

# Verification of Compliance

Product Name : Embedded box  
Model Number : TKS-G50-9655-xxx-xx  
(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-U070-1001-175  
Issue Date : April 7, 2010

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



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(Tsun-Yu Shih/ General Manager)

Date: April 7, 2010

# **FCC Test Report**

for

## **Embedded box**

**Model Number : TKS-G50-9655-xxx-xx**  
**(Where x is 0-9 , A-Z , -or blank)**  
**for marketing purpose**

**Report Number : F-U070-1001-175**

**Date of Receipt : January 19, 2010**

**Date of Report : April 7, 2010**

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**

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NVLAP LAB CODE 200575-0

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# Verification of Compliance

**Equipment Under Test** : Embedded box

**Model No.** : TKS-G50-9655-xxx-xx  
(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** : January 21~26, 2010

**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** : April 7, 2010  
(Yiwen Huang/System Executive)

**APPROVED BY** : J. Y. Shih , **DATE** : Apr. 7, 2010  
(Tsun-Yu Shih/General Manager)

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## 1. General Description

### 1.1 General Description of EUT

Equipment Under Test : Embedded box  
 Model No. : TKS-G50-9655-xxx-xx  
 (Where x is 0-9 , A-Z , -or blank)  
 for marketing purpose  
 Power in : Supplied by the adapter  
 Adapter Specification : Trade Name : EDAC  
 Model No. : EA1050A-120  
 Input : 100-240V~1.8A, 50/60Hz  
 Output : 12Vdc, 5.0A  
 Highest Operating Frequency : 2GHz  
 Manufacturer : AAEON Technology Inc.  
 Function Description :

The EUT is an engineering sample of the Embedded box. Please refer to the user’s manual for the details.

The I/O ports of EUT are listed below:

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

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

<b>Components</b>	<b>Model</b>
M/B	GENE-9655-xxxxxx (Where x is 0-9 , A-Z , -or blank) for marketing purpose
CPU	Intel Celeron 550 2GHz
CFD	Transcend 4GB
Memory	Transcend , DDR2-667 1GB , ELPIDA E5108AJBG-6E-E
OSC	14.31818MHZ ; 25MHZ ; 32.768KHz
AC Adapter	Manufacturer : EDAC Module Number : EA1050A-120 AC Adapter Power Rating : I/P : 100~240VAC O/P : 12V/5A

## 1.2 Test Mode

Normal operating as the customer's requirement. The EUT was tested with dual display mode.

**1.3 Applied standards**

According to the specifications of the manufacturer and the requirements set in 47CFR Part 15, Subpart B, the applied standards to evaluate the compliance of the EUT are as following, 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)
<input type="checkbox"/>	Below 1.705	30
<input type="checkbox"/>	1.705 - 108	1000
<input type="checkbox"/>	108 - 500	2000
<input type="checkbox"/>	500 - 1000	5000
<input checked="" type="checkbox"/>	Above 1000	5 <sup>th</sup> 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	<input checked="" type="checkbox"/> Conducted Emission Measurement	<u>PASS</u>
	<input checked="" type="checkbox"/> Radiated Emission Measurement	<u>PASS</u>

### 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 EUT and all the support units to the appropriate power source.
- b. Turn on the EUT and all the accessories and support units.
- c. Install an EMC test software into EUT and execute it under the Windows environment.
- d. The EUT sends “H” patterns to the monitor which fills the whole screen of it.
- e. The EUT reads/writes messages from/to USB Flash Disks or USB 2.0 HDD(s).
- f. The EUT sends messages to the modem.
- g. The EUT sends audio signal to the earphones.
- h. Another PC sends/ receives messages to/ from the EUT through a Hub by executing the command of “PING”.
- i. Repeat and keep setup steps listed above before and during all tests.

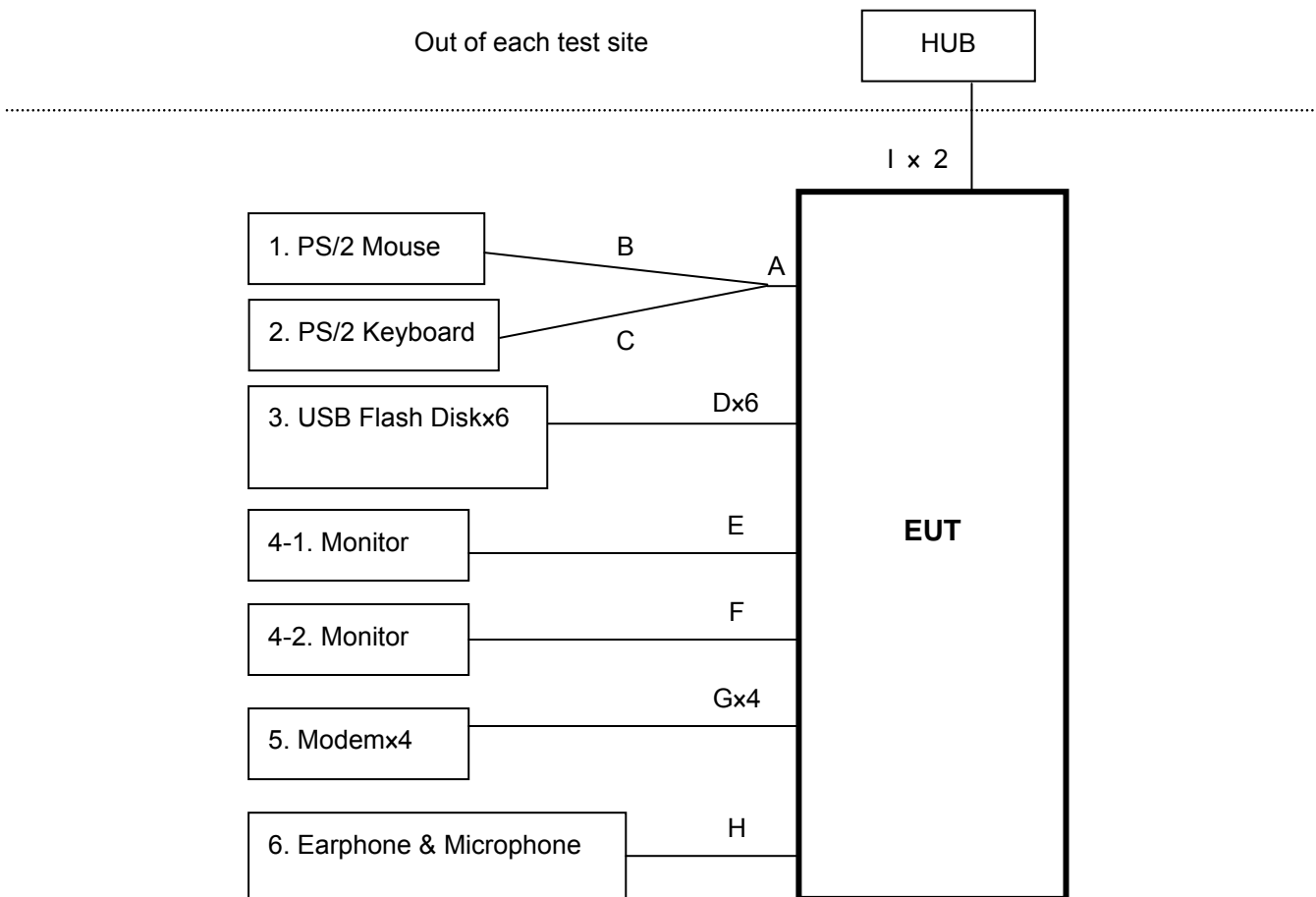
<b>EUT I/O ports / Peripherals</b>	<b>Exerciser Program (software)</b>	<b>Version of Program</b>
USB Flash Disks or USB 2.0 HDD(s)	BurnIn Test	V4.0
Modem		
Earphone & Microphone		
Monitor		



