



**FCC 47 CFR PART 15 SUBPART B**

**TEST REPORT**

**For**

**Intel Pentium4 APCI Half-Size SBC**

**Model: HSB-835A**

**Trade Name: AAEON**

Issued to

**AAEON Technology Inc.**

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

Issued by



**Compliance Certification Services Inc.  
Hsintien Lab.**

**No. 165, Chunghsen Road, Hsintien City  
Taipei Hsien, Taiwan**

**TEL: (02) 2217-0894**

**FAX: (02) 2217-1029**



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## **TABLE OF CONTENTS**

<b>1</b>	<b>TEST RESULT CERTIFICATION .....</b>	<b>3</b>
<b>2</b>	<b>EUT DESCRIPTION .....</b>	<b>4</b>
<b>3</b>	<b>TEST METHODOLOGY.....</b>	<b>5</b>
<b>3.1</b>	<b>EUT SYSTEM OPERATION.....</b>	<b>5</b>
<b>3.2</b>	<b>DECISION OF FINAL TEST MODE .....</b>	<b>5</b>
<b>4</b>	<b>SETUP OF EQUIPMENT UNDER TEST.....</b>	<b>6</b>
<b>5</b>	<b>FACILITIES AND ACCREDITATIONS.....</b>	<b>7</b>
<b>5.1</b>	<b>FACILITIES.....</b>	<b>7</b>
<b>5.2</b>	<b>LABORATORY ACCREDITATIONS AND LISTINGS .....</b>	<b>7</b>
<b>6</b>	<b>INSTRUMENT AND CALIBRATION .....</b>	<b>8</b>
<b>6.1</b>	<b>MEASURING INSTRUMENT CALIBRATION .....</b>	<b>8</b>
<b>6.2</b>	<b>TEST AND MEASUREMENT EQUIPMENT .....</b>	<b>8</b>
<b>7</b>	<b>LINE CONDUCTED &amp; RADIATED EMISSION TEST.....</b>	<b>9</b>
<b>7.1</b>	<b>LIMIT .....</b>	<b>9</b>
<b>7.2</b>	<b>TEST PROCEDURE OF LINE CONDUCTED EMISSION.....</b>	<b>10</b>
<b>7.3</b>	<b>TEST PROCEDURE OF RADIATED EMISSION .....</b>	<b>12</b>
<b>7.4</b>	<b>TEST RESULTS .....</b>	<b>14</b>
	<b>APPENDIX I - PHOTOGRAPHS OF TEST SETUP.....</b>	<b>16</b>
	<b>APPENDIX II - TEST RESULT OF FINAL DATAS .....</b>	<b>18</b>



# 1 TEST RESULT CERTIFICATION

**Applicant:** **AAEON Technology Inc.**  
 5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City,  
 Taipei, Taiwan, R.O.C.

**Manufacturer:** **AAEON Technology Inc.**  
 5F, No.135, Lane 235, Pao Chiao Rd., Hsin-Tien City,  
 Taipei, Taiwan, R.O.C.

**Equipment Under Test:** Intel Pentium4 APCI Half-Size SBC

**Trade Name:** AAEON

**Model:** HSB-835A

**Detailed EUT Description:** See Item 2 of this report

**Date of Test:** January 4, 2005 & January 5, 2005

Applicable Standard	Class / Limit	Test Result
FCC Part 15 Subpart B	Class A	No non-compliance noted
<b>Deviation from Applicable Standard</b>		
None		

The above equipment was tested by Compliance Certification Services Inc. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, Subpart B and the measurement procedures were according to ANSI C63.4. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

**Approved by:**

**Reviewed by:**

David Wang  
 Manager of Hsintien Laboratory  
 Compliance Certification Services Inc.

Vince Chiang  
 Section Manager of Hsintien Laboratory  
 Compliance Certification Services Inc.



## 2 EUT DESCRIPTION

<b>Product</b>	Intel Pentium4 APCI Half-Size SBC
<b>Trade Name</b>	AAEON
<b>Model</b>	HSB-835A
<b>Housing Type</b>	Metal case
<b>Power Adaptor Power Rating</b>	110VAC~230VAC
<b>AC Power During Test</b>	120VAC / 60 Hz
<b>Power Supply Manufacturer</b>	Seventeam
<b>Power Supply Model Number</b>	ST-300HLP
<b>AC Power Cord Type</b>	Unshielded, 1.8m (Detachable)
<b>OSC/Clock Frequencies</b>	32.768kHz; 12MHz; 14.318MHz; 25MHz; 33MHz; 48MHz; 66MHz; 100MHz; 133MHz

### I/O PORT OF EUT

I/O PORT TYPE	Q' TY	TESTED WITH
1). PIO Port	1	1
2). SIO Port	2	2
3). PS/2 one to two adaptor	1	1
4). VIDEO-OUT Port (VGA)	1	1
5). AUDIO OUT Port	1	1
6). Microphone Port	1	1
7). Earphone Port	1	1
8). LAN Port	1	1
9). USB 2.0 Port	7	7

*Note: Client consigns only one model sample (Model Number is HSB-835A) to test.*



### 3 TEST METHODOLOGY

#### 3.1 EUT System Operation

1. Windows XP boots system.
2. Run Emctest.exe to activate all peripherals and display “H” pattern on monitor screen.
3. Run “F.bat, G.bat, H.bat, I.bat, J.bat, K.bat, L.bat” to test USB 2.0 HDD.
4. Run Windows media player to play music.
5. Press the start menu, select executive and type ping 192.168.0.13 –t(EUT), ping 192.168.0.23 –t(Server Notebook).

*Note: Test program is self-repeating throughout the test.*

#### 3.2 Decision of final test mode

1. The following test mode were scanned during the preliminary test:

**Conduction:**

1. Normal Mode

**Radiation:**

1. Normal Mode  
1-16GHz / Open Chassis

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

**Conduction:** Mode 1

**Radiation:** Mode 1

Then, the EUT configuration and cable configuration of the above highest emission mode was recorded for all final test items.



## 4 SETUP OF EQUIPMENT UNDER TEST

### Setup Diagram

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

### Support Equipment

#### EUT Devices:

No	Equipment	Model #	Serial #	FCC/BSMI ID	Trade Name
1	HDD	Fireball 3 ATA/133	N/A	BSMI: D33029	Maxtor
2	POWER	ST-300HLP	N/A	BSMI ID: 3912A045 DOC	Seventeam
3	CD/R	CD-2052E	N/A	BSMI ID: 3902A934 DOC	AFREEY
4	FLOPPY DISK	FD-235HF	3010687	BSMI ID: 3902A889	TEAC
5	CPU (3.2GHz)	Pentium4	N/A	N/A	INTEL
6	RAM (1GB)	1G DDR400 DIMM3-3-3	N/A	N/A	SAMSUNG
7	Mother Board	HSB-835A	N/A	N/A	AAEON
8	CPU Card	HSB-835A	N/A	N/A	AAEON
9	Audio + USB Board	PER-YC02	N/A	N/A	AAEON
10	Back Plan Board	BP-214SA-P616 Rev. A1.1	N/A	N/A	AAEON

