

# Verification of Compliance

Product Name : **Water-Proof Fanless Embedded Controller**  
Model Number : **xxxxxAEC-6511-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 Dist, New Taipei  
City, Taiwan, R.O.C.**  
Report Number : **F-U070-1112-257**  
Issue Date : **January 6, 2012**

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-1441, G-10



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A handwritten signature in black ink, appearing to read 'J. Y. Shih'.

(Tsun-Yu Shih/General Manager)

Date: January 6, 2012

# FCC Test Report

for

## Water-Proof Fanless Embedded Controller

**Model No.** : xxxxxAEC-6511-xxxxxxx  
(Where x is 0-9 , A-Z , -or blank)  
for marketing purpose

**Report Number** : F-U070-1112-257

**Date of Receipt** : January 2, 2012

**Date of Report** : January 6, 2012

Prepared for

### AAEON Technology Inc.

5F, NO.135, Lane 235, Pao Chiao Rd. Hsin-Tien Dist, New Taipei City, 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** : Water-Proof Fanless Embedded Controller  
**Model No.** : xxxxxAEC-6511-xxxxxxxx (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 Dist, New  
Taipei City, 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 2~4, 2012  
**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** : Iris Chen , **DATE** : Jan. 6, 2012  
(Iris Chen/System Executive)

**APPROVED BY** : J. Y. Shih , **DATE** : Jan. 6, 2012  
(Tsun-Yu Shih/General Manager)

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## 1. General Description

### 1.1 General Description of EUT

Equipment Under Test : Water-Proof Fanless Embedded Controller  
 Model No. : xxxxxAEC-6511-xxxxxxx (Where x is 0-9 , A-Z ,  
 -or blank) for marketing purpose  
 Power In : Supplied by the power adapter  
 Power Adapter Specification : Trade Name : FSP  
 Model No. : FSP060-DBAB1  
 Input : 100-240V~1.5A, 50/60Hz  
 Output : 12Vdc, 5.0A MAX  
 Highest Operating Frequency : 1.6GHz from the test specification  
 Manufacturer : AAEON Technology Inc.

Function Description :

The EUT is an engineering sample of the Water-Proof Fanless Embedded Controller. Please refer to the user’s manual for the details.

The Model Number TF-AEC-6511-A1-1010 was selected by its manufacturer to perform all tests. It was taken as the representative condition for test and its data are recorded in the present document.

The I/O ports of EUT are listed below:

No.	I/O Port Type	Quantity
1	D-Sub port	1
2	USB port	1
3	COM port	2
4	LAN port	1
5	DC input port	1
6	Antenna port	1

The devices (supplied by the manufacturer) can be installed inside the EUT are listed below:

<b>Components</b>	<b>Specification</b>
M/B	GENE-9455-xxxxxx (Where x is 0-9 , A-Z , -or blank) for marketing purpose
CPU Board	GENE-9455 REV.B1.0
CPU	INTEL ATOM N270 1.6GHz
Memory	Transcend DDR2-667 2GB
HDD	Seagate , ST9160412AS , 160GB
OSC	14.31818MHZ ; 25MHZ ; 32.768KHz
Power Supply	AC Adapter Manufacturer : FSP AC Adapter Module Number : FSP060-DBAB1 AC Adapter Power Rating : I/P : 100~240VAC, 1.5A, O/P : 12Vdc/5A , 60Watt

## 1.2 Test Mode

Normal operating as the customer's requirement.

The EUT with D-Sub 1920 x 1200@60Hz resolution to monitor was selected by the manufacturer to be tested herein.

### 1.3 Applied standards

According to the specifications of the manufacturer and the requirements set in 47CFR Part 15, the applied standards to evaluate the compliance of the EUT are as following, and the measurement procedures specified in ANSI C63.4: 2003 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 after the following setup 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 the 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 sends messages to the modems.
- f. Another PC sends/ receives messages to/ from the EUT through a Hub by executing the command of “PING”.
- g. Repeat and keep setup steps listed above before and during all tests.

EUT I/O ports / Peripherals	Exerciser Program (software)	Version of Program
EUT	BurnIn Test.exe	V 6.0
Monitor		
Modem		