## 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- 415-2470	DoC	DELL	N/A	✓
3	USB Flash Disk	U172/100-036	DoC	PQI	N/A	✓
		U172/100-043	DoC	PQI	N/A	✓
		U172/100-047	DoC	PQI	N/A	✓
		U172/100-058	DoC	PQI	N/A	✓
		U172/100-081	DoC	PQI	N/A	✓
		U172/100-083	DoC	PQI	N/A	✓
4-1	Monitor	2408WFP/ CN-0NN792-74261- 7CF-3D0S	DoC	DELL	1.8m	✓
4-2		2408WFP/ CN-0G293H-74261- 96M-068S)	DoC	DELL	1.8m	✓
5	Modem	DM-1414/ 0205002867	IFAXDM1414	ACEEX	1.9m	✓
		DM-1414/ 0406031779	IFAXDM1414	ACEEX	1.9m	✓
		DM-1414/ 0505012775	IFAXDM1414	ACEEX	1.9m	✓
		DM-1414/ 0509019804	IFAXDM1414	ACEEX	1.9m	✓
6	Earphone & Microphone	MIC-4 / 2008-008	DoC	SCE	N/A	✓

### 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	✓				1 to 2 Ports
B	PS/2 Mouse Cable	1.8m	✓			✓	
C	PS/2 Keyboard Cable	2.0m	✓			✓	
D	USB Cable	1.8m	✓			✓	
E	DVI Cable	1.8m	✓	✓		✓	2 Cores
F	VGA Cable	1.7m	✓	✓		✓	2 Cores
G	Modem Cable	1.8m	✓	✓		✓	2 Cores
H	Earphone & Microphone Cable	1.8m	✓			✓	
I	LAN Cable	1.8m				✓	

## 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.

<b>Certificate</b>	<b>Nation</b>	<b>Agency</b>	<b>Code</b>	<b>Mark</b>
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	10021687-2010	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](http://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. 12, 2010	Jan. 12, 2011
LISN	R&S	ESH2-Z5/ 836613/001	Aug. 14, 2009	Aug. 14, 2010
2 <sup>nd</sup> LISN	R&S	ENV4200/ 833209/010	Jan. 12, 2010	Jan. 12, 2011
50Ω terminator	N/A	N/A/ 001	Aug. 26, 2009	Aug. 26, 2010
RF Switch	N/A	RSU28/ 338965/002	Feb. 23, 2010	Aug. 23, 2010
RF Cable	N/A	N/A/ C0052 ~ 56	Feb. 23, 2010	Aug. 23, 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.

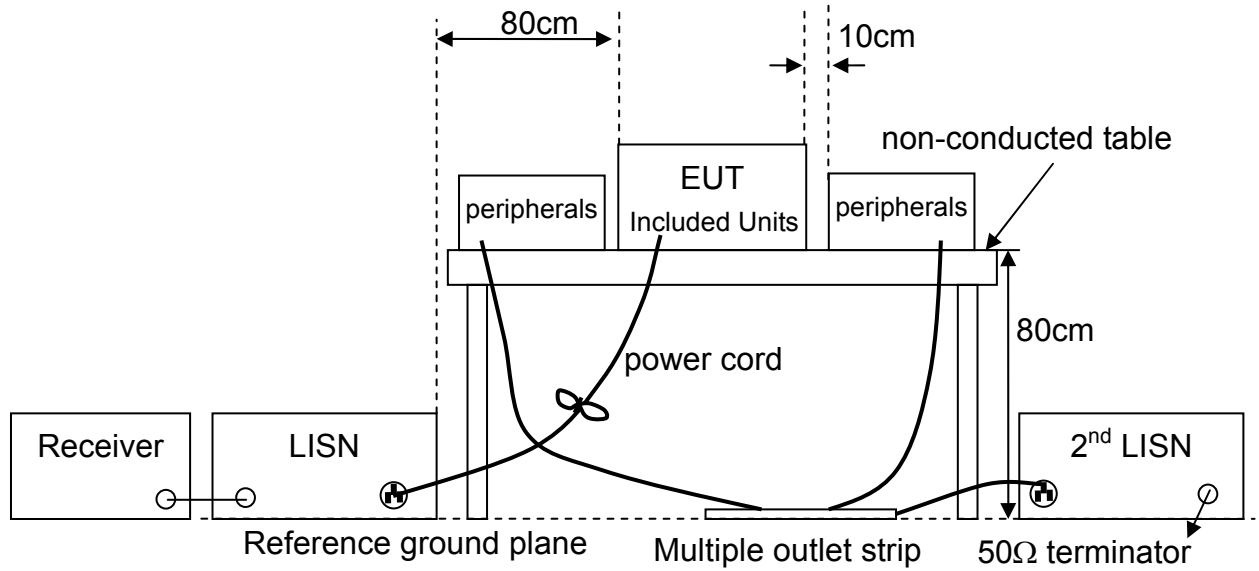
Equipment	Model Number	Uncertainty Value
LISN	ESH2-Z5	3.1dB
	ENV 4200	2.9dB

## 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 2<sup>nd</sup> 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

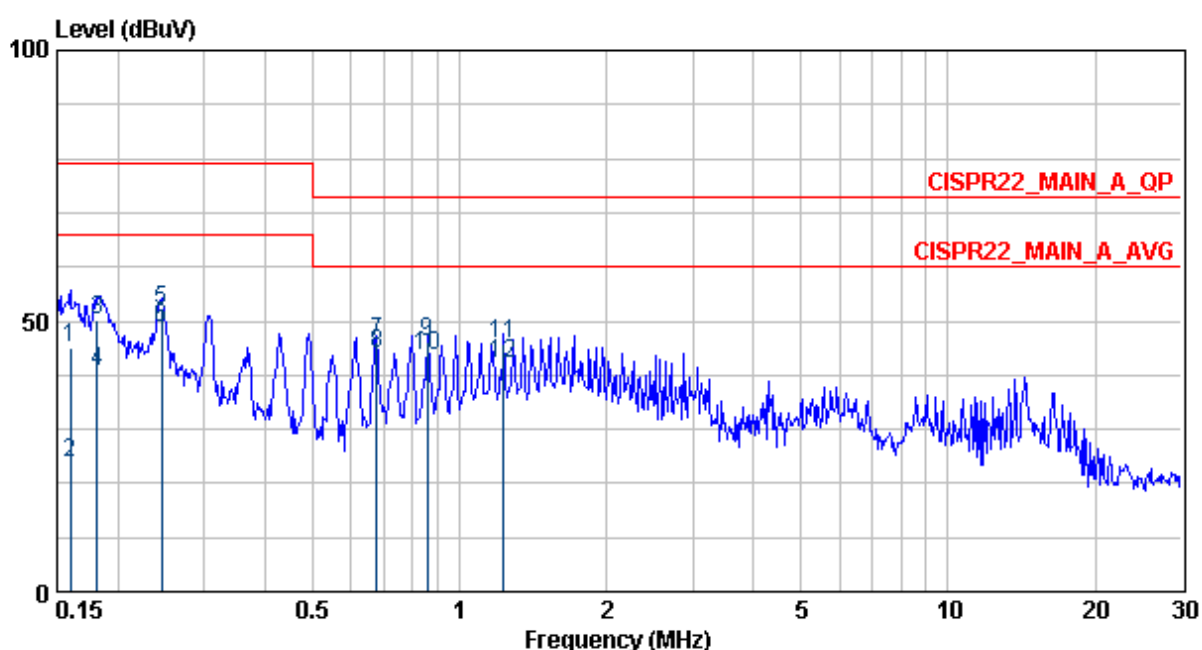


## 2.5 Photographs of the Test Configurations



## 2.6 Test Results

**Test Mode** : As description of section 1.2  
**Test Voltage** : 110V/60Hz to the adapter  
**Tester** : Der-Jan Ken **Temperature** : 26°C  
**Humidity** : 56%RH **Frequency Range** : 150kHz~30MHz  
**IF Bandwidth** : 9kHz **Phase** : Line

