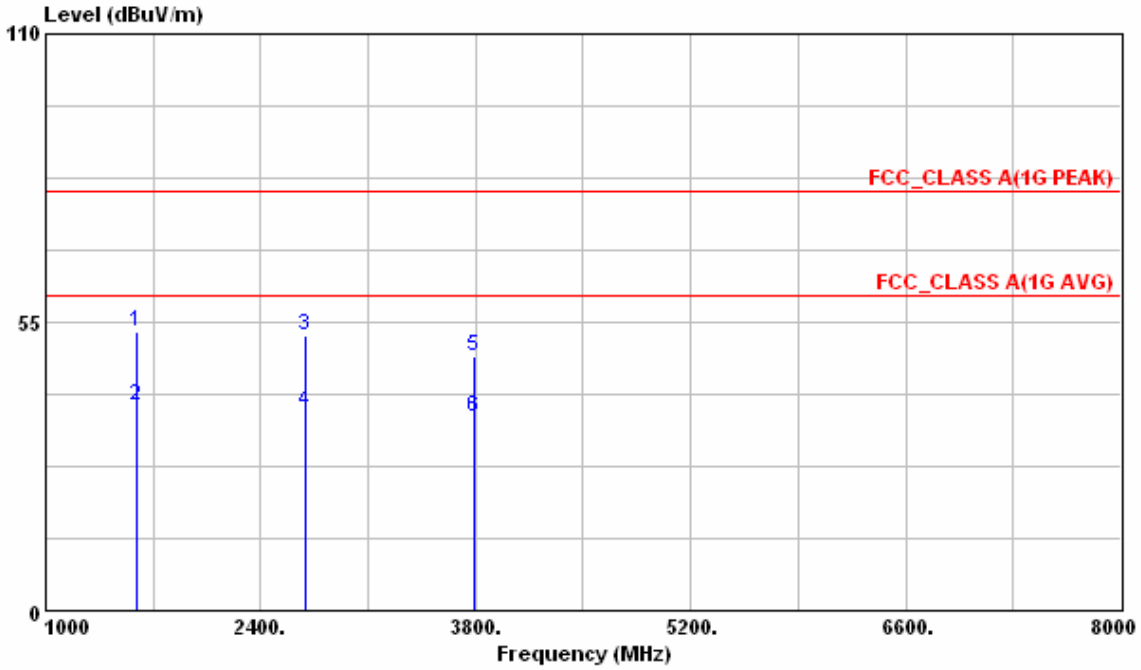
Test Mode	:	Mode 2			
Test Voltage	:	120V/60Hz to the host system			
Tester	:	Carl Yan	**Temperature**	:	26°C
Humidity	:	68%RH	**Frequency Range**	:	1GHz~8GHz
IF Bandwidth	:	1MHz	**Polarization**	:	**Horizontal**



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1854.160	47.73	76.44	-28.71	80.00	-32.27	358	141	HORIZONTAL	Peak
2	1854.160	34.57	63.28	-28.71	60.00	-25.43	358	141	HORIZONTAL	Average
3	2694.480	36.75	63.20	-26.45	60.00	-23.25	142	341	HORIZONTAL	Average
4	2694.480	49.40	75.85	-26.45	80.00	-30.60	142	341	HORIZONTAL	Peak
5	2799.190	47.77	74.05	-26.28	80.00	-32.23	367	228	HORIZONTAL	Peak
6	2799.190	37.00	63.28	-26.28	60.00	-23.00	367	228	HORIZONTAL	Average

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

Test Mode	:	Mode 2			
Test Voltage	:	120V/60Hz to the host system			
Tester	:	Carl Yan	**Temperature**	:	26°C
Humidity	:	68%RH	**Frequency Range**	:	1GHz~8GHz
IF Bandwidth	:	1MHz	**Polarization**	:	**Vertical**