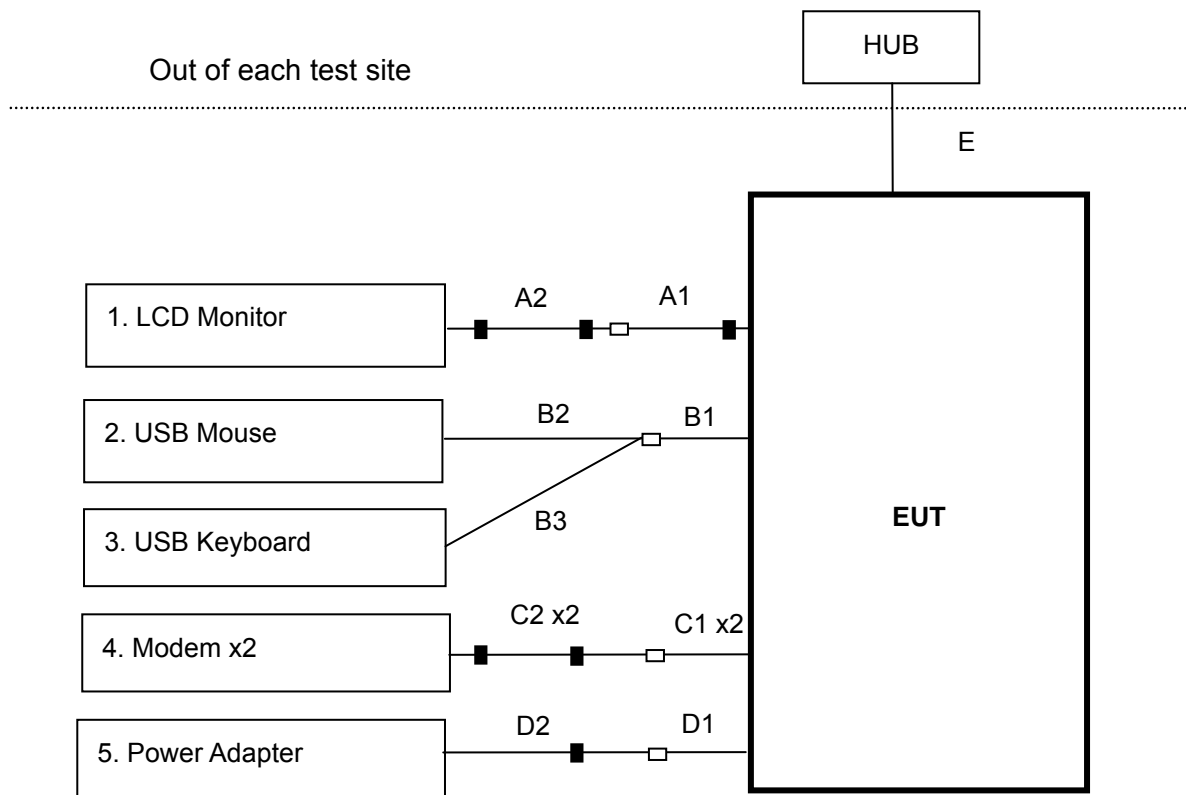
## 1.5 The Support Units

No.	Unit	Model No./ Serial No.	FCC ID	Trade Name	Power Cord	Supported by lab.
1	Monitor	2408WFP <sup>(Note 1)</sup> / CN-0NN792-74261- 849-154S	DoC	DELL	1.8m	✓
		U2410 <sup>(Note2)</sup> / CN-0J257M-72872- 083-069L	DoC	DELL	1.8m	✓
2	USB Mouse	MO56UC/516034297	DoC	DELL	N/A	✓
3	USB Keyboard	SK-8115/ CN-0J4635-71616- 55G-0AGX	DoC	DELL	N/A	✓
4	Modem	DM-1414/ 0509019804	IFAXDH1414	ACEEX	1.9m	✓
		DM-1414/ 0509019801	IFAXDH1414	ACEEX	1.9m	✓
5	Power Adapter	FSP060-DBAB1	N/A	FSP	1.2m	

Note 1: Used for Conducted Emission Test.

Note 2: Used for Radiated Emission Test.

1.6 Layout of the Setup



Connecting Cables :

No.	Cable	Length	Shielded	Core	Shielded Backshell	Supported by lab.	Note
A1	VGA Cable	1.8m	✓	✓			
A2		1.7m	✓	✓		✓	2Cores
B1	USB Cable	0.3m	✓				1 to 2 ports
B2		1.8m	✓			✓	
B3		1.8m	✓			✓	
C1	Modem Cable	0.3m	✓				
C2		1.8m	✓	✓		✓	2Cores
D1	DC input Cable	0.3m	✓				
D2		1.2m	✓	✓			
E	LAN Cable	>3m				✓	

## 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: 2003.

<b>Test Room</b>	<b>Type of Test Room</b>	<b>Descriptions</b>
TR1	10m semi-anechoic chamber (23m × 14m × 9m)	Complying with the NSA requirements in documents CISPR 22 and ANSI C63.4: 2003. 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 SL2-L1-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-1441,G-10	Test facility list & NSA Data
Authorization Certificate	Germany	TUV	10021687	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 (dB $\mu$ V)	Average (dB $\mu$ V)	Quasi-peak (dB $\mu$ V)	Average (dB $\mu$ V)
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. 14, 2011	Jan. 14, 2012
LISN	R&S	ESH2-Z5/ 836613/001	June 2, 2011	June 2, 2012
2 <sup>nd</sup> LISN	R&S	ENV4200/ 833209/010	Jan. 14, 2011	Jan. 14, 2012
50Ω terminator	N/A	N/A/ 001	Aug. 20, 2011	Aug. 20, 2012
RF Switch	N/A	RSU28/ 338965/002	Aug. 20, 2011	Feb. 20, 2012
RF Cable	N/A	N/A/ C0052 ~ 56	Aug. 20, 2011	Feb. 20, 2012
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.

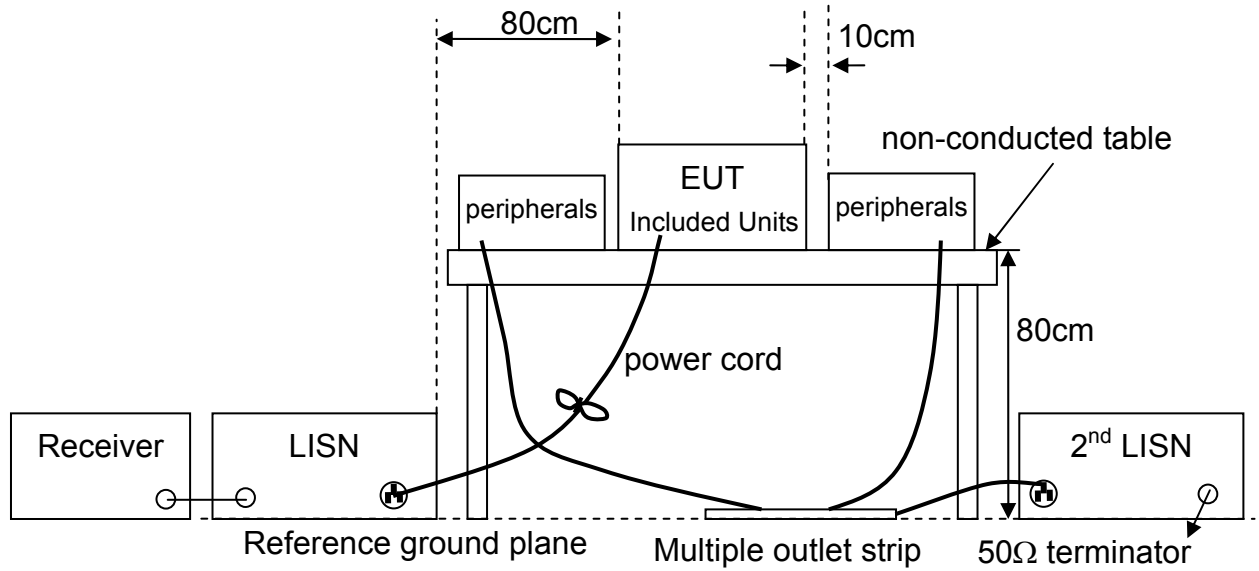
Equipment	Model Number	Uncertainty Value
LISN	ESH2-Z5	3.1dB
	ENV 4200	2.8dB