#### Peripherals Devices:

No	Equipment	Model	Serial No.	FCC/ BSMI ID	Trade Name	Data Cable	Power Cord
1	USB 2.0 HDD	F12-U	N/A	BSMI ID: 4912A002	TeraSys	Shielded, 1.8m	N/A
2	USB 2.0 HDD	F12-U	N/A	BSMI ID: 4912A002	TeraSys	Shielded, 1.8m	N/A
3	USB 2.0 HDD	F12-U	N/A	BSMI ID: 4912A002	TeraSys	Shielded, 1.8m	N/A
4	USB 2.0 HDD	F12-U	N/A	BSMI ID: 4912A002	TeraSys	Shielded, 1.8m	N/A
5	USB 2.0 HDD	F12-U	N/A	BSMI ID: 4912A002	TeraSys	Shielded, 1.8m	N/A
6	USB 2.0 HDD	F12-U	N/A	BSMI ID: 4912A002	TeraSys	Shielded, 1.8m	N/A
7	USB 2.0 HDD	F12-U	N/A	BSMI ID: 4912A002	TeraSys	Shielded, 1.8m	N/A
8	Player	MIC-31	N/A	N/A	HEAD PHONE	Unshielded, 1.8m	N/A
9	Ear. / Mic.	RQ-L1ILT	N/A	BSMI ID: 3913A162	Panasonic	Unshielded, 1.8m	N/A
10	PS/2 Mouse	M071KC	443029438	DOC BSMI: R41108	DELL	Shielded, 1.8m	N/A
11	PS/2 Keyboard	SK-8110	N/A	DOC BSMI: T3A002	DELL	Shielded, 1.8m	N/A
12	Printer	C61	N/A	BSMI ID: 3912E328	EPSON	Shielded, 1.8m	Unshielded, 1.8m
13	Modem	5JEG4033MKO	N/A	5RJTAI-35500-M5-E	TOP-SOLUTION	Shielded, 1.8m	Unshielded, 1.8m
14	Modem	5JEG4033MKO	N/A	5RJTAI-35500-M5-E	TOP-SOLUTION	Shielded, 1.8m	Unshielded, 1.8m
15	Monitor	710V	GS17H9NXA05858E	DOC BSMI: R33475	SAMSUNG	Shielded, 1.8m with two cores	Unshielded, 1.8m
16	Server Notebook	2659-FT1	AK-VHXOH 02/10 C	ANOPSIWLIV	IBM	Unshielded, 10m	Unshielded, 1.8m with a core

**Note:** All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.  
**Grounding:** Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

## 5 FACILITIES AND ACCREDITATIONS







### 5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at CCS Taiwan Hsintien Lab at No. 165, Chungshen Road, Hsintien City, Taipei Hsien, Taiwan.

The measurement facilities are constructed in conformance with the requirements of CISPR 16-1, ANSI C63.4 and other equivalent standards.

### 5.2 LABORATORY ACCREDITATIONS AND LISTINGS

The test facilities used to perform Electromagnetic compatibility tests are registered or accredited by the organizations listed in the following table which includes the recognized scope specifically.

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	CFR 47, FCC Part 15/18 using ANSI 63.4; AS/NZS 3548; VCCI V3; CNS 13438; CNS 13439; CNS 13783; CNS 14115; CISPR 11/EN 55011; CISPR 14-1/EN 55014-1; CISPR 15/EN 55015; CISPR 22/EN 55022; EN 50081-1/EN 61000-6-3; EN 50082-1/EN 61000-6-4; IEC/EN 61000-4-2, IEC/EN 61000-4-3, IEC/EN 61000-4-4, IEC/EN 61000-4-5, IEC/EN 61000-4-6, IEC/EN 61000-4-8, IEC/EN 61000-4-11, IEC/EN 61000-3-2, IEC/EN 61000-3-3; CISPR 24/EN 55024; CISPR 14-2/EN 55014-2; EN 50081-2/EN 61000-6-1; EN 50082-2/EN 61000-6-2.	 824.01
USA	FCC	3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements	 250366
Japan	VCCI	3/10 meter Open Area Test Sites and Line Conducted Test Room to perform conducted/radiated measurements	 R-1434/1630~4 C-1511/1882
Norway	NEMKO	EN 50081-1/2, EN 50082-1/2, IEC 61000-6-1/2/3/4, EN 50091-2, EN 50130-4, EN 55011, EN 55013, EN 55014-1/2, EN 55015, EN 55022, EN 55024, EN 61000-3-2/3, EN 61326-1, IEC 61000-4-2/3/4/5/6/8/11, Cispr 16-1/2/3/4	 ELA 103
Taiwan	CNLA	47 CFR FCC Part 15 Subpart B, EN 61000-3-2, EN 61000-3-3, CNS 13439, CNS 13783-1, CNS 13438, AS/NZS 3548, VCCI, CNS 13022-1/2/3, EN 55022, EN 55013, EN 55014-1, EN 61000-4-2/3/4/5/6/8/11, ENV 50204, ENV 50141, ENV 50142	 1108 ILAC MRA
Taiwan	BSMI	CNS 13438, CNS 13783-1, CNS 13439	 SL2-IN-E-0005 SL2-A1-E-0005 SL2-R1-E-0005 SL2-R2-E-0005

*Note: No part of this report may be used to claim or imply product endorsement by CNLA, A2LA or other government agency.*



## 6 INSTRUMENT AND CALIBRATION

### 6.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 6.2 test and MEASUREMENT equipment

The following list contains measurement equipment used for testing. The equipment conforms to the requirement of CISPR 16-1, ANSI C63.2 and other equivalent standards.

Calibration of all test and measurement, including any accessories that may effect such calibration, is checked frequently to ensure the accuracy. Adjustments are made and correction factors are applied in accordance with the instructions contained in the respective manual.

#### Equipment Used for Emission Measurement

Open Area Test Site # I				
EQUIPMENT	MFR	MODEL	SERIAL NUMBER	CAL. DUE
SITE NSA	CCS	I Site	N/A	09/17/2005
MEASURE RECEIVER	SCHAFFNER	SCR3501	338	07/05/2005
SPECTRUM ANALYZER	ADVANTEST	R3132	120900008	No Calibration Required
ANTENNA	SCHAFFNER	CBL 6112B	2809	09/24/2005
AMPLIFIER	SCHAFFNER	CPA9231A	3626	10/08/2005
CABLE	BELDEN	9913	N-TYPE #I1	10/08/2005
ATTENUATOR	MCL	UNAT-6	AT06-3	10/08/2005
THERMO-HYGRO METER	TFA	N/A	NO.2	11/09/2005
Above 1GHz Used				
EMC ANALYZER (100Hz-22GHz)	HP	8566B	2937A06102	07/26/2005
ANTENNA (1-18GHz)	EMCO	3115	5761	02/02/2005
AMPLIFIER (1-26.5GHz)	HP	8449B	3008A01266	02/15/2005
CABLE (1-18GHz)	JYEBAO HUBER+SUHNER	LL142 SUCOFLEX 104	SMA-RS1&2 SMA-RS3	02/15/2005

*Note: The measurement uncertainty is less than +/- 3.36dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.*





Conducted Emission Test Site # B				
EQUIPMENT	MFR	MODEL	SERIAL NUMBER	CAL. DUE
TEST RECEIVER	R&S	ESHS10	843743/015	04/07/2005
LISN (EUT)	EMCO	3825/2	9106-1810	01/27/2005
LISN	EMCO	3825/2	1382	02/23/2005
BNC CABLE	MIYAZAKI	5D-FB	BNC B1	07/18/2005
Pulse Limiter	R&S	ESH3-Z2	100374	08/26/2005
THERMO-HYGRO METER	TOP	HA-202	9303-3	03/24/2005