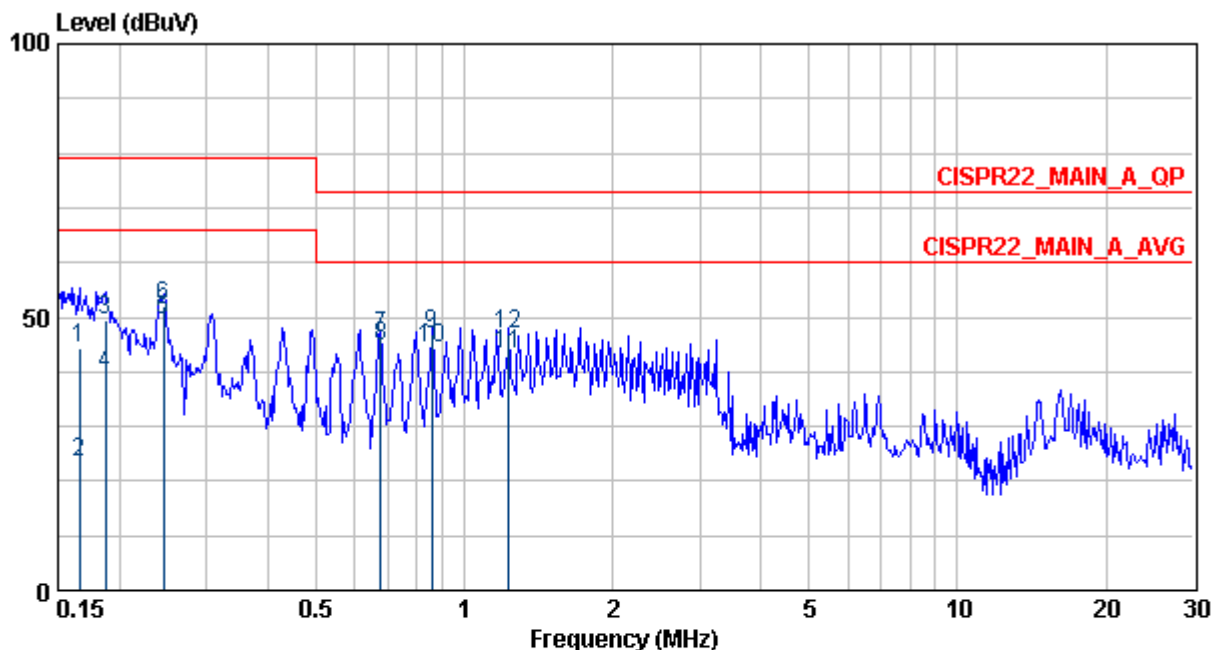


	Freq MHz	Level dBuV	Factor dB	Read Limit Over			Pol/Phase	Remark
				Level dBuV	Line dBuV	Limit dB		
1	0.16	45.17	0.18	44.99	79.00	-33.83	LINE	QP
2	0.16	23.88	0.18	23.70	66.00	-42.12	LINE	AVERAGE
3	0.18	50.20	0.19	50.01	79.00	-28.80	LINE	QP
4	0.18	40.60	0.19	40.41	66.00	-25.40	LINE	AVERAGE
5	0.25	52.03	0.20	51.83	79.00	-26.97	LINE	QP
6	0.25	48.73	0.20	48.53	66.00	-17.27	LINE	AVERAGE
7	0.68	46.10	0.27	45.83	73.00	-26.90	LINE	QP
8	0.68	44.08	0.27	43.81	60.00	-15.92	LINE	AVERAGE
9	0.86	46.08	0.29	45.79	73.00	-26.92	LINE	QP
10	0.86	43.47	0.29	43.18	60.00	-16.53	LINE	AVERAGE
11	1.23	45.68	0.33	45.35	73.00	-27.32	LINE	QP
12	1.23	42.03	0.33	41.70	60.00	-17.97	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** : As description of section 1.2  
**Test Voltage** : 110V/60Hz to the adapter  
**Tester** : Der-Jan Ken **Temperature** : 26°C  
**Humidity** : 56%RH **Frequency Range** : 150kHz~30MHz  
**IF Bandwidth** : 9kHz **Phase** : Neutral



	Freq	Level	Factor	Read	Limit	Over	Pol/Phase	Remark
				Level	Line	Limit		
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.17	44.41	0.19	44.22	79.00	-34.59	NEUTRAL	QP
2	0.17	23.51	0.19	23.32	66.00	-42.49	NEUTRAL	AVERAGE
3	0.19	49.30	0.20	49.10	79.00	-29.70	NEUTRAL	QP
4	0.19	39.64	0.20	39.44	66.00	-26.36	NEUTRAL	AVERAGE
5	0.25	49.31	0.21	49.10	66.00	-16.69	NEUTRAL	AVERAGE
6	0.25	52.04	0.21	51.83	79.00	-26.96	NEUTRAL	QP
7	0.68	46.44	0.27	46.17	73.00	-26.56	NEUTRAL	QP
8	0.68	44.52	0.27	44.25	60.00	-15.48	NEUTRAL	AVERAGE
9	0.86	46.83	0.29	46.54	73.00	-26.17	NEUTRAL	QP
10	0.86	44.32	0.29	44.03	60.00	-15.68	NEUTRAL	AVERAGE
11	1.23	43.29	0.33	42.96	60.00	-16.71	NEUTRAL	AVERAGE
12	1.23	46.92	0.33	46.59	73.00	-26.08	NEUTRAL	QP

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 19, 2010	March 19, 2011
Broadband Antenna	R&S	HL-562/ 830547/010	Dec. 18, 2009	Dec. 18, 2010
Pre-Amplifier	Mini Circuit	ZKL-2/ 001	Jan. 21, 2010	July 21, 2010
Pre-Amplifier	Mini Circuit	ZKL-2/ 002	Jan. 21, 2010	July 21, 2010
Spectrum	R&S	FSP40/ 100031	June 25, 2009	June 25, 2010
Spectrum	R&S	FSP 7/ 100108	June 1, 2009	June 1, 2010
RF Cable	JYEBAO	0214/ C0049	Jan. 21, 2010	July 21, 2010
RF Cable	JYEBAO	0214/ C0050	Jan. 21, 2010	July 21, 2010
Test Software	Audix	e3/ Ver. 4.3.714.e	NCR	NCR
TR1 Semi - anechoic Chamber	ETS. LINDGREN	TR1/ 17627-B	Nov. 20, 2009	Nov. 20, 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.