## 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 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

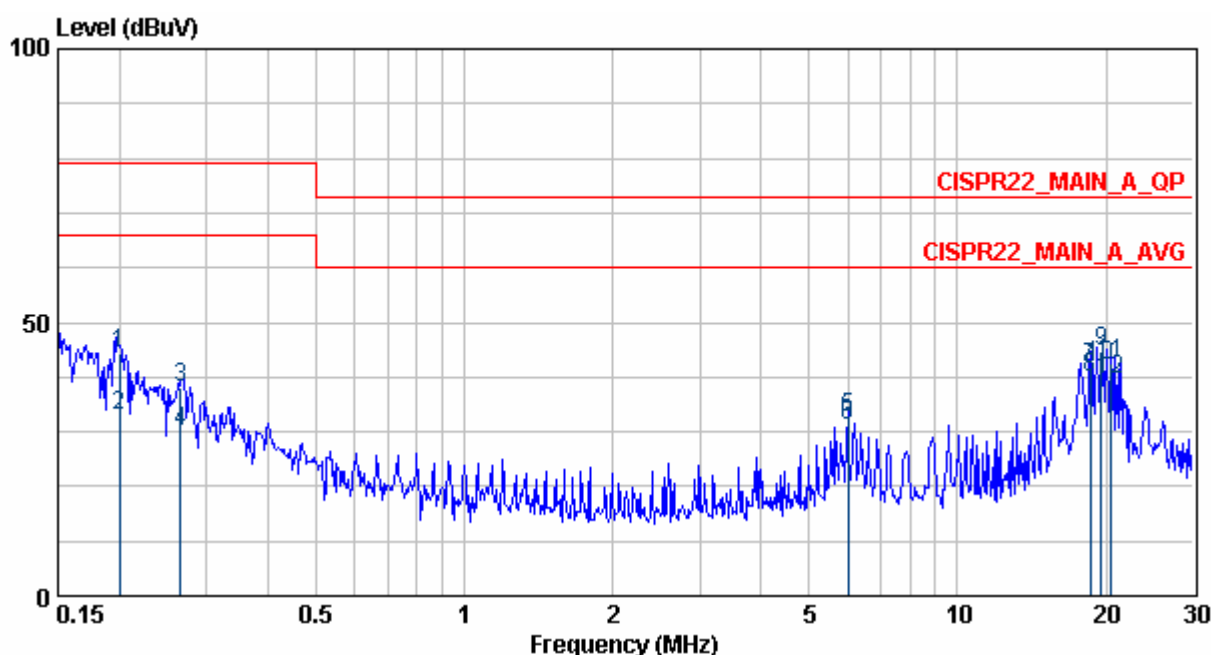


## 2.5 Photographs of the Test Configurations



## 2.6 Test Results

**Test Mode** : As description of section 1.2  
**Test Voltage** : 120V/60Hz to the power adapter  
**Tester** : Kent **Temperature** : 23°C  
**Humidity** : 45%RH **Frequency Range** : 150kHz~30MHz  
**IF Bandwidth** : 9kHz **Phase** : Line

