Test Report No.:	**EP110217C02-1**
Client	
Name :	**AAEON Technology Inc.**
Address :	**5F,NO.135,Lane 235,Pao Chiao Rd. Hsin-Tien Dist, New Taipei City, Taiwan, R.O.C.**
Test Item :	**Fanless embedded controller**
Identification :	**TF-AEC-6612-A1-1010 ,TF-AEC-6612-A2-1010**
Testing laboratory	
Name :	**Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**
Address :	No. 47, 14th Lin, Chiapao Tsuen, Linko Hsiang 244, Taipei Hsien, Taiwan, R.O.C.
Regulation	ENERGY STAR® Program Requirements for Computer Version 5.2
Test Standard :	ENERGY STAR Test Method for Computers, Rev. Aug-2010
Test Result :	The test item passed.
Prepared By :	Brad Chen Signature Brad Chen / Engineer July 06, 2011 Date
Approved By :	 Signature Ted Wu / Manager July 06, 2011 Date
Other Aspects: The completed test report includes the following documents: ■ Test Report: 19 pages	ilac-MRA TAF Testing Laboratory 2021

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TEST REPORT

ENERGY STAR Test Method for Computers, Rev. Aug-2010

Methods of measurement for the power consumption of Computer

Report		
Reference No. ..... :	EP110217C02-1	
Approved by (+ signature) ..... :	See cover sheet	.....
Reviewed by (+ signature) ..... :	See cover sheet	.....
Date of issue ..... :	2011-07-06	
Testing laboratory		
Name ..... :	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch	
Address ..... :	No. 47, 14th Lin, Chiapao Tsuen, Linko 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, Kueishan Taoyuan, Taiwan, R.O.C.	
Client		
Name ..... :	**AAEON Technology Inc.**	
Address ..... :	**5F,NO.135,Lane 235,Pao Chiao Rd. Hsin-Tien Dist, New Taipei City, Taiwan, R.O.C.**	
Test specification		
Standard	ENERGY STAR Test Method for Computers, Rev. Aug-2010	
Test procedure	ENERGY STAR	
Non-standard test method	N/A.	
Test Report Form/Blank Test Report		
Test Report Form No.	ENERGYSTAR_Computers_Rev. Aug-2010	
TRF originator.	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch	
Master TRF	Dated 2011-04	
Test item		
Description ..... :	Fanless embedded controller	
Trademark ..... :	AAEON	
Model and/or type reference ..... :	TF-AEC-6612-A1-1010 ,TF-AEC-6612-A2-1010	
Manufacturer ..... :	AAEON Technology Inc.	
Sample..... :	1 Unit	

Possible test case verdicts:

- test case does not apply to the test object.....: N/A
- test object does meet the requirement .....: P (Pass)
- test object does not meet the requirement .....: F (Fail)

Testing .....:

Date (s) of performance of tests .....: 2011-06-15

Name of Test Technician (s) .....: Bob Hsieh

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

General product information:

The computer is including the Intel® Atom™ D510 1.66GHz, Dual LAN, 2/6 USB2.0, 2/6 COM, 1 VGA 2 PCI-Express Mini Card with external power supply.

Model Difference:

Model No	Model Difference	Note
TF-AEC-6612-A1-1010 ,	Same PCB with 2 COM, 2USB	
TF-AEC-6612-A2-1010	Same PCB with 6 COM, 6USB	Testing Model

We chose the model no: TF-AEC-6612-A2-1010 for testing to cover family series.

Comments:
N/A

Label

Fanless embedded controller Label

External Power Supply Label

DEFINITIONS for the Eligibility Criteria Version 5.2	
Scope	■ Desktop Computers ☐ Integrated Desktop Computers ☐ Notebook Computers ☐ Workstations ☐ Small-scale Servers that are marketed and sold for non-data center use ☐ Thin-Clients

Clause	Requirements	Verdict
3.2	**Power Supply Requirements**	P
3.2.1	Power supply test data and test reports from testing entities recognized by EPA to perform power supply testing shall be accepted for the purpose of qualifying the ENERGY STAR product.	P
3.2.2	Internal Power Supplies (IPS): Internal Power Supplies used in Computers eligible under this specification must meet the following requirements when tested using the EPRI Generalized Internal Power Supply Efficiency Test Protocol, Rev. 6.4.2	N/A
	i. IPS with maximum rated output power less than 75 watts shall meet minimum efficiency requirements as specified in Table 1.	N/A
	ii. IPS with maximum rated output power greater than or equal to 75 watts shall meet both	N/A
3.2.3	External Power Supplies (EPS):	P
	i. EPS with integral cooling fans shall meet minimum efficiency requirements and minimum power factor requirements, as specified in Table 1, when tested using the EPRI Generalized Internal Power Supply Efficiency Test Protocol, Rev. 6.4.2.	N/A
	ii. EPS without integral cooling fans shall meet the level V performance requirements under the International Efficiency Marking Protocol and include the level V marking. Additional	P
	• Single-output EPS without integral cooling fans shall meet level V requirements when tested using the Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies, Aug. 11, 2004.	P
	• Multi-output EPS without integral cooling fans shall meet the level V requirements when tested using the EPRI Generalized Internal Power Supply Efficiency Test Protocol, Rev. 6.4.2.	N/A
3.3	**Power Management Requirements**	P
3.3.1	Products shall include power management features in their “as-shipped” condition as specified in Table 2, subject to the following conditions:	P
	i. For Thin Clients, the WOL requirement shall apply products designed to receive	N/A