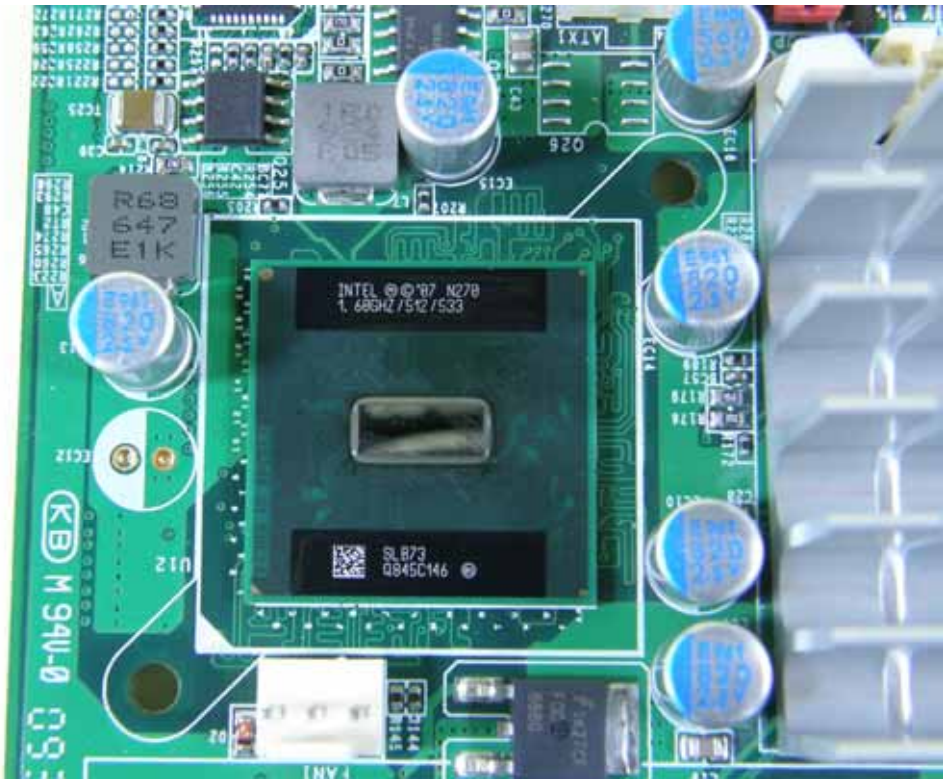
	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1588.460	53.03	84.37	-31.34	80.00	-26.97	312	27	VERTICAL	Peak
2	1588.460	38.93	70.27	-31.34	60.00	-21.07	312	27	VERTICAL	Average
3	2694.710	52.38	78.83	-26.45	80.00	-27.62	173	214	VERTICAL	Peak
4	2694.710	37.83	64.28	-26.45	60.00	-22.17	173	214	VERTICAL	Average
5	3786.470	48.48	73.60	-25.12	80.00	-31.52	269	320	VERTICAL	Peak
6	3786.470	37.06	62.18	-25.12	60.00	-22.94	269	320	VERTICAL	Average

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

Attachment 1
Photographs of EUT


intel


CE FC


R68
647
E1K
INTEL ©©'07 N270
1.60GHZ/512/533
SLB73
Q845C146
KB M940-0

Memory

Host System

PS/2 Cable

Attachment 2
Modifications of EUT

Statement of the EUT Modifications

According to the rules of ANSI C63.4-2003 clause 10.1.13, the following equipment (EUT):

Product	:	PCI Half-Size SBC
Model No.	:	xxxxHSB-945Pxx-xxx-xxxxxxx (Where x is 0-9, A-Z, - or blank) for marketing purpose
Manufacturer	:	AAEON Technology Inc.
Address	:	5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City, Taipei, Taiwan, R.O.C.

☐ should be **without** any modifications made

☐ should be **with** some modifications made

to bring the EUT into compliance with the appropriate specifications (47CFR Part 15, Subpart B). If any, the details of the modifications including the complete descriptions, reasons and so on are described in next page of this report.

We , **AAEON Technology Inc.** hereby ensure that the product specified above will have all of the modifications incorporated in the product when manufactured and placed on the market.

The following importer or manufacturer is responsible for this statement:

Company Name : _____

Company Address : _____

Telephone : _____ E-mail : _____

Legal Signature of the responsible personal:

_____ _____

Title / Name (full name) Date

The details of the modifications:

Item	Solution Component	Specifications	Manufacturer	Quantity	Reasons
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

If needed, some modification items are shown in the photographs in the following.