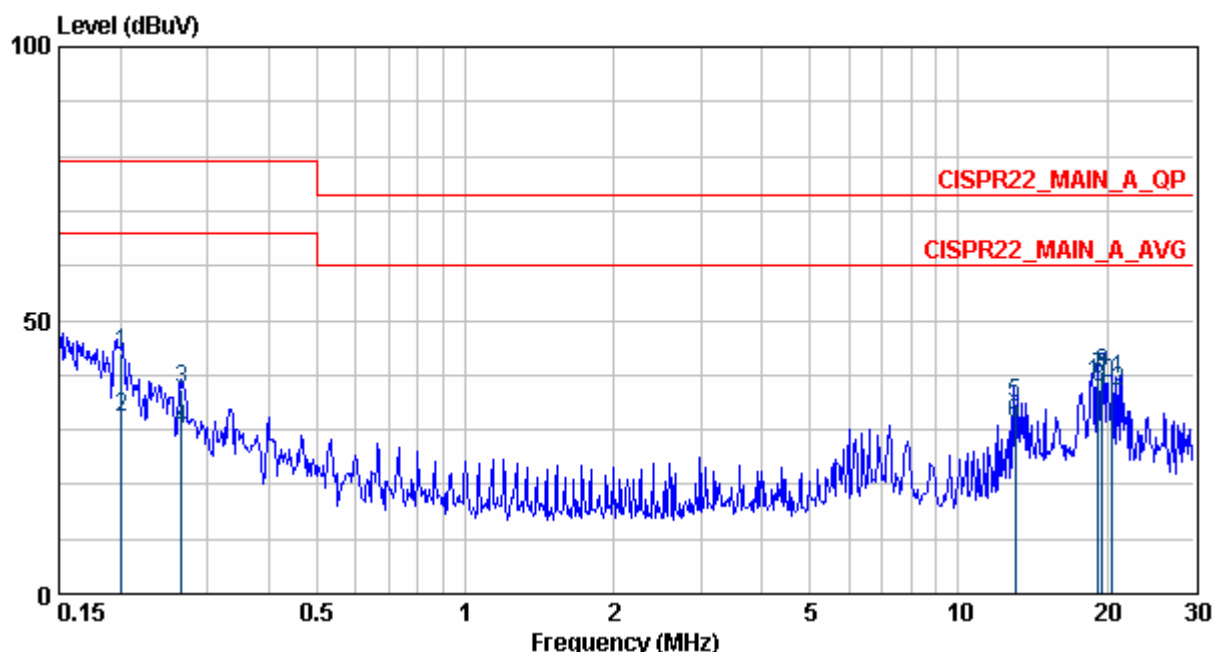


	Freq	Level	Factor	Read	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Pol/Phase	Remark
1	0.200	44.17	0.23	43.94	79.00	-34.83	LINE	QP
2	0.200	32.91	0.23	32.68	66.00	-33.09	LINE	AVERAGE
3	0.266	38.16	0.24	37.92	79.00	-40.84	LINE	QP
4	0.266	30.06	0.24	29.82	66.00	-35.94	LINE	AVERAGE
5	6.003	32.43	0.54	31.89	73.00	-40.57	LINE	QP
6	6.003	31.10	0.54	30.56	60.00	-28.90	LINE	AVERAGE
7	18.607	41.74	1.14	40.60	73.00	-31.26	LINE	QP
8	18.607	39.99	1.14	38.85	60.00	-20.01	LINE	AVERAGE
9	19.609	44.51	1.20	43.31	73.00	-28.49	LINE	QP
10	19.609	42.17	1.20	40.97	60.00	-17.83	LINE	AVERAGE
11	20.475	42.41	1.22	41.19	73.00	-30.59	LINE	QP
12	20.475	39.54	1.22	38.32	60.00	-20.46	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** : 120V/60Hz to the power adapter  
**Tester** : Kent **Temperature** : 23°C  
**Humidity** : 45%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	0.201	43.88	0.23	43.65	79.00	-35.12	NEUTRAL	QP
2	0.201	32.33	0.23	32.10	66.00	-33.67	NEUTRAL	AVERAGE
3	0.266	37.26	0.24	37.02	79.00	-41.74	NEUTRAL	QP
4	0.266	30.10	0.24	29.86	66.00	-35.90	NEUTRAL	AVERAGE
5	13.003	34.85	0.69	34.16	73.00	-38.15	NEUTRAL	QP
6	13.003	31.16	0.69	30.47	60.00	-28.84	NEUTRAL	AVERAGE
7	19.205	39.49	0.86	38.63	73.00	-33.51	NEUTRAL	QP
8	19.205	37.80	0.86	36.94	60.00	-22.20	NEUTRAL	AVERAGE
9	19.606	40.25	0.87	39.38	73.00	-32.75	NEUTRAL	QP
10	19.606	38.34	0.87	37.47	60.00	-21.66	NEUTRAL	AVERAGE
11	20.471	39.20	0.86	38.34	73.00	-33.80	NEUTRAL	QP
12	20.471	37.11	0.86	36.25	60.00	-22.89	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	Sept. 8, 2011	Sept. 8, 2012
Broadband Antenna	R&S	HL-562/ 360543/007	March 29, 2011	March 29, 2012
Broadband Antenna	R&S	HL-562/ 830547/010	April 26, 2011	April 26, 2012
Pre-Amplifier	Mini Circuit	ZKL-2/ 001	July 18, 2011	Jan. 18, 2012
Pre-Amplifier	Mini Circuit	ZKL-2/ 002	July 18, 2011	Jan. 18, 2012
Spectrum	R&S	FSP7/ 100108	June 10, 2011	June 10, 2012
Spectrum	R&S	FSP40/ 100031	July 4, 2011	July 4, 2012
RF Cable	JYEBAO	0214/ C0049	July 18, 2011	Jan. 18, 2012
RF Cable	JYEBAO	0214/ C0050	July 18, 2011	Jan. 18, 2012
Test Software	Audix	e3/ Ver. 4.3.714.e	NCR	NCR
TR1 Semi - anechoic Chamber	ETS. LINDGREN	TR1/ 17627-B	April 23, 2011	April 23, 2012

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	May 25, 2011	May 25, 2012
Bi-Log Antenna	EMCO	3142C/ 52088	May 19, 2011	May 19, 2012
Horn Antenna	EMCO	3117/ 00082847	March 1, 2011	March 1, 2012
Bore-sight Antenna Mast	Sunol	TLT2/ 051110-5	NCR	NCR
Pre-Amplifier	KMIC	<input type="checkbox"/> KMA010180A01/ 99056	Oct. 12, 2011	Oct. 12, 2012
	Mini Circuit	<input type="checkbox"/> ZKL-2/ 004	Aug. 6, 2011	Feb. 6, 2012
	MITEQ	<input checked="" type="checkbox"/> JS4-00101800- 28-10P/1498979	Dec. 21, 2011	Dec. 21, 2012
	MITEQ	JS4-00101800- 28-5A/742309	Dec. 14, 2011	Dec. 14, 2012
Spectrum Analyzer	Agilent	E4407B/ MY45106795	May 2, 2011	May 2, 2012
RF Cable	N/A	N/A/ C0080	Aug. 6, 2011	Feb. 6, 2012
RF Cable	N/A	N/A/ C0081	Oct. 17, 2011	April 17, 2012
Test Software	Audix	e3/ Ver. 4.3.714.e	NCR	NCR
TR11 Semi - anechoic Chamber	ETS. LINDGREN	TR11/ 906-A	April 17, 2011	April 17, 2012

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	3.9dB
	Vertical	3.5dB	3.9dB
TR11(3m)	Horizontal	3.5dB	3.9dB
	Vertical	3.8dB	3.9dB

Test Site (Measuring distance)	Polarization	Frequency Range	
		1GHz ~18GHz	18GHz~26GHz
TR11(3m)	Horizontal	3.5dB	4.4dB
	Vertical	3.6dB	4.5dB

