Test Report No.:	**EP991111C14**
Client	
Name :	**AAEON Technology Inc.**
Address :	**5F,NO.135,Lane 235,Pao Chiao Rd. Hsin-Tien City, Taipei, Taiwan, R.O.C.**
Test Item :	**Flexible Embedded System**
Identification :	**TF-FES-5130-A10-01, TF-FES-5130-A10-02**
Testing laboratory	
Name :	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Address :	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.
Regulation	ENERGY STAR® Program Requirements for Computer Version 5.0
Test Standard :	IEC/EN 62301 ENERGY STAR® Program Requirements for Computer Version 5.0
Test Result :	The test item passed.
Prepared By :	Brad Chen Signature Brad Chen / Engineer December 15, 2010 Date
Approved By :	 Signature Ted Wu / Manager December 15, 2010 Date
Other Aspects: The completed test report includes the following documents: ■ 9 pages	ilac-MRA TAF Testing Laboratory 2021

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TEST REPORT

ENERGY STAR® Program Requirements for Computer Version 5.0

Report

Reference No. ..... :	EP991111C14	
Approved by (+ signature) ..... :	See cover sheet	.....
Reviewed by (+ signature) ..... :	See cover sheet	.....
Date of issue ..... :	December 15, 2010	

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Testing laboratory

Name ..... :	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Address ..... :	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.
Testing location ..... :	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Address ..... :	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taipei, R.O.C.

Client

Name ..... :	AAEON Technology Inc.
Address ..... :	5F,NO.135,Lane 235,Pao Chiao Rd. Hsin-Tien City, Taipei, Taiwan, R.O.C.

Test item

Description ..... :	Flexible Embedded System
Trademark ..... :	AAEON
Model and/or type reference ..... :	TF-FES-5130-A10-01, TF-FES-5130-A10-02
Manufacturer ..... :	AAEON Technology Inc.

ENERGY STAR® Program TEST REPORT

Appliance (Equipment) Detail

Brand	AAEON
Model	TF-FES-5130-A10-01, TF-FES-5130-A10-02
Type	N/A
Serial Number	N/A
Product Description (as appropriate)	Flexible Embedded System
Rated voltage(s)	100-240V
Frequency (frequencies)	50/60Hz
Detail of manufacturer marked on the product (if any)	N/A

Test Parameters

Ambient temperature (℃)	24 ℃
Test voltage (s)	115V/230V
Frequencies (Hz)	60Hz/50Hz
Total Harmonic distortion of the electricity supply system	0.16% ~ 0.49%

Test instruments

Make/Model	Measurement	Calibration date	Next Calibration date
IDRC Power Analyzer CP-660	Power Analyzer	October 15, 2010	October 15, 2011
ALL POWER APW-1100N	10KVA AC Power Source	N/A	N/A

LAB INFORMATION

Test laboratory name	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Test laboratory address	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.
Country	Taiwan
Test Report reference	EP991111C14
Test technician(s)	Bob Hsieh
Date measured	November 17, 2010
Test Standard used	ENERGY STAR® Program Requirements for Computer Version 5.0, IEC/EN 62301

General conditions for measurements

1.Test Room

The tests shall be carried out in a room that has an air speed close to the appliance under test of ≦0.5 m/s. The ambient temperature shall be maintained at (23 ± 5) ℃ throughout the test.

2.Power supply

Where this standard is referenced by an external standard or regulation that specifies a test voltage and frequency, the test voltage and frequency so defined shall be used for all tests. Where the test voltage and frequency are not defined by an external standard, the test voltage and the test frequency shall be the nominal voltage and the nominal frequency of the country for which the measurement is being determined ±1 %.

3. Supply voltage waveform

The total harmonic content of the supply voltage when supplying the appliance under test in the specified mode shall not exceed 2 % (up to and including the 13th harmonic); harmonic content is defined as the root-mean-square (r.m.s.) summation of the individual components using the fundamental as 100 %.

4. Power measurement accuracy

Measurements of power of 0.5 W or greater shall be made with an uncertainty of less than or equal to 2 % at the 95 % confidence level. Measurements of power of less than 0,5 W shall be made with an uncertainty of less than or equal to 0,01 W at the 95 % confidence level.

5. Testing Setup

The EUT shall be prepared and set up in accordance with the manufacturer's instructions, except where these conflict with the requirements of this standard. If no instructions are given, then factory or "default" setting shall be used, or where there are no indications for such setting, the appliance is tested as supplied.
(Note: The EUT was working under the 100% loading condition at least 30mins or more for warming-up.)