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. 30, 2009	Nov. 30, 2010
Bi-Log Antenna	EMCO	3142C/ 52088	July 22, 2009	July 22, 2010
Horn Antenna	EMCO	3117/ 57416	March 5, 2009	March 5, 2010
Pre-Amplifier	KMIC	<input type="checkbox"/> KMA010180A01/ 99056	Sept. 30, 2009	Sept. 30, 2010
	Mini Circuit	<input type="checkbox"/> ZKL-2/ 004	Aug. 10, 2009	Feb. 10, 2010
	MITEQ	<input checked="" type="checkbox"/> AMF-4D-005180- 24-10P/ 1072961	Dec.15, 2009	Dec.15, 2010
	MITEQ	<input checked="" type="checkbox"/> AFS6-02001800- 35-10P-6/ 866643	Sept. 11, 2009	Sept. 11, 2010
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	Oct. 22, 2009	April 22, 2010
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

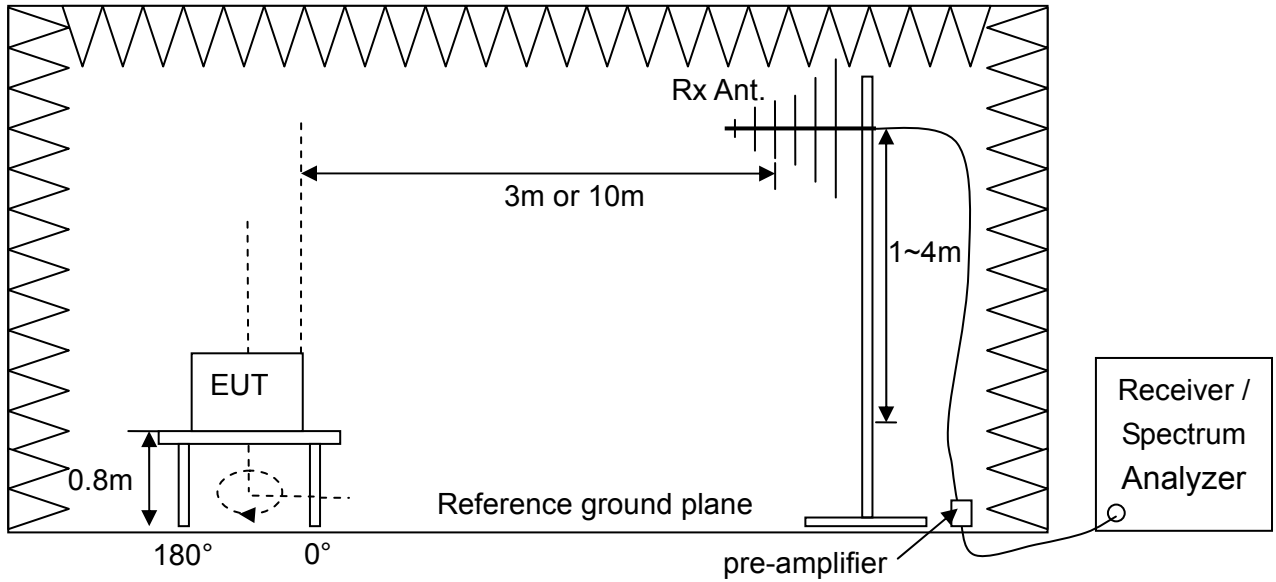


### 3.3 Test Procedures

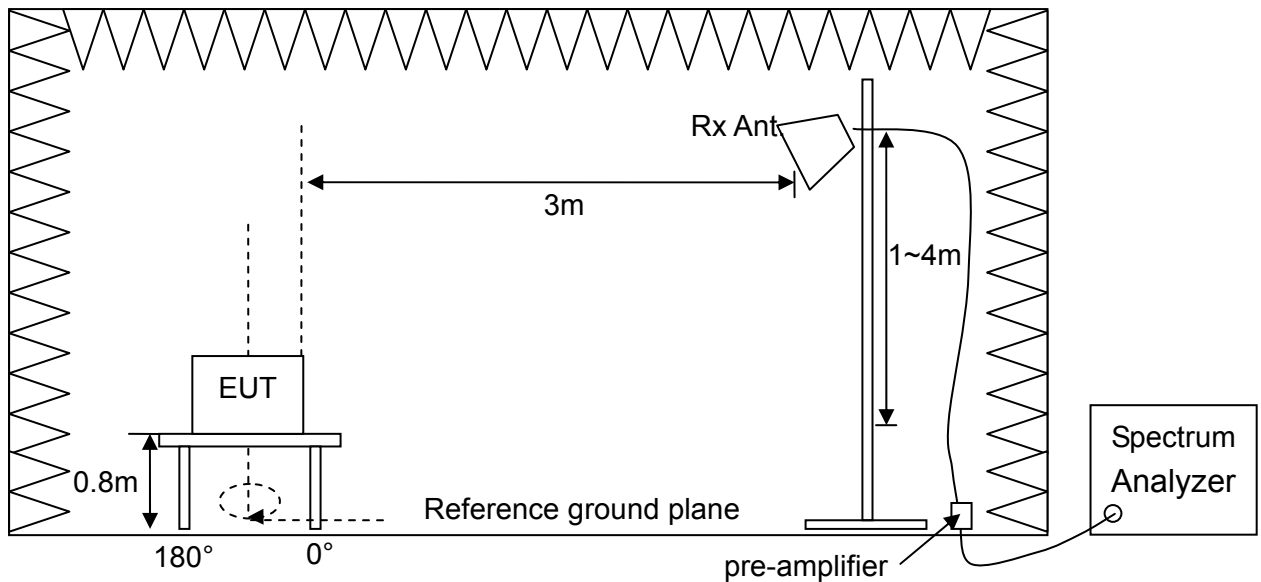
- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. If the EUT is tabletop equipment, it was placed on a non-conducted table with a height of 0.8 meters above the reference ground plane in the semi-anechoic 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)



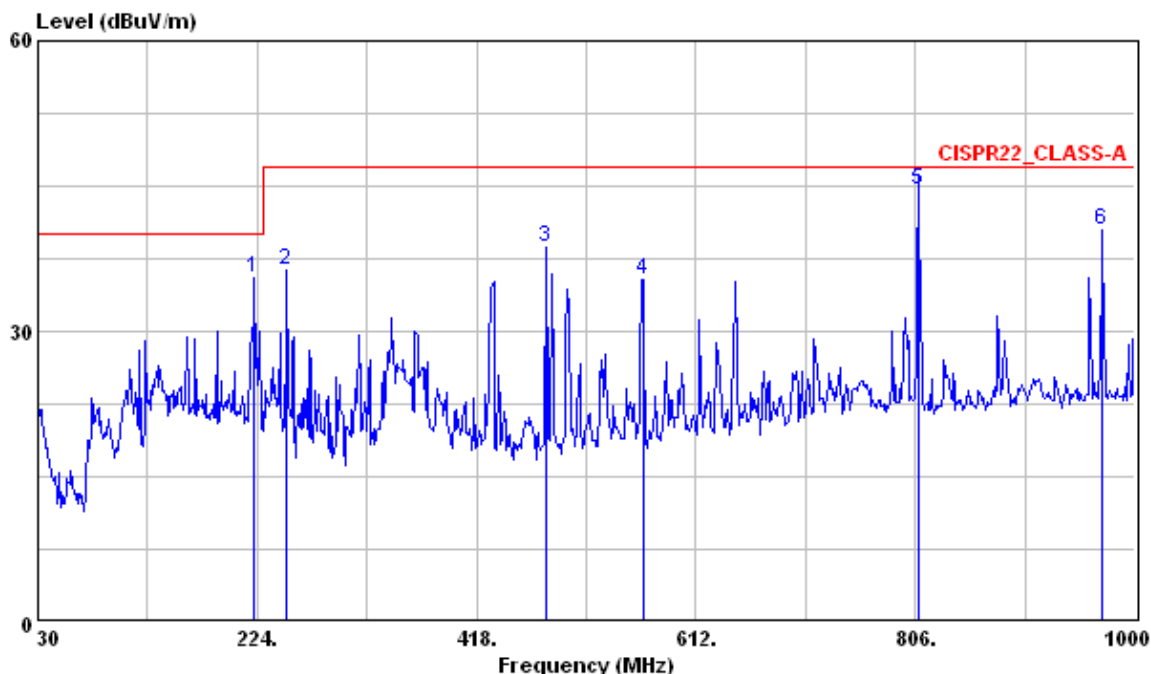
### 3.5 Photographs of the Test Configurations