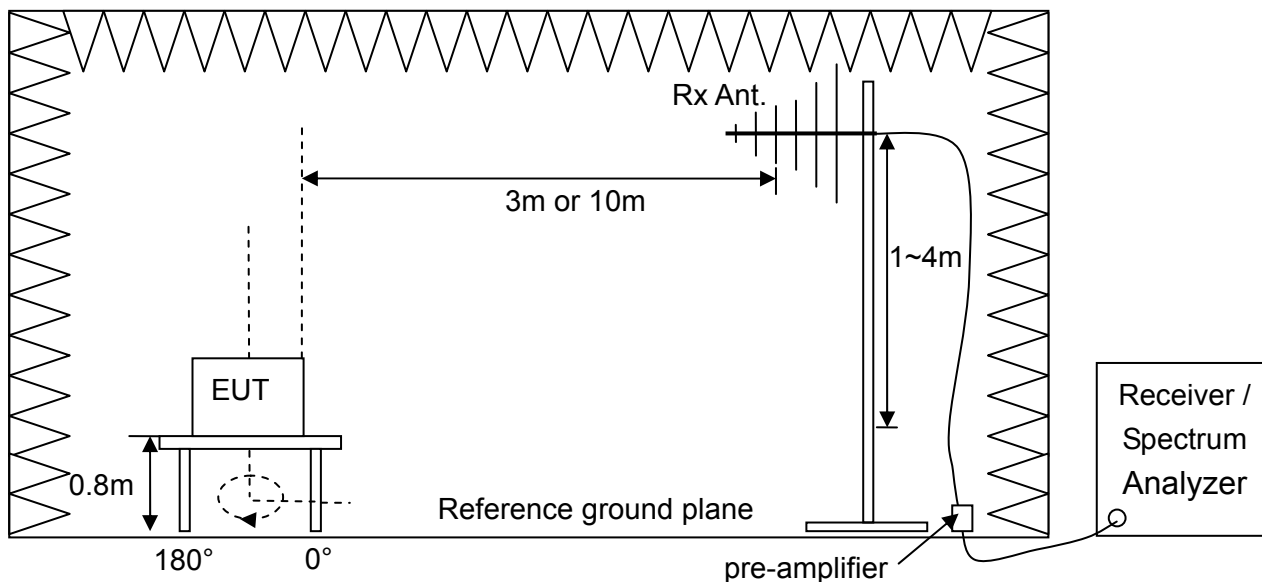


### 3.3 Test Procedures

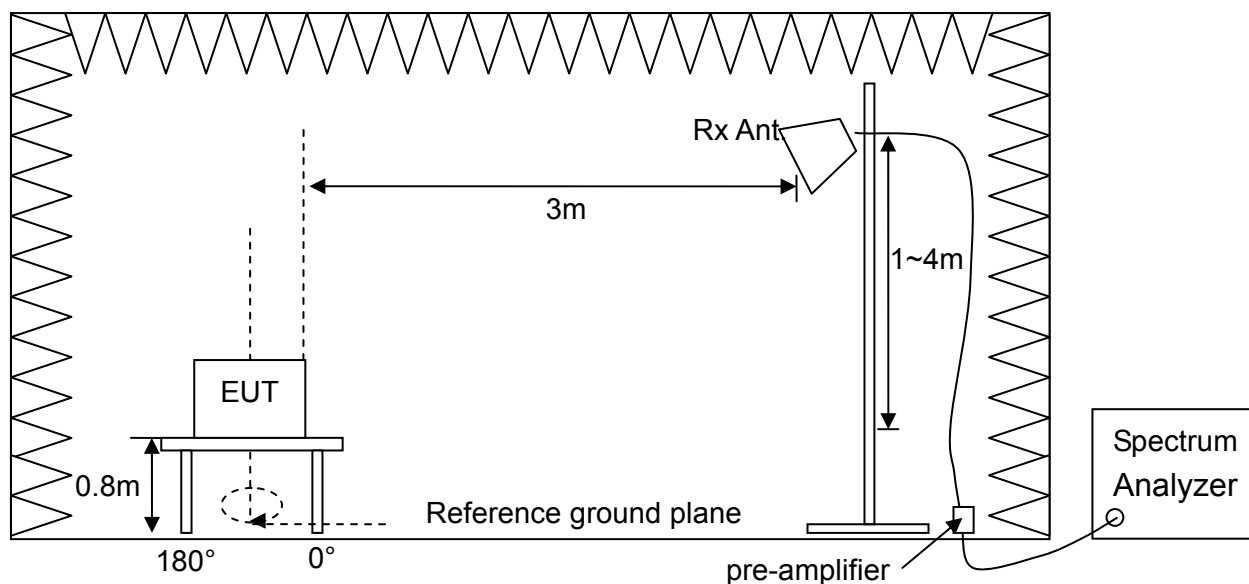
- a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.
- b. If the EUT is tabletop equipment, it was placed on a non-conducted table with a height of 0.8 meters above the reference ground plane in the semi-anechoic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



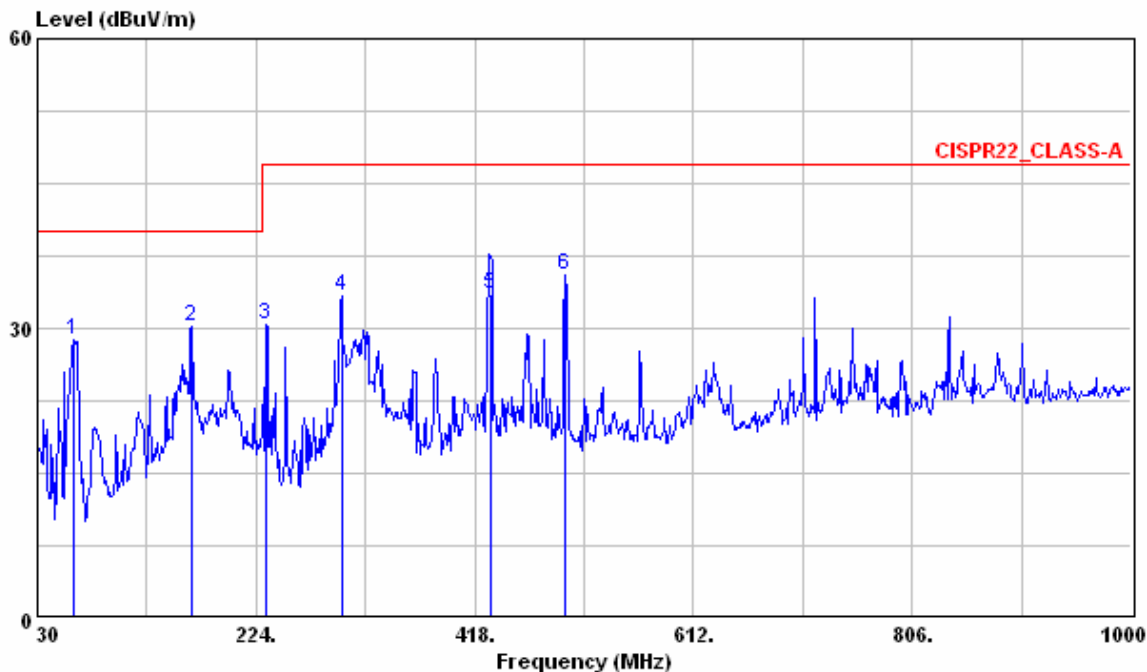
### 3.5 Photographs of the Test Configurations



### 3.6 Test Results

#### Radiated Emission Measurement below 1000MHz

**Test Mode** : As description of section 1.2  
**Test Voltage** : 120V/60Hz to the power adapter  
**Tester** : Carl                      **Temperature** : 23°C  
**Humidity** : 60%RH                **Frequency Range** : 30MHz~1GHz  
**IF Bandwidth** : 120kHz            **Polarization** : Horizontal