Test Data & Information

Idle Mode Consumption	EPS: FSP, Model: FSP060-DBAB1	
a.c. input. Nominal Voltage (V)	115.00V	
a.c. input. Maximum Voltage (V)	115.09V	
a.c. input. Minimum Voltage (V)	115.04V	
Voltage Regulation (< 5%)	0.08%	
a.c. input. Maximum Current (A)	0.28A	
a.c. input. Average Current (A)	0.26A	
a.c. input Maximum Power (W)	14.06W	"The idle mode in which the operating system and other software have completed loading, a user profile has been created, the machine is not asleep, and activity is limited to those basic applications that the system starts by default. Also, use the power management settings to set the display to power down after 1 minute.
a.c. input Average Power (W)	12.83W	

Sleep Mode Consumption	EPS: FSP, Model: FSP060-DBAB1	
a.c. input. Nominal Voltage (V)	115.00V	
a.c. input. Maximum Voltage (V)	115.11V	
a.c. input. Minimum Voltage (V)	115.07V	
Voltage Regulation (< 5%)	0.10%	
a.c. input. Maximum Current (A)	0.06A	
a.c. input. Average Current (A)	0.06A	
a.c. input Maximum Power (W)	1.64W	"The Flexible Embedded System was placed into "off" power mode for testing by using the mouse pointer to select <Start>, then select <Shut Down>, then select <Sleep> "
a.c. input Average Power (W)	1.61W	

Off Mode Consumption	EPS: FSP, Model: FSP060-DBAB1	
a.c. input. Nominal Voltage (V)	115.00V	
a.c. input. Maximum Voltage (V)	115.11V	
a.c. input. Minimum Voltage (V)	115.08V	
Voltage Regulation (< 5%)	0.16%	
a.c. input. Maximum Current (A)	0.05A	
a.c. input. Average Current (A)	0.05A	
a.c. input Maximum Power (W)	1.16W	"The Flexible Embedded System was placed into "off mode" for testing by using the mouse pointer to select <Start>, then select <Shut Down>, then select <Shut down> "
a.c. input Average Power (W)	1.09W	

Test Data & Information

Idle Mode Consumption	EPS: FSP, Model: FSP060-DBAB1	
a.c. input. Nominal Voltage (V)	230.00V	
a.c. input. Maximum Voltage (V)	230.19V	
a.c. input. Minimum Voltage (V)	229.98V	
Voltage Regulation (< 5%)	0.08%	
a.c. input. Maximum Current (A)	0.18A	
a.c. input. Average Current (A)	0.17A	
a.c. input Maximum Power (W)	14.38W	"The idle mode in which the operating system and other software have completed loading, a user profile has been created, the machine is not asleep, and activity is limited to those basic applications that the system starts by default. Also, use the power management settings to set the display to power down after 1 minute.
a.c. input Average Power (W)	13.37W	

Sleep Mode Consumption	EPS: FSP, Model: FSP060-DBAB1	
a.c. input. Nominal Voltage (V)	230.00V	
a.c. input. Maximum Voltage (V)	230.22V	
a.c. input. Minimum Voltage (V)	230.00V	
Voltage Regulation (< 5%)	0.10%	
a.c. input. Maximum Current (A)	0.09A	
a.c. input. Average Current (A)	0.09A	
a.c. input Maximum Power (W)	1.75W	"The Flexible Embedded System was placed into "off" power mode for testing by using the mouse pointer to select <Start>, then select <Shut Down>, then select <Sleep> "
a.c. input Average Power (W)	1.70W	

Off Mode Consumption	EPS: FSP, Model: FSP060-DBAB1	
a.c. input. Nominal Voltage (V)	230.00V	
a.c. input. Maximum Voltage (V)	230.23V	
a.c. input. Minimum Voltage (V)	230.02V	
Voltage Regulation (< 5%)	0.10%	
a.c. input. Maximum Current (A)	0.08A	
a.c. input. Average Current (A)	0.08A	
a.c. input Maximum Power (W)	1.2W	"The Flexible Embedded System was placed into "off mode" for testing by using the mouse pointer to select <Start>, then select <Shut Down>, then select <Shut down> "
a.c. input Average Power (W)	1.12W	

Test Data & Information

Regulation	Option	Requirements		Note
Energystar	○	Yes	○	ENERGY STAR® Program Requirements for Computers Version 5.0