*Note: The measurement uncertainty is less than +/- 2.83dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.*

## 7 LINE CONDUCTED & RADIATED EMISSION TEST

### 7.1 LIMIT

#### Maximum permissible level of Line Conducted Emission

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

*Note: The lower limit shall apply at the transition frequency.*

#### Maximum permissible level of Radiated Emission measured at 10 meter

FREQUENCY (MHz)	Class A (dBuV/m)	Class B (dBuV/m)
	Quasi-peak	Quasi-peak
30 - 230	40	30
230 - 1000	47	37

*Note: The lower limit shall apply at the transition frequency.*

#### Maximum permissible level of Radiated Emission measured at 3 meter

FREQUENCY (MHz)	Class A (dBuV/m)		Class B (dBuV/m)	
	Average	Peak	Average	Peak
Above 1000	59.3	79.3	53.9	73.9

*Note: The lower limit shall apply at the transition frequency.*



## 7.2 TEST PROCEDURE OF LINE CONDUCTED EMISSION

### Procedure of Preliminary Test

- The EUT was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- The test system with EUT received AC power, 120V/60Hz, through a Line Impedance Stabilization Network (LISN), which supplied power source and was grounded to the ground plane.
- All support equipment received power from a second LISN.
- The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a EMI Test Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to the Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Receiver.
- The Receiver scanned from 150kHz to 30MHz for emissions in each of the test modes.
- During the above scans, the emissions were maximized by cable manipulation.
- The test mode(s) described in Item 3.2 were scanned during the preliminary test.
- After the preliminary scan, we found the test mode described in Item 3.2 producing the highest emission level.
- The EUT configuration and cable configuration of the above highest emission level were recorded for reference of the final test.



**Procedure of Final Test**

- EUT and support equipment were set up on the test bench as per step 10 of the preliminary test.
- A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the AV. limit in Q.P. mode, then the emission signal was re-checked using an AV. detector.
- The test data of the worst-case condition(s) was recorded.

**Data Sample:**

Freq. MHz	Read Level dBuV	Factor dB	Level dBuV	Limit dBuV	Over Limit dB	Reading Type (P/Q/A)	Line (L1/L2)
x.xx	42.95	0.55	43.50	73	-29.50	Q	L1

- Freq. = Emission frequency in MHz
- Read Level = Uncorrected Analyzer/Receiver reading
- Factor = Insertion loss of LISN + Cable Loss
- Level = Read Level + Factor
- Limit = Limit stated in standard
- Over Limit = Reading in reference to limit
- P = Peak Reading
- Q = Quasi-peak Reading
- A = Average Reading
- L1 = Hot side
- L2 = Neutral side

**Calculation Formula**

Over Limit (dB) = Level (dBuV) – Limit (dBuV)



## 7.3 TEST PROCEDURE OF RADIATED EMISSION

### Procedure of Preliminary Test

- The equipment was set up as per the test configuration to simulate typical usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane. When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- Support equipment, if needed, was placed as per ANSI C63.4.
- All I/O cables were positioned to simulate typical usage as per ANSI C63.4.
- The EUT received AC power source, 120V/60Hz, from the outlet socket under the turntable. All support equipment received power from another socket under the turntable.
- The antenna was placed at 10 meter away from the EUT as stated in ANSI C63.4. The antenna connected to the Spectrum Analyzer via a cable and at times a pre-amplifier would be used.
- The Analyzer / Receiver quickly scanned from 30MHz to 16000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- The test mode(s) described in Item 3.2 were scanned during the preliminary test:
- After the preliminary scan, we found the test mode described in Item 3.2 producing the highest emission level.
- The EUT and cable configuration, antenna position, polarization and turntable position of the above highest emission level were recorded for the final test.



**Procedure of Final Test**

- EUT and support equipment were set up on the turntable as per step 8 of the preliminary test.
- The Analyzer / Receiver scanned from 30MHz to 16000MHz. Emissions were scanned and measured rotating the EUT to 360 degrees, varying cable placement and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and only Q.P. reading is presented.
- The test data of the worst case condition(s) was recorded.

**Data Sample:**

Freq. MHz	Amptd dBuV/m	Margin dB	Limit dBuV/m	Reading dBuV	Factor dB/m	Reading Type (P/Q/A)	Pol. (H/V)
x.xx	26.2	-13.8	40	14	12.2	Q	H

- Freq. = Emission frequency in MHz
- Reading = Uncorrected Analyzer/Receiver reading
- Factor = Antenna Factor + Cable Loss + Attenuator (3/6/10dB) – Amplifier Gain
- Amptd = Uncorrected Analyzer/Receiver reading + Factor
- Limit = Limit stated in standard
- Margin = Reading in reference to limit
- P = Peak Reading
- Q = Quasi-peak Reading
- A = Average Reading
- H = Antenna Polarization: Horizontal
- V = Antenna Polarization: Vertical

**Calculation Formula**

$$\text{Margin (dB)} = \text{Amptd (dBuV/m)} - \text{Limit (dBuV/m)}$$



### 7.4 TEST RESULTS

#### Line Conducted Emission

**Model:** HSB-835A

**Test Mode:** Mode 1

**Temperature:** 20 °C

**Humidity:** 80% RH

**Test Results:** Passed

**Tested by:** Webber Jung

(The chart below shows the highest readings taken from the final data, see **Appendix II** for details.)

<b>Six Highest Conducted Emission Readings</b>							
<b>Frequency Range Investigated</b>				<b>150 kHz to 30 MHz</b>			
<b>Freq (MHz)</b>	<b>Read Level (dBuV)</b>	<b>Factor (dB)</b>	<b>Level (dBuV)</b>	<b>Limit Line (dBuV)</b>	<b>Over Limit (dB)</b>	<b>Reading Type (P/Q/A)</b>	<b>Line (L1/L2)</b>
<b>4.092</b>	<b>31.80</b>	<b>10.08</b>	<b>41.88</b>	<b>73.00</b>	<b>-31.12</b>	<b>P</b>	<b>L1</b>
<b>5.221</b>	<b>28.46</b>	<b>10.10</b>	<b>38.56</b>	<b>73.00</b>	<b>-34.44</b>	<b>P</b>	<b>L1</b>
<b>9.011</b>	<b>29.86</b>	<b>10.14</b>	<b>40.00</b>	<b>73.00</b>	<b>-33.00</b>	<b>P</b>	<b>L1</b>
<b>11.080</b>	<b>29.56</b>	<b>10.19</b>	<b>39.75</b>	<b>73.00</b>	<b>-33.25</b>	<b>P</b>	<b>L1</b>
<b>4.027</b>	<b>32.02</b>	<b>10.08</b>	<b>42.10</b>	<b>73.00</b>	<b>-30.90</b>	<b>P</b>	<b>L2</b>
<b>11.080</b>	<b>28.74</b>	<b>10.19</b>	<b>38.93</b>	<b>73.00</b>	<b>-34.07</b>	<b>P</b>	<b>L2</b>

*NOTE: The emission level was or more than 2dB below the Average limit, so no re-check anymore.*



**Radiated Emission**

**Model:** HSB-835A

**Test Mode:** Mode 1

**Temperature:** 18°C

**Humidity:** 85% RH

**Test Results:** Pass

**Tested by:** Webber Jung

(The chart below shows the highest readings taken from the final data, see **Appendix II** for details.)