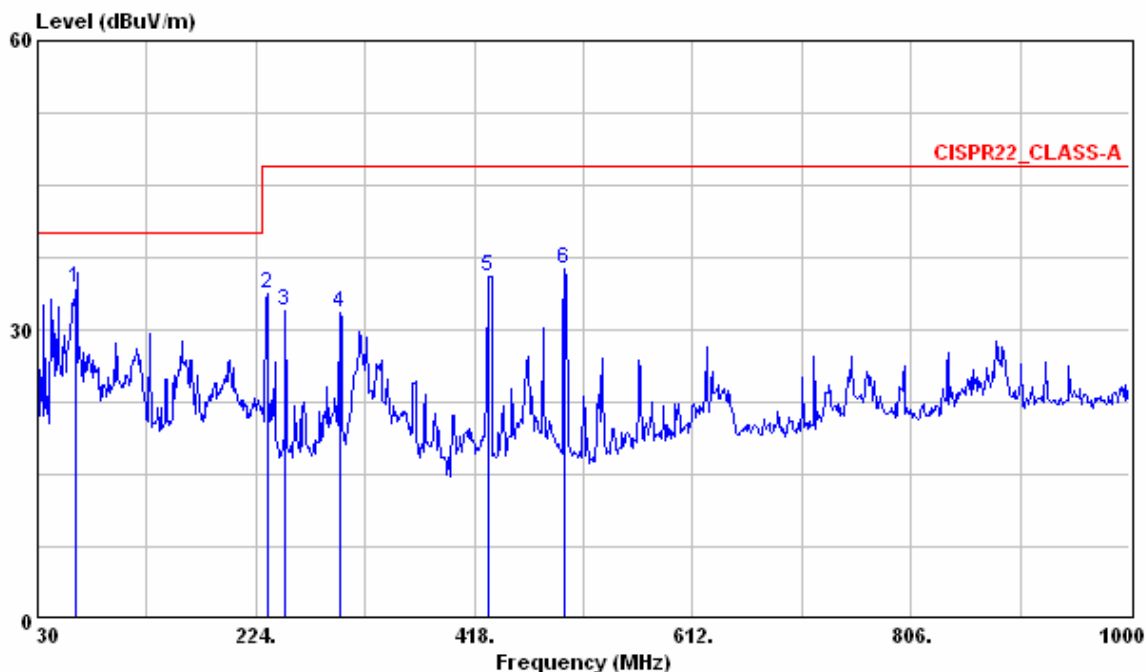


	Freq	Level	Factor	Read Level	Limit	Over	Pol/Phase	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB		cm	deg	
1	62.010	28.72	-24.30	53.02	40.00	-11.28	HORIZONTAL	---	---	Peak
2	166.770	30.18	-21.73	51.91	40.00	-9.82	HORIZONTAL	---	---	Peak
3	232.730	30.39	-19.06	49.45	47.00	-16.61	HORIZONTAL	---	---	Peak
4	299.660	33.41	-16.11	49.52	47.00	-13.59	HORIZONTAL	---	---	Peak
5	431.570	33.49	-12.56	46.05	47.00	-13.51	HORIZONTAL	104	332	QP
6	497.540	35.58	-10.64	46.22	47.00	-11.42	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** : 120V/60Hz to the power adapter  
**Tester** : Carl **Temperature** : 23°C  
**Humidity** : 60%RH **Frequency Range** : 30MHz~1GHz  
**IF Bandwidth** : 120kHz **Polarization** : Vertical



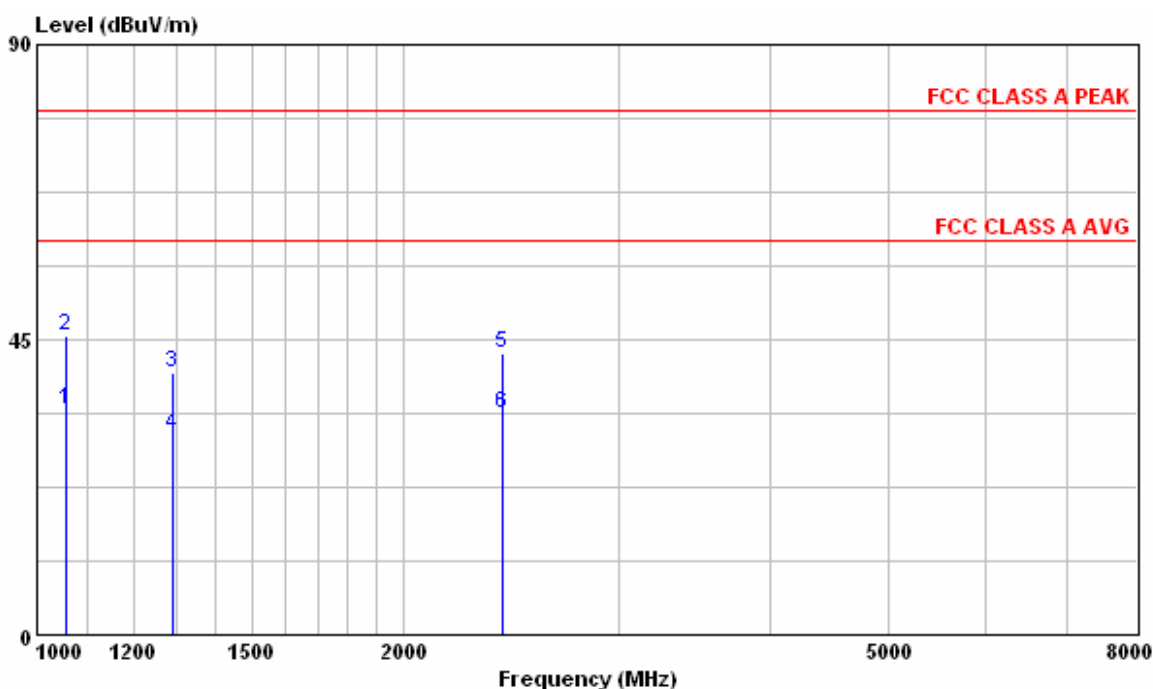
	Freq	Level	Factor	Read Level	Limit	Over	Ant	Table	
	MHz	dBuV/m	dB/m	dBuV	dBuV/m	dB	Pos	Pos	Remark
							cm	deg	
1 @	64.538	34.41	-23.53	57.94	40.00	-5.59	VERTICAL	400	144 QP
2	233.700	33.67	-18.73	52.40	47.00	-13.33	VERTICAL	---	--- Peak
3	250.190	32.05	-18.13	50.18	47.00	-14.95	VERTICAL	---	--- Peak
4	298.690	31.71	-16.30	48.01	47.00	-15.29	VERTICAL	---	--- Peak
5	430.610	35.55	-12.21	47.76	47.00	-11.45	VERTICAL	---	--- Peak
6	497.540	36.37	-10.19	46.56	47.00	-10.63	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 power adapter  
**Tester** : Carl                      **Temperature** : 23°C  
**Humidity** : 60%RH                **Frequency Range** : 1GHz ~8GHz  
**IF Bandwidth** : 1MHz              **Polarization** : Horizontal