### 3.6 Test Results

#### Radiated Emission Measurement below 1000MHz

**Test Mode** : As description of section 1.2  
**Test Voltage** : 110V/60Hz to the adapter  
**Tester** : Carl Yan      **Temperature** : 24°C  
**Humidity** : 64%RH      **Frequency Range** : 30MHz~1GHz  
**IF Bandwidth** : 120kHz      **Polarization** : Horizontal

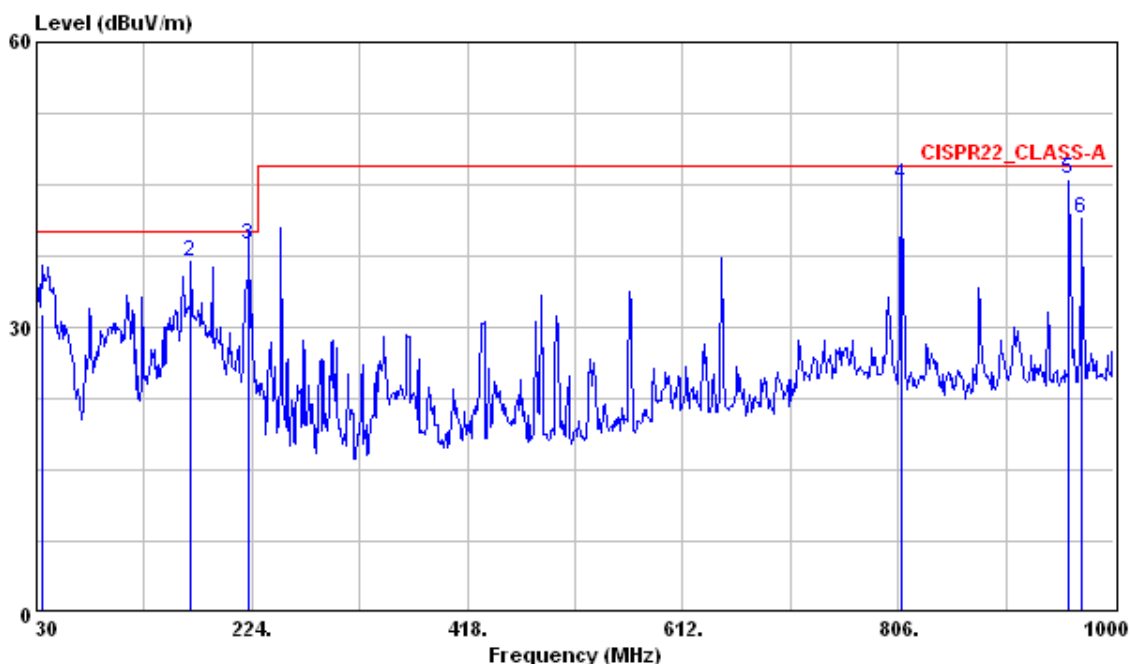


	Freq	Level	Factor	Read	Limit	Over	Pol/Phase	Ant	Table	Remark
				Level	Line	Limit		Pos	Pos	
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB		cm	deg	
1	221.090	35.51	-19.76	55.27	40.00	-4.49	HORIZONTAL	---	---	Peak
2	250.190	36.24	-18.54	54.78	47.00	-10.76	HORIZONTAL	---	---	Peak
3	479.110	38.75	-11.37	50.12	47.00	-8.25	HORIZONTAL	---	---	Peak
4	565.440	35.29	-9.71	45.00	47.00	-11.71	HORIZONTAL	---	---	Peak
5	809.132	44.59	-5.73	50.32	47.00	-2.41	HORIZONTAL	114	113	QP
6	971.870	40.38	-3.55	43.93	47.00	-6.62	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** : As description of section 1.2  
**Test Voltage** : 110V/60Hz to the adapter  
**Tester** : Carl Yan **Temperature** : 24°C  
**Humidity** : 64%RH **Frequency Range** : 30MHz~1GHz  
**IF Bandwidth** : 120kHz **Polarization** : Vertical



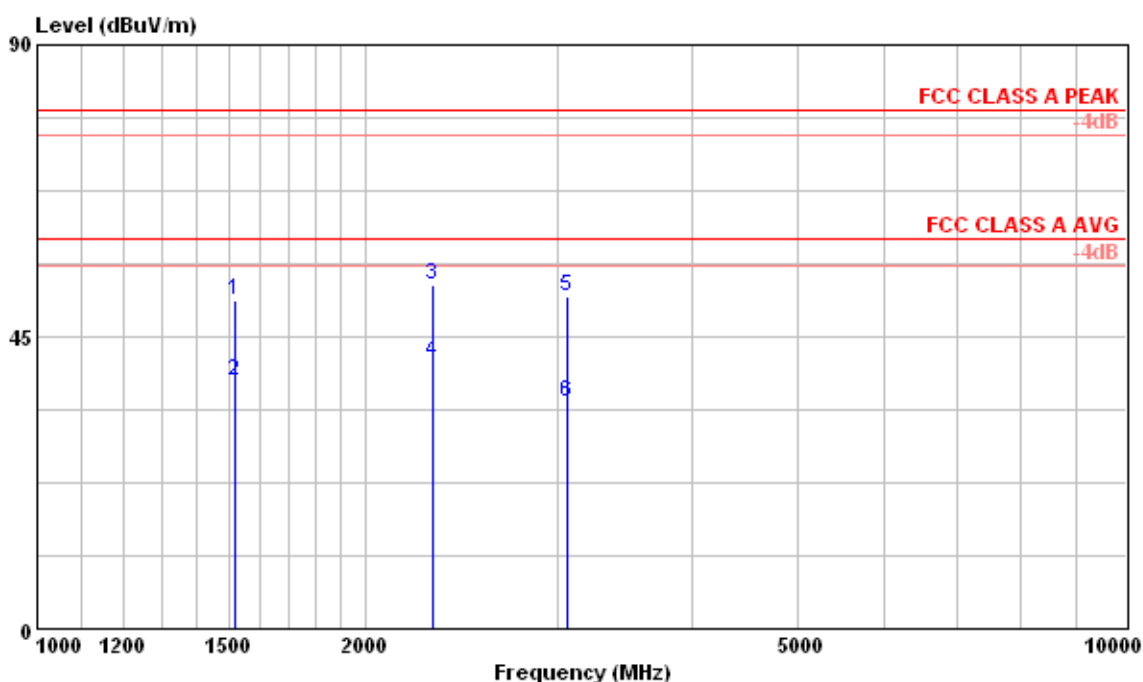
	Freq	Level	Factor	Read Level	Limit	Over	Pol/Phase	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB		cm	deg	
1	35.820	31.41	-12.70	44.11	40.00	-8.59	VERTICAL	113	0	QP
2	167.980	36.93	-20.66	57.59	40.00	-3.07	VERTICAL	106	0	QP
3	221.182	38.64	-19.49	58.13	40.00	-1.36	VERTICAL	111	0	QP
4	809.138	44.95	-4.55	49.50	47.00	-2.05	VERTICAL	101	19	QP
5	960.030	45.66	-2.12	47.78	47.00	-1.34	VERTICAL	148	327	QP
6	971.870	41.46	-1.90	43.36	47.00	-5.54	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** : As description of section 1.2  
**Test Voltage** : 120V/60Hz to the adapter  
**Tester** : Carl Yan      **Temperature** : 24°C  
**Humidity** : 64%RH      **Frequency Range** : 1GHz~10GHz  
**IF Bandwidth** : 1MHz      **Polarization** : Horizontal