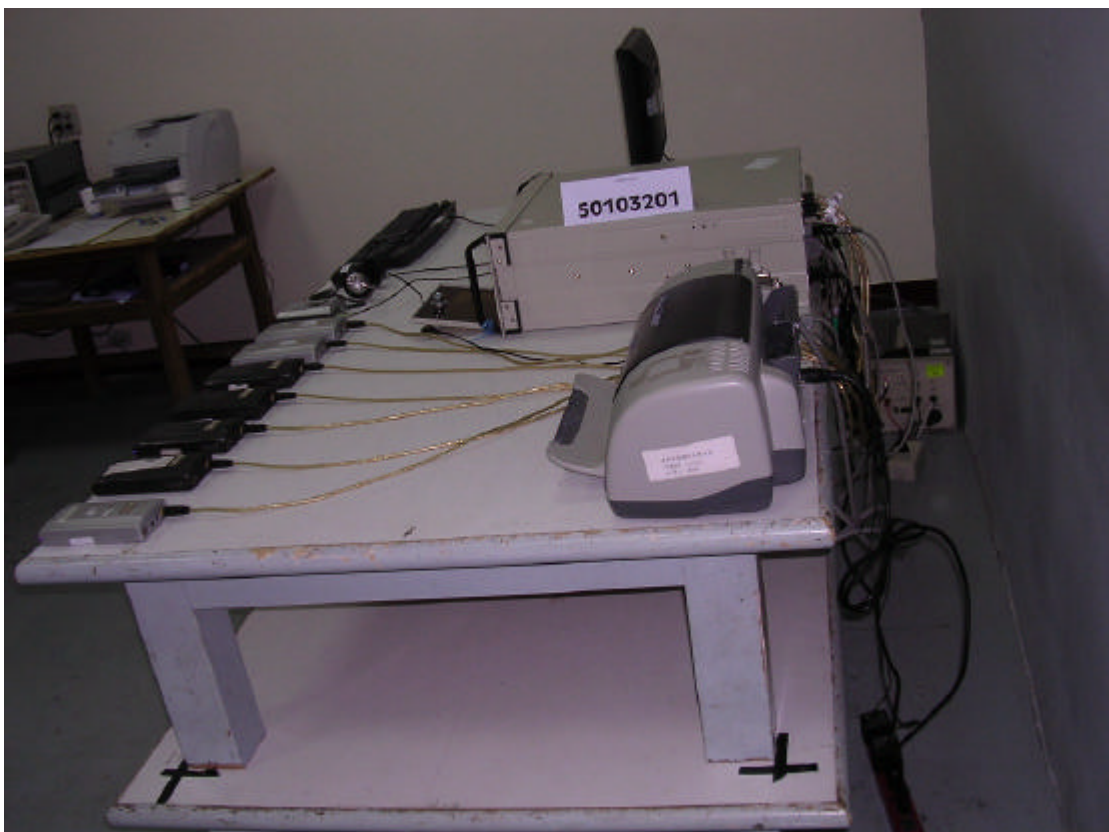
<b>Six Highest Radiated Emission Readings</b>							
<b>Frequency Range Investigated</b>				<b>30 MHz to 1000 MHz at 10m</b>			
<b>Freq (MHz)</b>	<b>Amptd (dBuV/m)</b>	<b>Margin (dB)</b>	<b>Limit (dBuV/m)</b>	<b>Reading (dBuV)</b>	<b>Factor (dB/m)</b>	<b>Reading Type (P/Q/A)</b>	<b>Pol. (H/V)</b>
<b>133.1100</b>	<b>34.94</b>	<b>-5.06</b>	<b>40.00</b>	<b>44.89</b>	<b>-9.95</b>	<b>P</b>	<b>V</b>
<b>133.2300</b>	<b>36.53</b>	<b>-3.47</b>	<b>40.00</b>	<b>46.48</b>	<b>-9.95</b>	<b>P</b>	<b>H</b>
<b>240.0550</b>	<b>41.66</b>	<b>-5.34</b>	<b>47.00</b>	<b>50.30</b>	<b>-8.64</b>	<b>Q</b>	<b>H</b>
<b>400.0470</b>	<b>42.16</b>	<b>-4.84</b>	<b>47.00</b>	<b>45.81</b>	<b>-3.65</b>	<b>P</b>	<b>H</b>
<b>465.7020</b>	<b>41.87</b>	<b>-5.13</b>	<b>47.00</b>	<b>43.73</b>	<b>-1.86</b>	<b>P</b>	<b>H</b>
<b>749.6950</b>	<b>41.78</b>	<b>-5.22</b>	<b>47.00</b>	<b>40.47</b>	<b>1.31</b>	<b>P</b>	<b>H</b>