E_{TEC} Requirement – Desktop and Notebooks

	Desktop and Integrated Computer (kWh)	Notebook Computer (kWh)
TEC (kWh)	Category A: ≦ 148.0 Category B: ≦ 175.0 Category C: ≦ 209.0 Category D: ≦ 234.0	Category A: ≦ 40.0 Category B: ≦ 53.0 Category C: ≦ 88.5
Capability Adjustments		
Memory	1 kWh (per GB over base) *Base Memory*: Categories A, B and C: 2 GB Category D: 4 GB	0.4 kWh (per GB over 4)
Premium Graphics (*for Discrete GPUs with specified Frame Buffer Widths*)	Cat. A, B: 35 kWh (FB Width ≤ 128-bit) 50 kWh (FB Width > 128-bit) Cat. C, D: 50 kWh (FB Width > 128-bit)	Cat. B: 3 kWh (FB Width > 64-bit)
Additional Internal Storage	25kWh	3kWh

Information

Product Type	Desktop	**Operating System Name**	Windows XP
Brand	N/A	**System Memory**	2G
Processor Brand	Intel	**Sleep Mode Default Time Upon Shipment**	≦ 30 Mins
Processor	ATOM N270	**Display Sleep Mode Default Time Upon Shipment**	≦ 15 Mins
Process Speed	1.6 GHz	**Will the speed of any active 1 Gb/s or higher Ethernet network links be reduced to less than 1 Gb/s when transitioning to Sleep or Off Mode?**	YES
Category	Category A		
Voltage Tested	115V/230V		
EPS meet the Energystar Requirement (Version 2.0)	YES		

Operational Mode Weighting – Desktop and Notebooks

Conventional	Desktop	Notebook
Toff	55%	60%
Tsleep	5%	10%
Tidle	40%	30%

Power Consumption (115V)		Power Consumption (230V)	
Idle Mode	12.83W	Idle Mode	13.37W
Sleep Mode	1.61W	Sleep Mode	1.7W
Off Mode	1.09W	Off Mode	1.12W

TEC Calculations (kWh/Year)	
Category A	≦ **148** kWh
E_{TEC}= (8760/1000) * (P_{off} * T_{off} + P_{sleep} * T_{Sleep} + P_{idle} * T_{idle})	
E_{TEC} (115V)	50.91kWh
E_{TEC} (230V)	52.99kWh

E_{TEC} **Requirement**		
E_{TEC} (115V)	50.91	kWh
Compliant with the Requirements	Pass	
E_{TEC} (230V)	52.99	kWh
Compliant with the Requirements	Pass	

Note

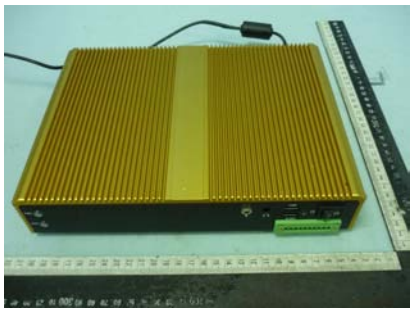
Number of Units Required for TEC or Idle Testing: Manufacturers may initially test a single unit for qualification. If the initial unit tested is less than or equal to the applicable requirement for TEC or Idle but falls within 10% of that level, one additional unit of the same model with an identical configuration must also be tested. Manufacturers shall report test values for both units. To qualify as ENERGY STAR, both units must meet the maximum TEC or Idle level for that product and that product category.

For this case, A Category A Notebook must meet a TEC level of 148 kWh or less, making 133.2 kWh the 10% threshold for additional testing.

And the first unit (115V) is measured at 50.91 kWh, no more testing is needed and the model qualifies (50.91 kWh is 65.6% more efficient than the specification and is therefore “outside” the 10% threshold).

And the first unit (230V) is measured at 52.99 kWh, no more testing is needed and the model qualifies (52.99 kWh is 64.2% more efficient than the specification and is therefore “outside” the 10% threshold).

EUT Photo



Flexible Embedded System

TF-FES-5130-A10-02

TF-FES-5130-A10-01

EPS: FSP, Model: FSP060-DBAB1

Comments

Model No	Difference	Note
TF-FES-5130-A10-01	LAN x 1,	Category A
TF-FES-5130-A10-02	LAN x 2,	Category A

For the Energystar testing, we chose the TF-FES-5130-A10-02 for the worst case because the Category is the same.

The test results presented in this report relate only to the item(s) tested.