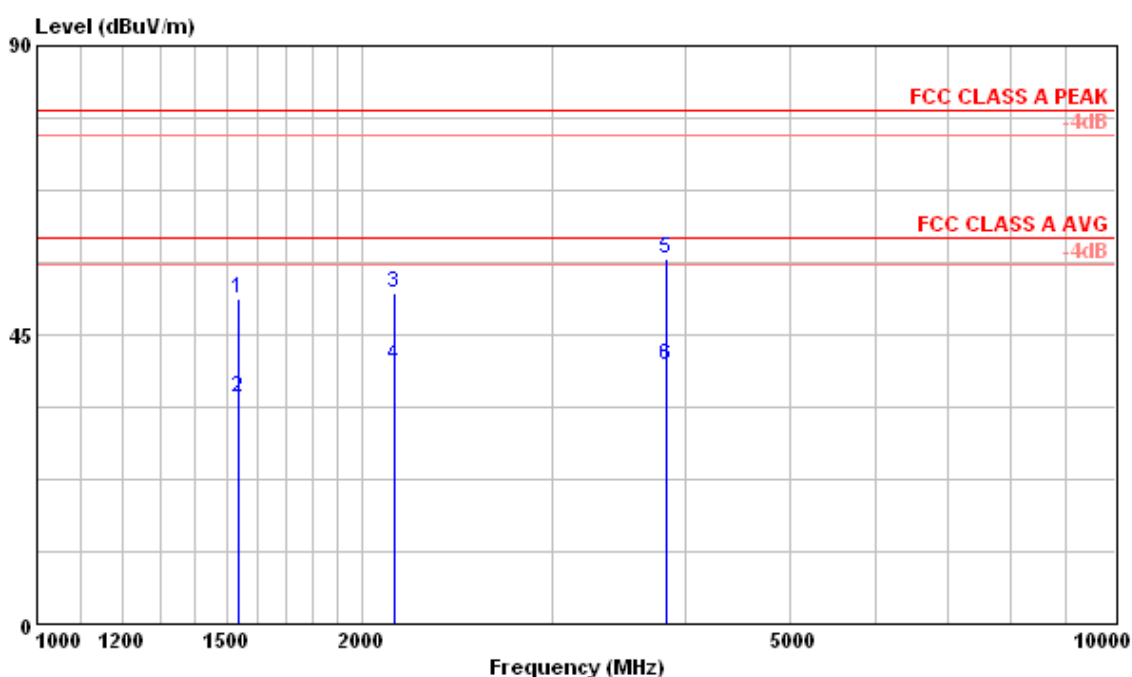


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1520.190	50.69	84.09	-33.40	80.00	-29.31	195	165	HORIZONTAL	Peak
2	1520.190	38.26	71.66	-33.40	60.00	-21.74	195	165	HORIZONTAL	Average
3	2304.390	52.93	81.73	-28.80	80.00	-27.07	176	186	HORIZONTAL	Peak
4	2304.390	41.13	69.93	-28.80	60.00	-18.87	176	186	HORIZONTAL	Average
5	3072.030	51.35	79.68	-28.33	80.00	-28.65	176	127	HORIZONTAL	Peak
6	3072.030	34.89	63.22	-28.33	60.00	-25.11	176	127	HORIZONTAL	Average

Note:

1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.

**Test Mode** : As description of section 1.2  
**Test Voltage** : 120V/60Hz to the adapter  
**Tester** : Carl Yan **Temperature** : 24°C  
**Humidity** : 64%RH **Frequency Range** : 1GHz~10GHz  
**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	1535.970	50.60	83.88	-33.28	80.00	-29.40	164	177	VERTICAL	Peak
2	1535.970	35.28	68.56	-33.28	60.00	-24.72	164	177	VERTICAL	Average
3	2150.000	51.50	80.55	-29.05	80.00	-28.50	160	190	VERTICAL	Peak
4	2150.000	40.27	69.32	-29.05	60.00	-19.73	160	190	VERTICAL	Average
5	3840.550	56.99	84.86	-27.87	80.00	-23.01	155	149	VERTICAL	Peak
6	3840.550	40.25	68.12	-27.87	60.00	-19.75	155	149	VERTICAL	Average

Note:

1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.