*NOTE: 30M to 1000M test is Applicable CISPR 22 / EN 55022 standard.*



## APPENDIX I - PHOTOGRAPHS OF TEST SETUP

### LINE CONDUCTED EMISSION TEST





## RADIATED EMISSION TEST





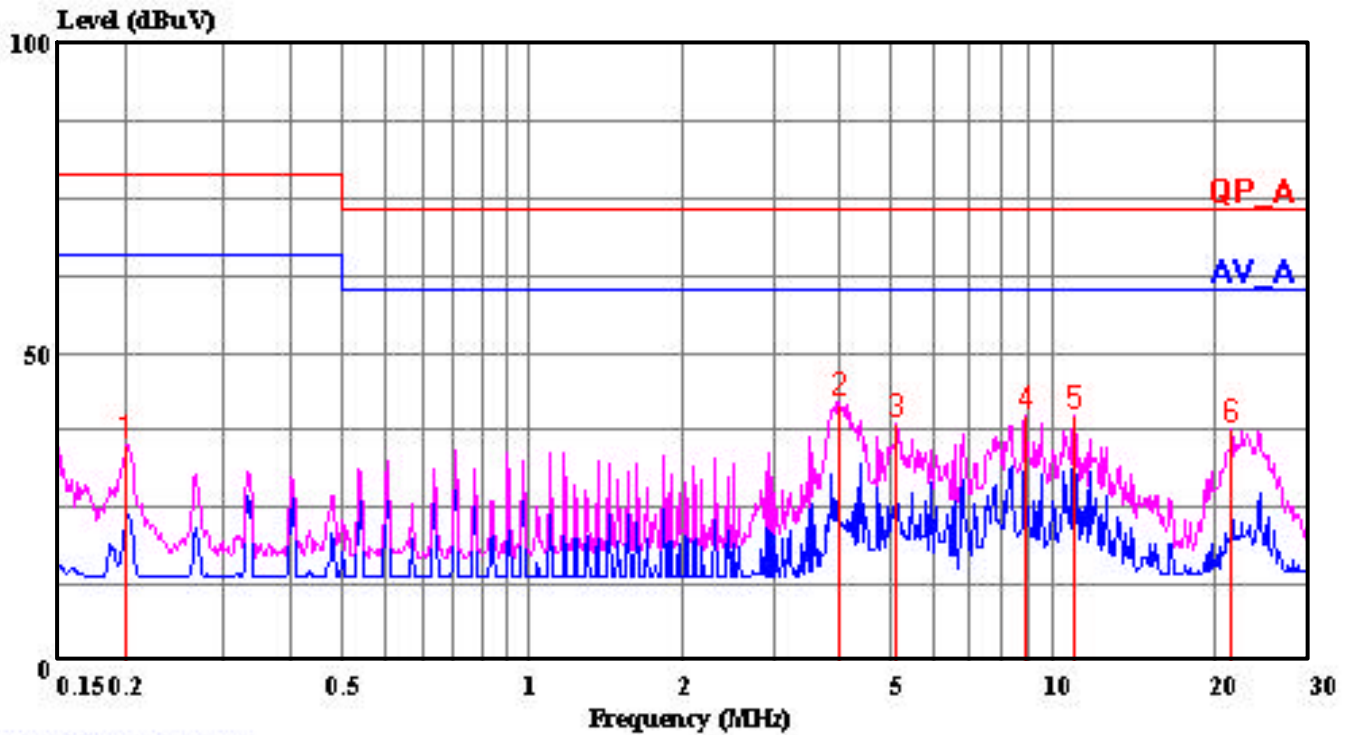
## **APPENDIX II - TEST RESULT OF FINAL DATAS**

### **Conducted Emission Plot**

### **Radiated Emission Data**

Data#: 6 File#: 50103201CB.EMI

Date: 2005-01-05 Time: 10:03:55



**(CCS Conduction B)**

Trace: 5 4

Ref Trace:

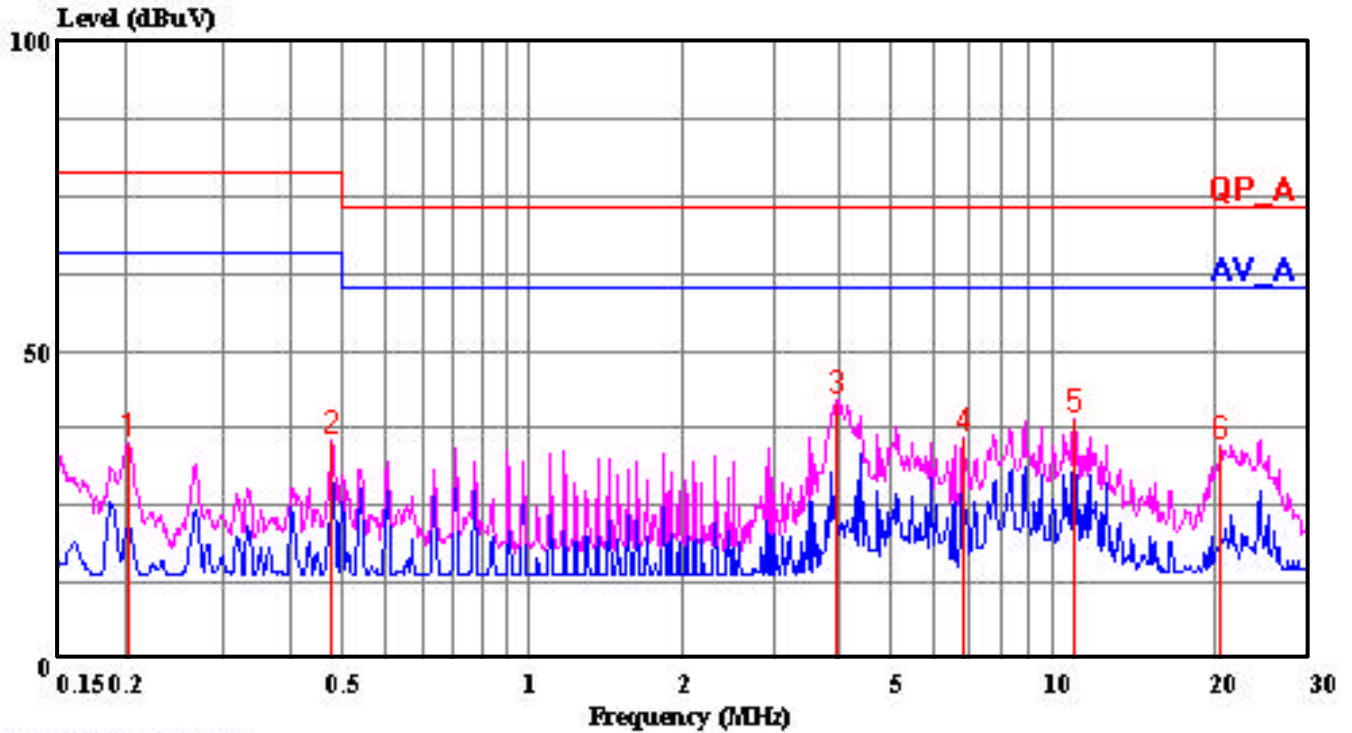
Condition: LINE  
Report No. : 50103201  
Test Engr. : WEBBER JUNG  
Company : AAEON Technology Inc.  
EUT : HSB-835A  
Test Config : EUT / ALL PERIPHERALS  
Type of Test: FCC CLASS A  
Mode of Op. : Normal Mode

Page: 1

	Read	Read	Limit	Over		
Freq	Level	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.201	25.02	9.97	34.99	79.00	-44.01 Peak
2	4.092	31.80	10.08	41.88	73.00	-31.12 Peak
3	5.221	28.46	10.10	38.56	73.00	-34.44 Peak
4	9.011	29.86	10.14	40.00	73.00	-33.00 Peak
5	11.080	29.56	10.19	39.75	73.00	-33.25 Peak
6	21.600	27.30	10.40	37.70	73.00	-35.30 Peak

Data#: 9 File#: 50103201CB.EMI

Date: 2005-01-05 Time: 10:07:45



**(CCS Conduction B)**

Trace: 8 7

Ref Trace:

Condition: NEUTRAL  
 Report No. : 50103201  
 Test Engr. : WEBBER JUNG  
 Company : AAEON Technology Inc.  
 EUT : HSB-835A  
 Test Config : EUT / ALL PERIPHERALS  
 Type of Test: FCC CLASS A  
 Mode of Op. : Normal Mode