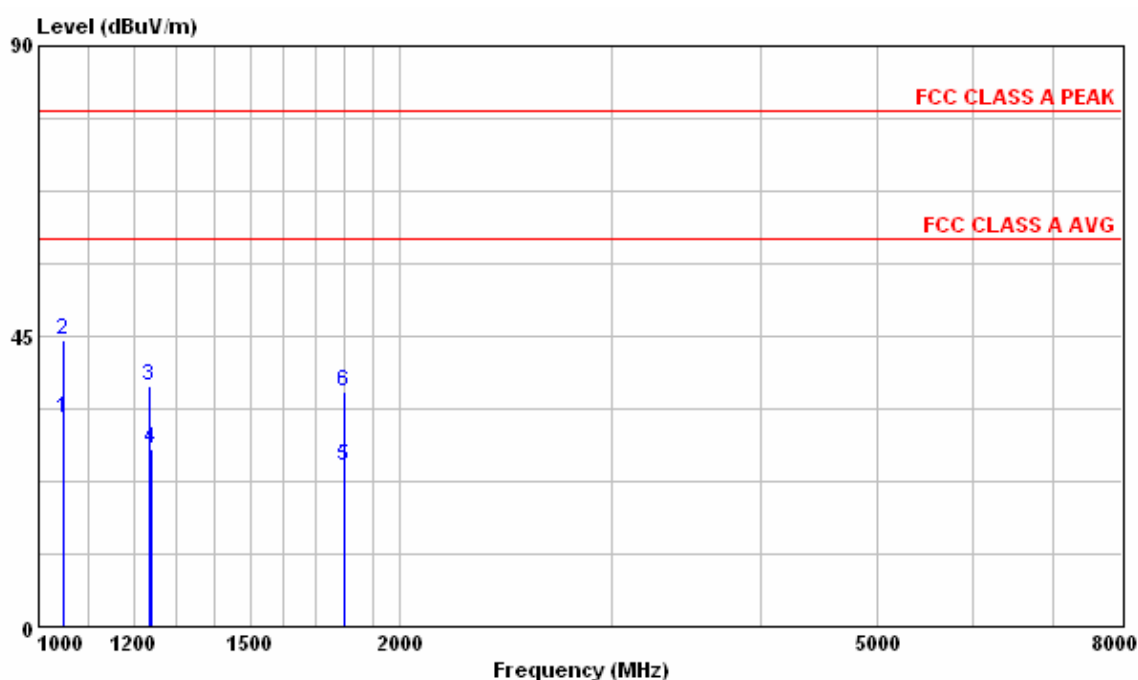


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1055.620	34.21	78.62	-44.41	60.00	-25.79	239	143	HORIZONTAL	Average
2	1055.630	45.54	89.95	-44.41	80.00	-34.46	240	142	HORIZONTAL	Peak
3	1290.520	40.05	84.47	-44.42	80.00	-39.95	359	179	HORIZONTAL	Peak
4	1291.450	30.56	74.98	-44.42	60.00	-29.44	360	180	HORIZONTAL	Average
5	2410.620	42.83	81.86	-39.03	80.00	-37.17	191	344	HORIZONTAL	Peak
6	2411.830	33.81	72.83	-39.02	60.00	-26.19	192	345	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 power adapter  
**Tester** : Carl                      **Temperature** : 23°C  
**Humidity** : 60%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	1048.830	32.32	76.73	-44.41	60.00	-27.68	101	304	VERTICAL	Average
2	1049.730	44.53	88.94	-44.41	80.00	-35.47	100	304	VERTICAL	Peak
3	1238.620	37.44	81.86	-44.42	80.00	-42.56	116	208	VERTICAL	Peak
4	1239.830	27.54	71.96	-44.42	60.00	-32.46	115	209	VERTICAL	Average
5	1797.830	24.84	66.73	-41.89	60.00	-35.16	115	46	VERTICAL	Average
6	1798.730	36.37	78.25	-41.88	80.00	-43.63	116	45	VERTICAL	Peak

Note:

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

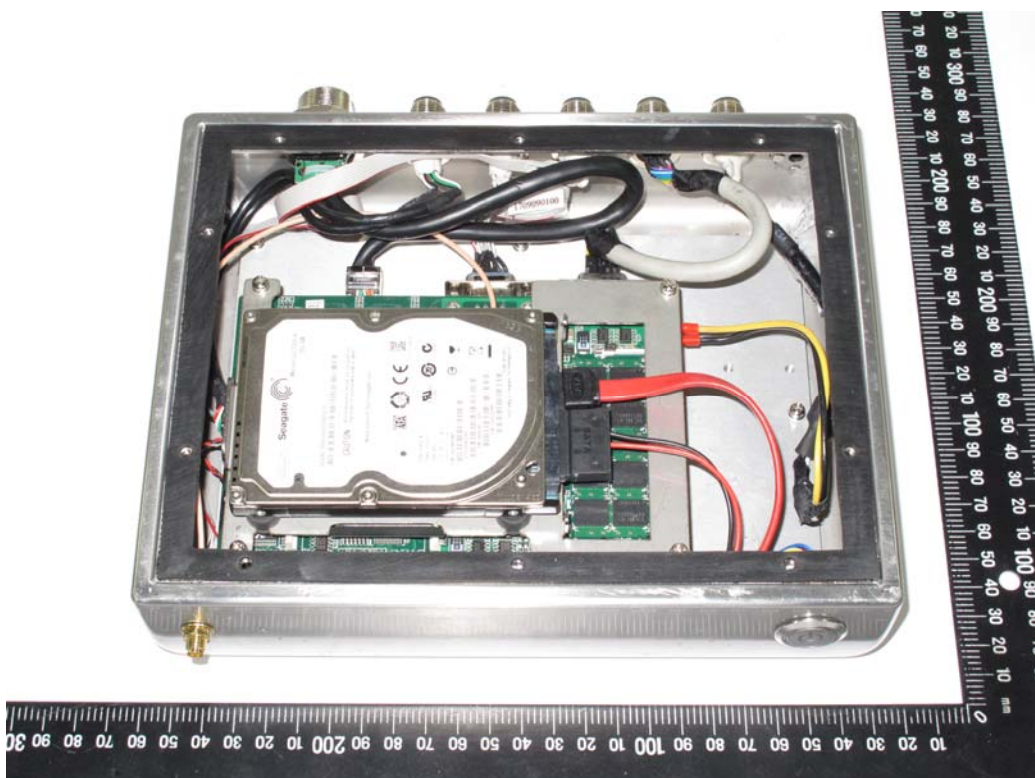
# **Attachment 1**

## **Photographs of EUT**









**Support Unit Supplied by the manufacturer**

**Power Adapter: FSP FSP060-DBAB1**

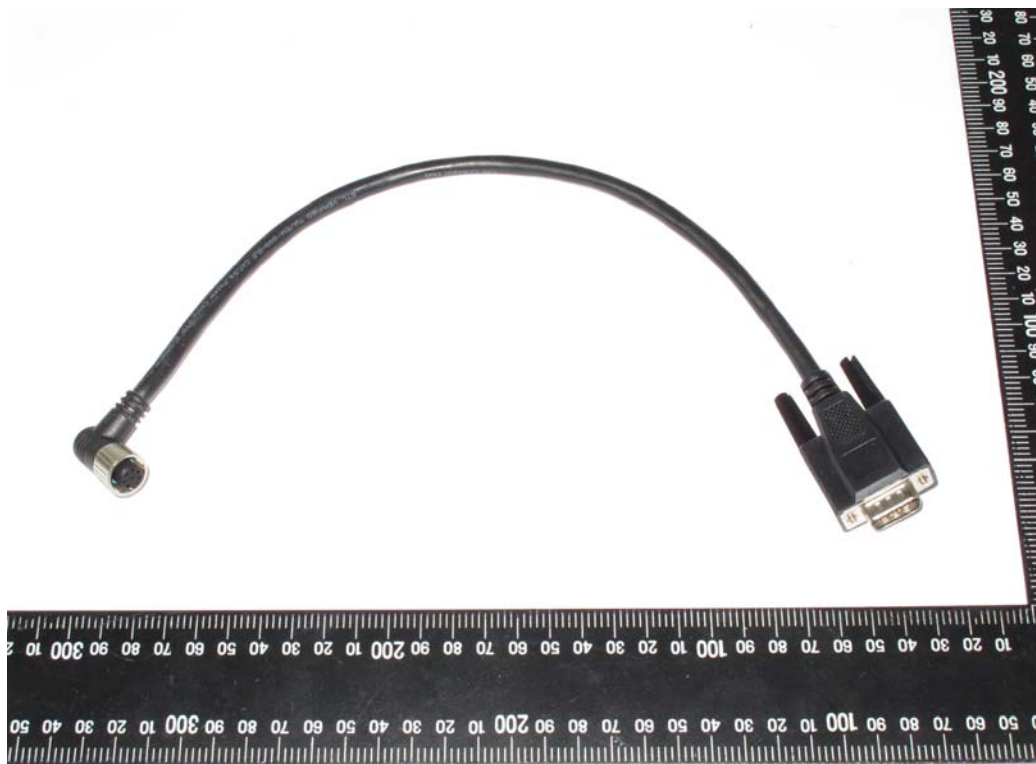




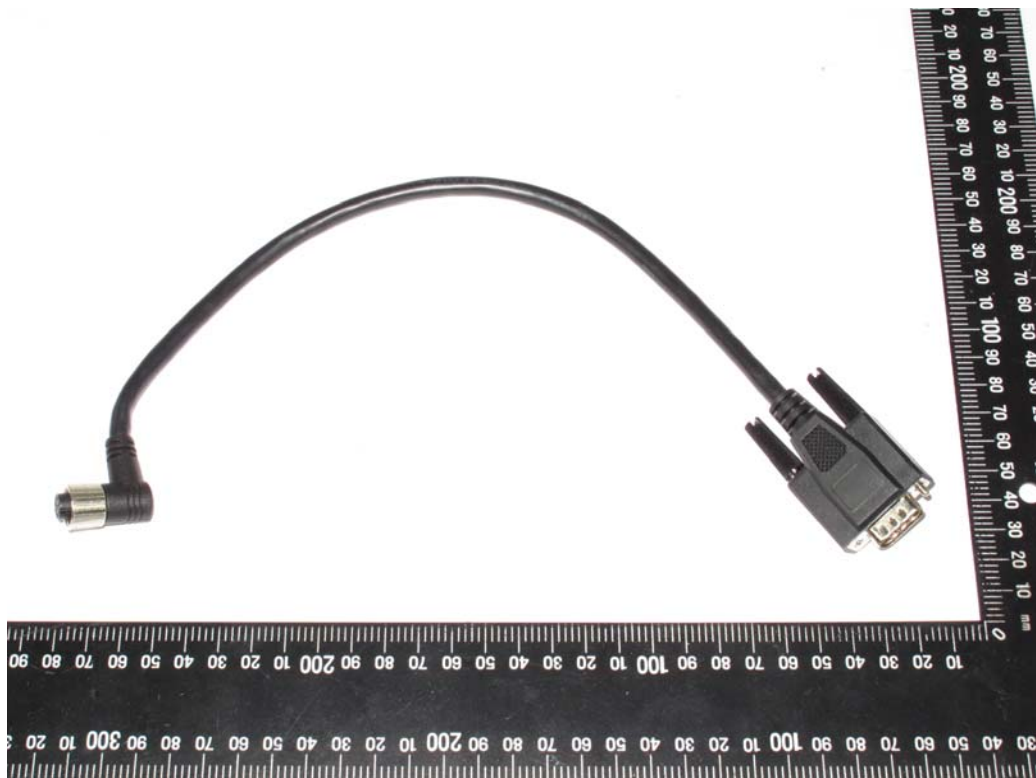


Cables









## **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** : Water-Proof Fanless Embedded Controller  
**Model No.** : xxxxxAEC-6511-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 Dist, New Taipei City, 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:

<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.