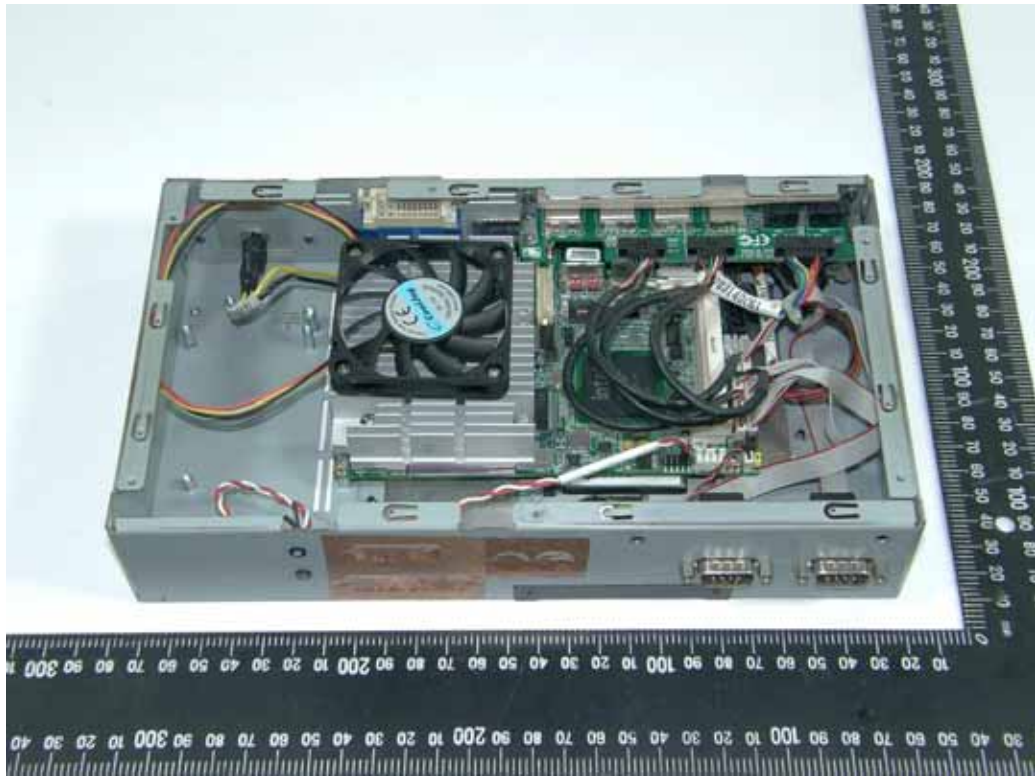
# **Attachment 1**

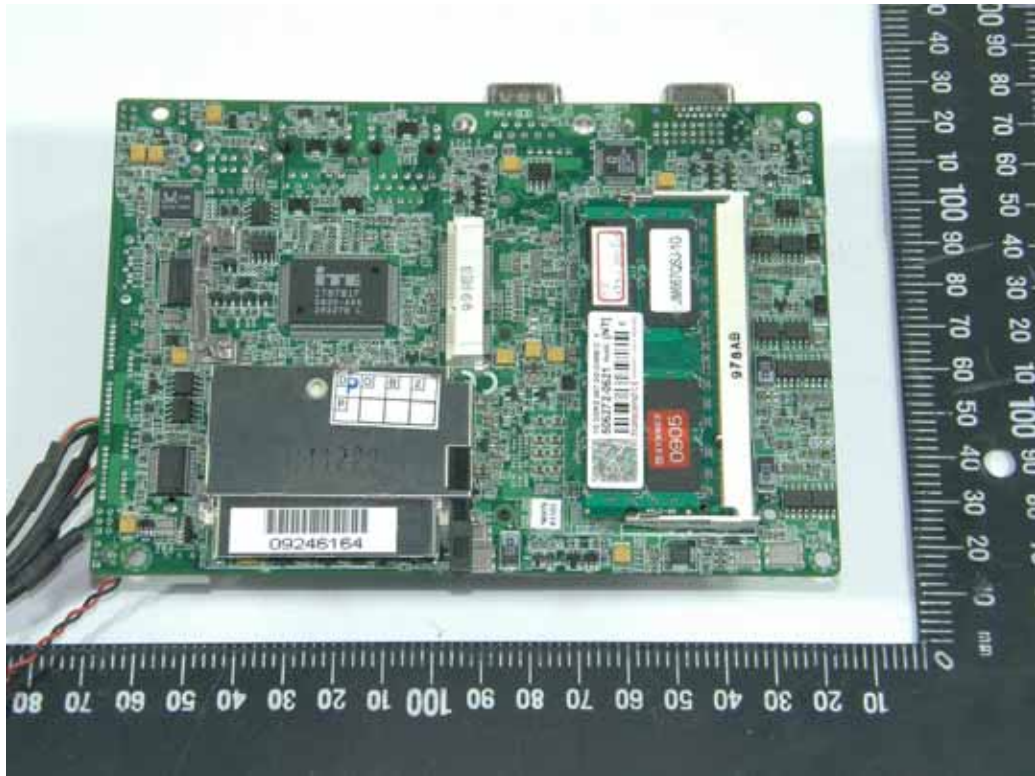
## **Photographs of EUT**

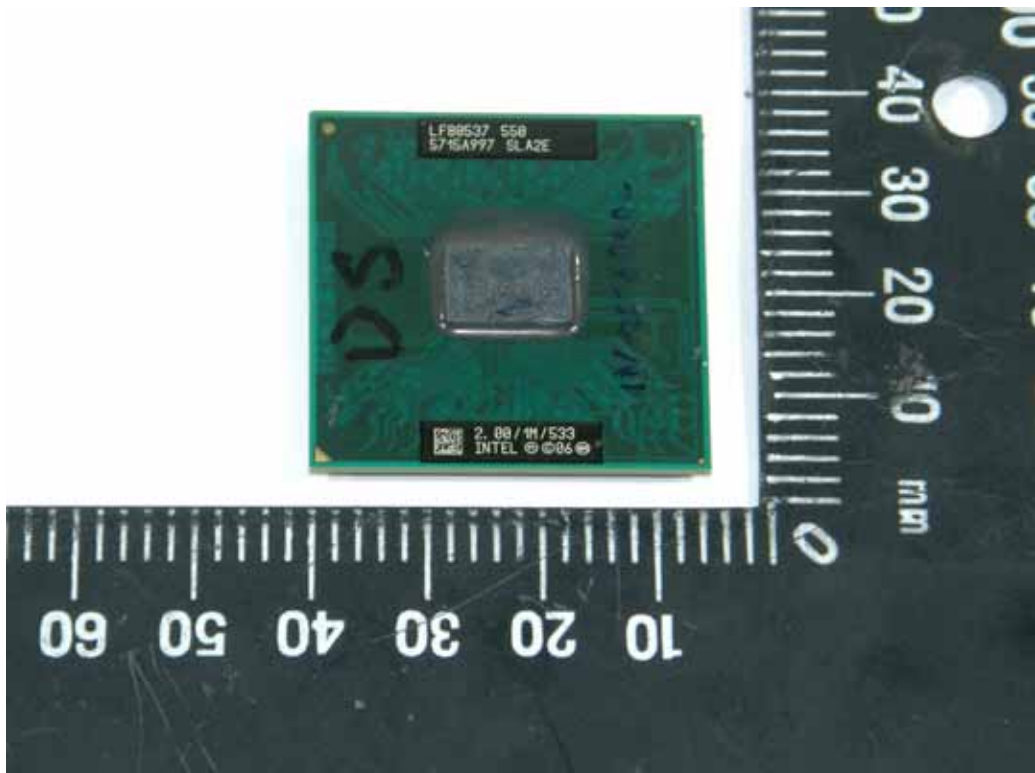


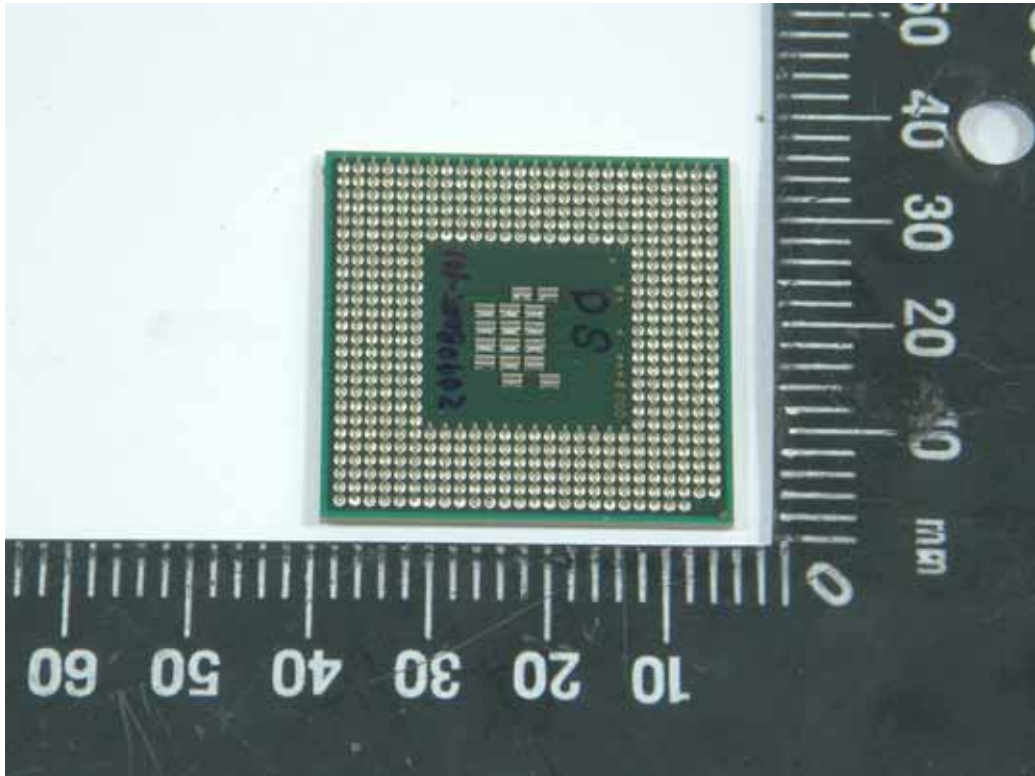


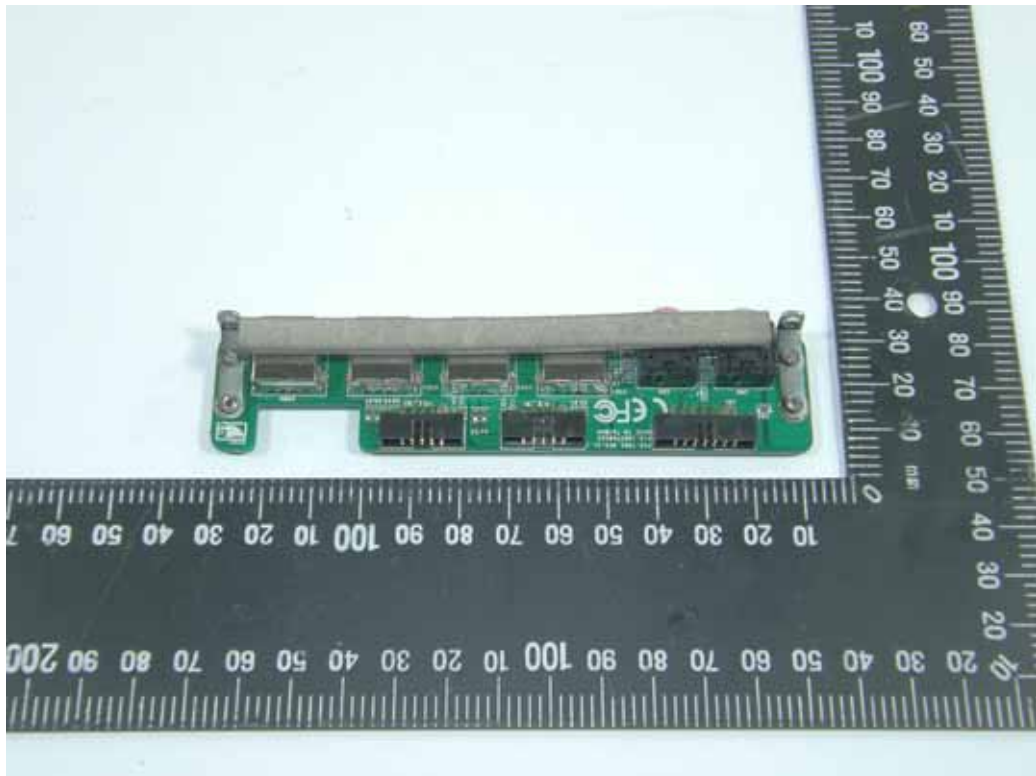


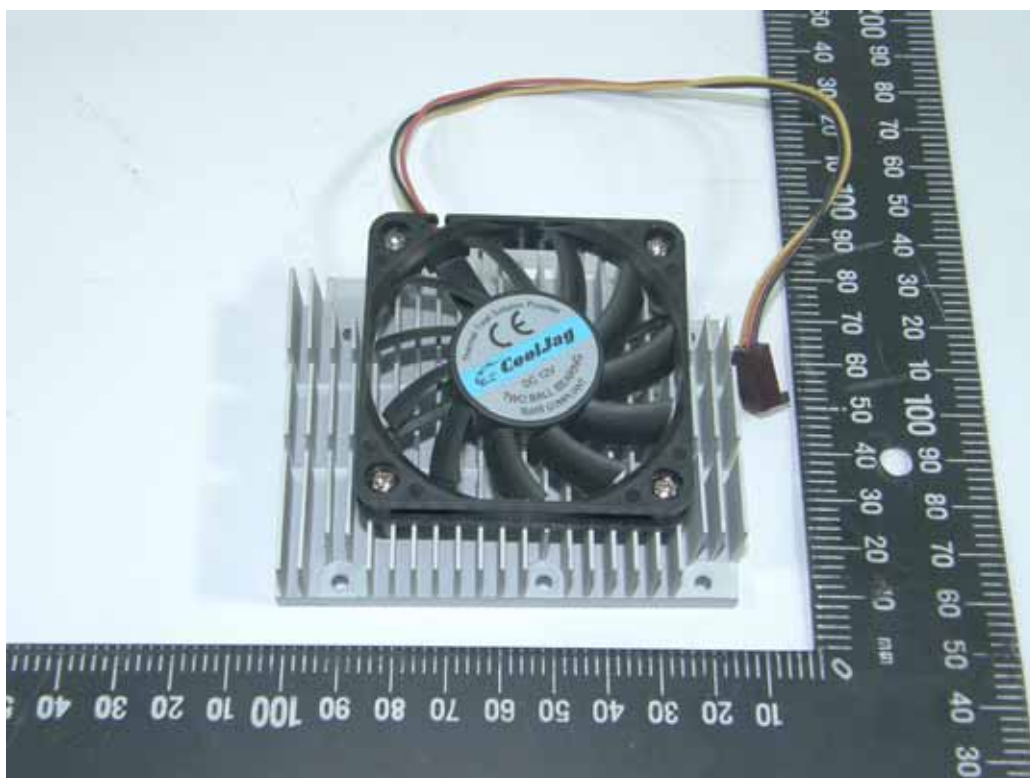








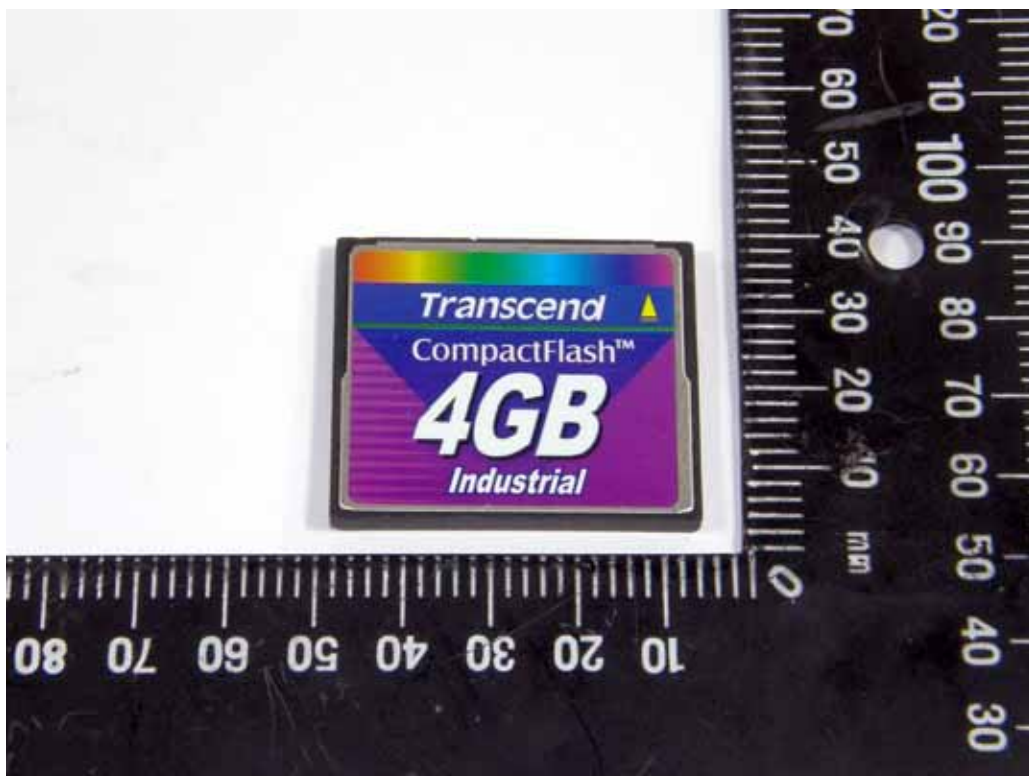












## **Attachment 2**

# **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** : Embedded box  
**Model No.** : TKS-G50-9655-xxx-xx  
 (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:

\_\_\_\_\_ Date \_\_\_\_\_  
 Title / Name (full name)

The details of the modifications:

<b>Item</b>	<b>Solution Component</b>	<b>Specifications</b>	<b>Manufacturer</b>	<b>Quantity</b>	<b>Reasons</b>
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.