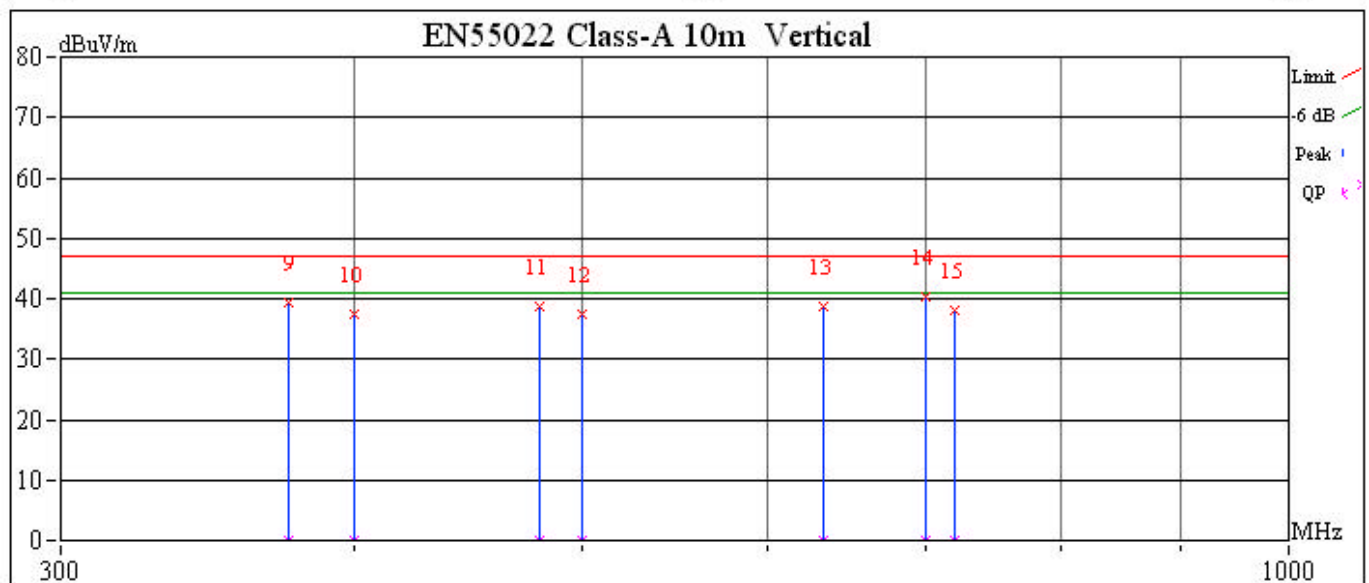
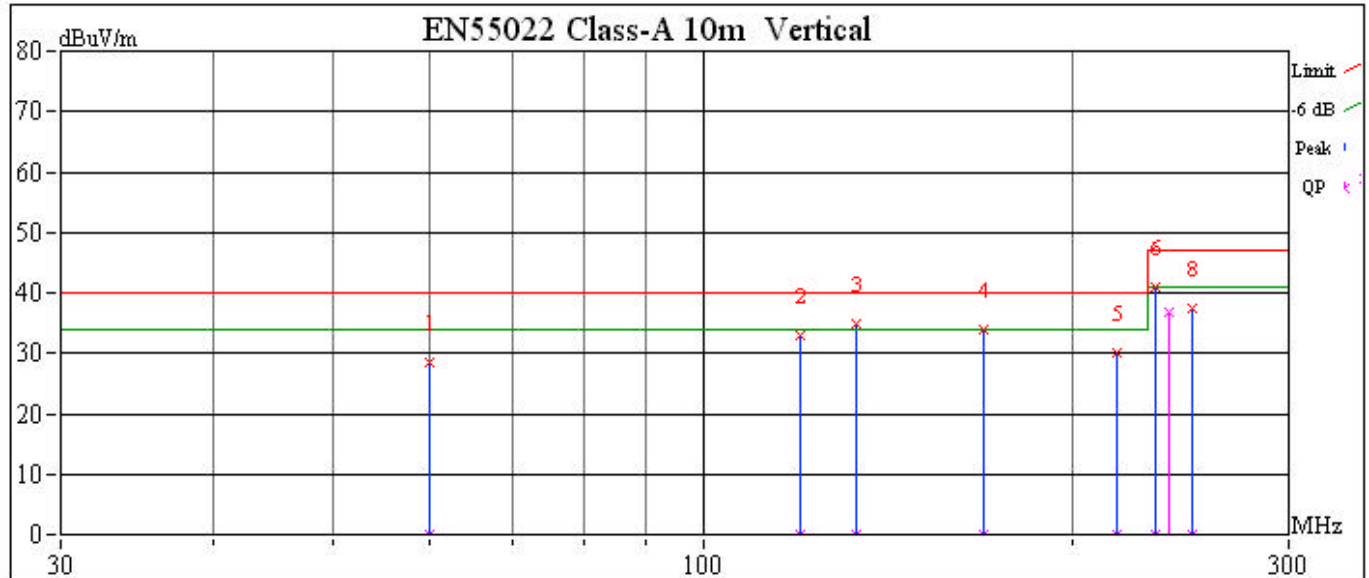
Page: 1

	Read	Read	Limit	Over		
Freq	Level	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.203	24.88	9.97	34.85	79.00	-44.15 Peak
2	0.479	25.72	9.98	35.70	79.00	-43.30 Peak
3	4.027	32.02	10.08	42.10	73.00	-30.90 Peak
4	6.914	25.96	10.12	36.08	73.00	-36.92 Peak
5	11.080	28.74	10.19	38.93	73.00	-34.07 Peak
6	20.594	24.36	10.45	34.81	73.00	-38.19 Peak

Custom Name: AAEON Technology Inc.  
 Model Name: HSB-835A  
 Test Mode: Normal Mode

Project No.: 50103201  
 Engineer Name: Webber Jung  
 Date: 2005-01-04

Index:

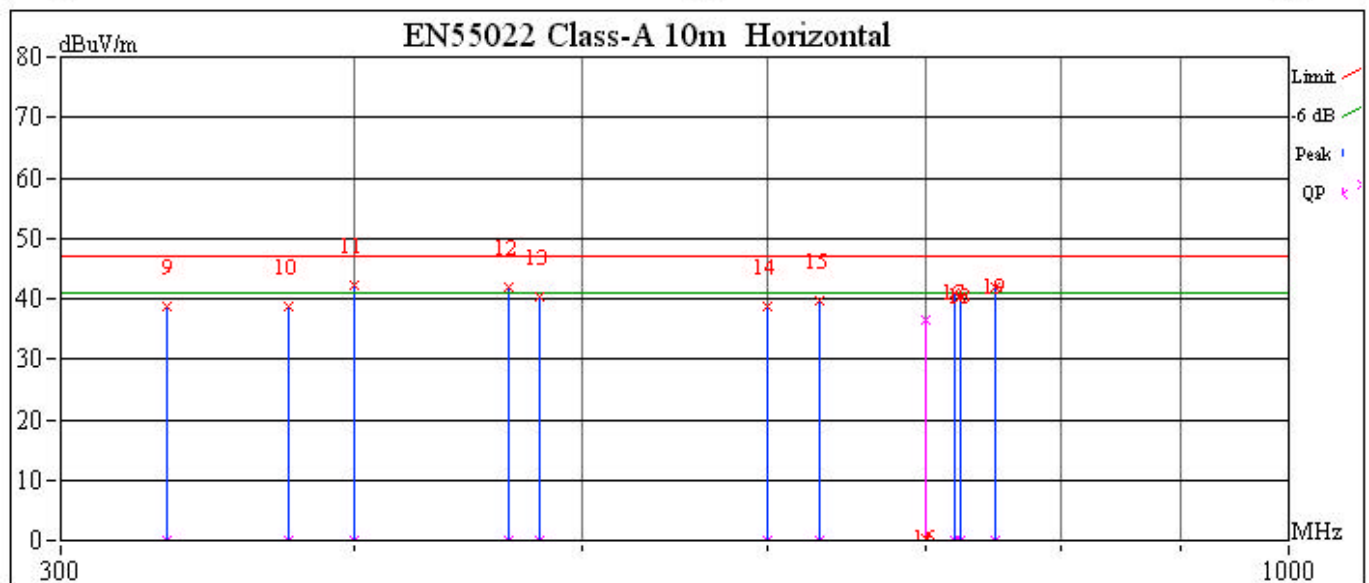
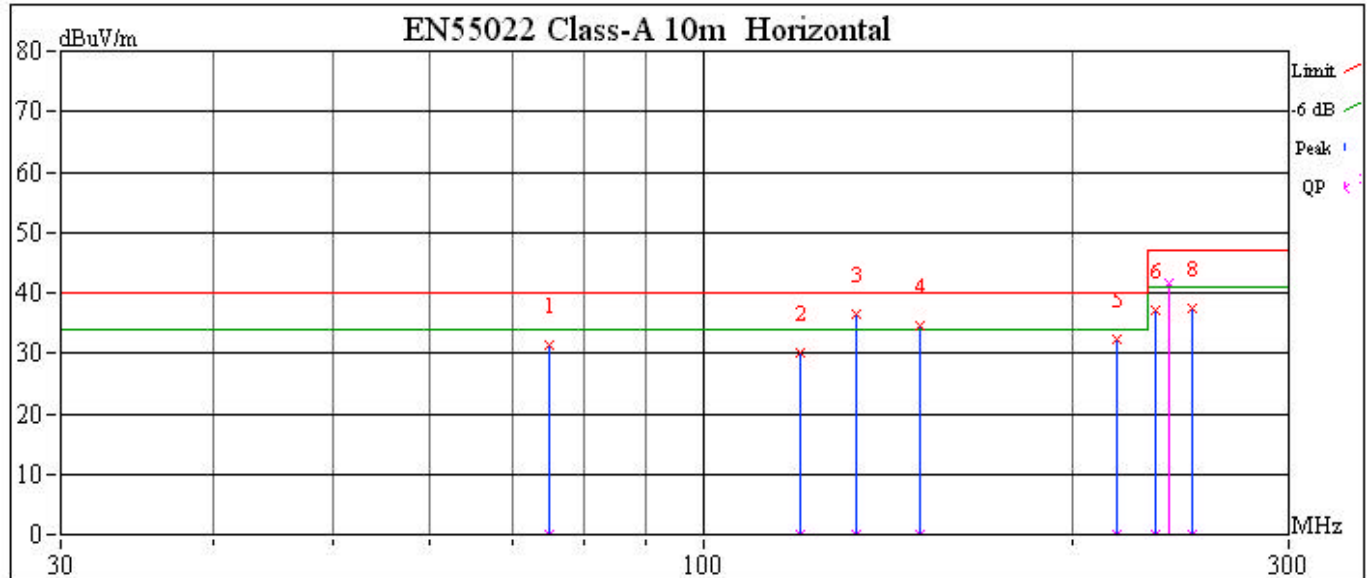


	Freq(MHz)	Peak(dBuV/m)	QP(dBuV/m)	Margin(dB)	Limit(dBuV/m)	Reading(dBuV)	Factor(dB)	Height	Degree	Comment
1	59.9300	28.58		-11.42	40.00	45.22	-16.64	100	0	
2	120.0400	32.89		-7.11	40.00	42.44	-9.55	100	0	
3	133.1100	34.94		-5.06	40.00	44.89	-9.95	100	0	
4	169.5700	33.88		-6.12	40.00	45.34	-11.46	100	0	
5	217.1600	29.96		-10.04	40.00	40.34	-10.38	100	0	
6	233.5100	41.02		-5.98	47.00	50.16	-9.14	100	0	
7	240.0490	-8.64	36.86	-10.14	47.00	45.50	-8.64	100	0	
8	250.0120	37.56		-9.44	47.00	45.44	-7.88	100	0	
9	375.0470	39.41		-7.59	47.00	43.79	-4.38	100	0	
10	400.0470	37.34		-9.66	47.00	40.99	-3.65	100	0	
11	480.0400	38.63		-8.37	47.00	40.17	-1.54	100	0	
12	499.8950	37.29		-9.71	47.00	38.38	-1.09	100	0	
13	633.2600	38.85		-8.15	47.00	38.41	0.44	100	0	
14	700.5020	40.29		-6.71	47.00	39.95	0.34	100	0	
15	720.0850	38.07		-8.93	47.00	37.34	0.73	100	0	

Custom Name: AAEON Technology Inc.  
 Model Name: HSB-835A  
 Test Mode: Normal Mode

Project No.: 50103201  
 Engineer Name: Webber Jung  
 Date: 2005-01-04

Index:

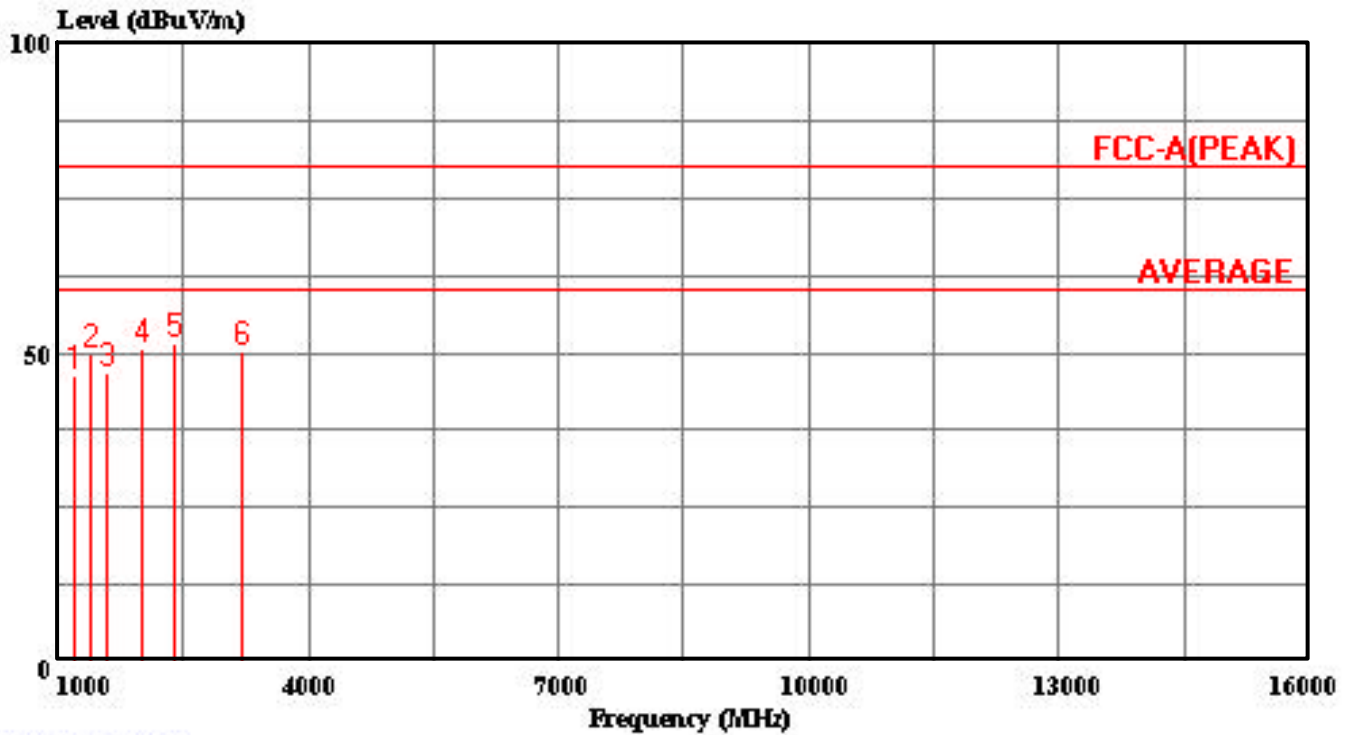


	Freq(MHz)	Peak(dBuV/m)	QP(dBuV/m)	Margin(dB)	Limit(dBuV/m)	Reading(dBuV)	Factor(dB)	Height	Degree	Comment
1	74.9900	31.27		-8.73	40.00	46.70	-15.43	100	0	
2	120.0040	30.24		-9.76	40.00	39.79	-9.55	100	0	
3	133.2300	36.53		-3.47	40.00	46.48	-9.95	100	0	
4	150.0310	34.41		-5.59	40.00	45.02	-10.61	100	0	
5	217.2470	32.29		-7.71	40.00	42.67	-10.38	100	0	
6	233.5300	37.27		-9.73	47.00	46.41	-9.14	100	0	
7	240.0550	-8.64	41.66	-5.34	47.00	50.30	-8.64	100	0	
8	250.0090	37.32		-9.68	47.00	45.20	-7.88	100	0	
9	332.6800	38.57		-8.43	47.00	44.27	-5.70	100	0	
10	375.0160	38.88		-8.12	47.00	43.26	-4.38	100	0	
11	400.0470	42.16		-4.84	47.00	45.81	-3.65	100	0	
12	465.7020	41.87		-5.13	47.00	43.73	-1.86	100	0	
13	480.0410	40.19		-6.81	47.00	41.73	-1.54	100	0	
14	600.0470	38.64		-8.36	47.00	38.10	0.54	100	0	
15	631.7400	39.65		-7.35	47.00	39.21	0.44	100	0	



Data#: 6 File#: 50103201RS.EMI

Date: 2005-01-05 Time: 16:44:16



(Chamber RS)

Trace:

Ref Trace:

Condition: EMCO-3115(200402)-3M VERTICAL  
Report No. : 50103201  
Test Engr. : WEBBER JUNG  
Company : AAEON Technology Inc.  
EUT : HSB-835A  
Test Config : EUT / ALL PERIPHERALS  
Type of Test: FCC CLASS A  
Mode of Op. : Normal Mode / 1-16GHz / Open Chassis  
: All test data under the average limit

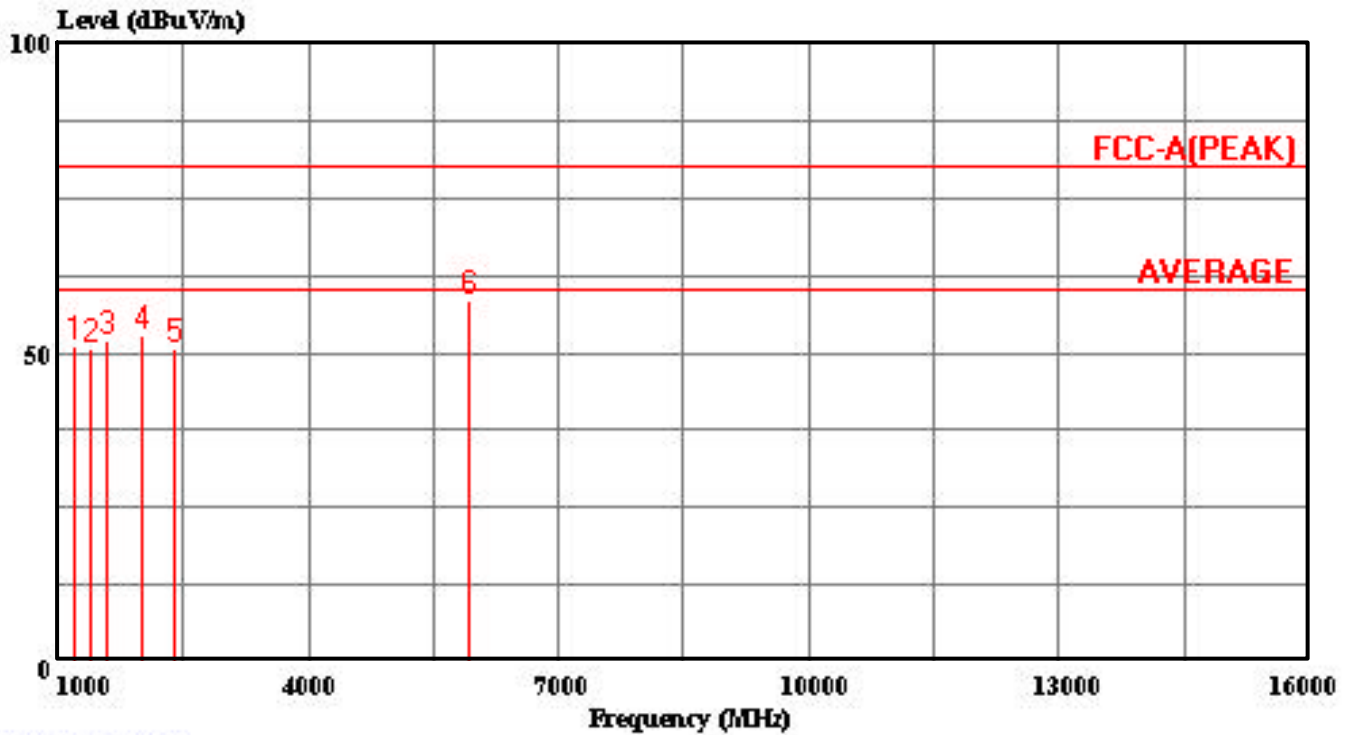
Page: 1

	Read	Limit	Over			
Freq	Level	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	1198.000	55.60	-9.20	46.40	80.00	-33.60 Peak
2	1397.500	58.20	-8.35	49.85	80.00	-30.15 Peak
3	1595.500	53.90	-7.27	46.63	80.00	-33.37 Peak
4	1997.500	55.40	-4.71	50.69	80.00	-29.31 Peak
5	2399.500	54.10	-2.57	51.53	80.00	-28.47 Peak
6	3188.500	49.00	1.12	50.12	80.00	-29.88 Peak



Data#: 11 File#: 50103201RS.EMI

Date: 2005-01-05 Time: 16:47:45



(Chamber RS)

Trace:

Ref Trace:

Condition: EMCO-3115(200402)-3M HORIZONTAL  
 Report No. : 50103201  
 Test Engr. : WEBBER JUNG  
 Company : AAEON Technology Inc.  
 EUT : HSB-835A  
 Test Config : EUT / ALL PERIPHERALS  
 Type of Test: FCC CLASS A  
 Mode of Op. : Normal Mode / 1-16GHz / Open Chassis  
 : All test data under the average limit

Page: 1

	Read	Read	Limit	Over		
Freq	Level	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	1196.500	60.30	-9.20	51.10	80.00	-28.90 Peak
2	1397.500	59.00	-8.35	50.65	80.00	-29.35 Peak
3	1597.000	59.10	-7.26	51.84	80.00	-28.16 Peak
4	1997.500	57.40	-4.71	52.69	80.00	-27.31 Peak
5	2396.500	53.30	-2.58	50.72	80.00	-29.28 Peak
6	5929.000	50.20	8.04	58.24	80.00	-21.76 Peak