Loading Condition Percentage of Nameplate Output Current)	Minimum Efficiency	Minimum Power Factor
20%	0.82	-
50%	0.85	-
100%	0.82	0.90

<table>
<tr><td></td><td>software updates from a centrally managed network while in Sleep Mode or in Off Mode. Thin Clients whose standard software upgrade framework does not require off-hours scheduling are exempt from the WOL requirement.</td><td></td></tr>
<tr><td></td><td>ii. For Notebooks, WOL may be automatically disabled when the product is disconnected from ac mains power.</td><td>N/A</td></tr>
<tr><td></td><td>iii. For all products with WOL, directed packet filters shall be enabled and set to an industry standard default configuration.</td><td>P</td></tr>
<tr><td></td><td>Table 2: Power Management Requirements
<table>
<tr><th>Mode or Mode Transition</th><th>Requirement</th><th>Desktops</th><th>Integrated Desktops</th><th>Notebooks</th><th>Workstations</th><th>Small-scale Servers</th><th>Thin Clients</th></tr>
<tr><td>Sleep Mode</td><td>(1) Sleep Mode shall be set to activate after no more than 30 minutes of user inactivity.
(2) The speed of any active 1 Gb/s Ethernet network links shall be reduced when transitioning to Sleep Mode or Off Mode.</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td></tr>
<tr><td>Display Sleep Mode</td><td>(1) Display Sleep Mode shall be set to activate after no more than 15 minutes of user inactivity.</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>Wake on LAN (WOL)</td><td>(1) Computers with Ethernet capability shall provide users with an option to enable and disable WOL for Sleep Mode.
(2) Computers with Ethernet capability that are shipped through enterprise channels shall either:
(a) be shipped with WOL enabled by default for Sleep Mode, when the computer is operating on ac mains power; or
(b) provide users with the ability to enable WOL that is accessible from both the client operating system user interface and over the network.</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
<tr><td>Wake Management</td><td>(1) Computers with Ethernet capability that are shipped through enterprise channels shall:
(a) be capable of both remote (via network) and scheduled (via real-time clock) wake events from Sleep Mode, and
(b) provide clients with the ability to centrally manage (via vendor tools) any wake management settings that are configured through hardware settings if the manufacturer has control over such features.</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td></tr>
</table></td><td>--</td></tr>
<tr><td>3.4</td><td>User Information Requirements</td><td>P</td></tr>
<tr><td>3.4.1</td><td>Products shall be shipped with informational materials to notify customers of the following:</td><td>P</td></tr>
<tr><td></td><td>i. A description of power management settings that have been enabled by default,</td><td>P</td></tr>
</table>

	ii. A description of the timing settings for various power management features, and	P
	iii. Instructions for properly waking the product from Sleep Mode.	P
	Please See Annex I for reference	N/A
3.4.2	Products shall be shipped with one or more of the following:	P
	i. A list of default power management settings.	P
	ii. A note stating that default power management settings have been selected for compliance with ENERGY STAR (within 15 min of user inactivity for the display, within 30 min for the computer, if applicable per Table 2), and are recommended by the ENERGY STAR program for optimal energy savings.	P
	iii. Information about ENERGY STAR and the benefits of power management, to be located at or near the beginning of the hard copy or electronic user manual, or in a package or box insert.	P
3.5	**Requirements for Desktop, Integrated Desktop, and Notebook Computers**	P
3.5.1	Categories for TEC Criteria: Desktops, Integrated Desktops shall be evaluated in the categories described in Table 3, and Notebook Computers shall be evaluated in the categories described in Table 4.	P
	i. For the purposes of determining TEC levels, desktops and integrated desktops must qualify under Categories A, B, C, or D as defined in Table 3.	P
	Category A All desktop computers that do not meet the definition of Category B, Category C, or Category D below will be considered under Category A for ENERGY STAR qualification.	N/A
	Category B To qualify under Category B, desktops must have: • Equal to 2 Physical Cores; and • Greater than or equal to 2 gigabytes (GB) of System Memory.	P
	Category C To qualify under Category C, desktops must have: • Greater than 2 Physical Cores. In addition to the requirement above, models qualifying under Category C must be configured with a minimum of 1 of the following 2 characteristics: • Greater than or equal to 2 gigabytes (GB) of System Memory; and/or • A Discrete GPU.	N/A
	Category D To qualify under Category D, desktops must have: • Greater than or equal to 4 Physical Cores. In addition to the requirement above, models qualifying under Category D must be configured with a minimum of 1 of the following 2 characteristics: • Greater than or equal to 4 gigabytes (GB) of System Memory; and/or • A Discrete GPU with a Frame Buffer Width greater than 128-bit.	N/A
	ii. For the purposes of determining TEC levels, notebooks must qualify under Categories A, B, or C as defined in Table 4:	N/A
	Category A All notebook computers that do not meet the definition of Category B or Category C below will be considered under Category A for ENERGY STAR qualification.	N/A
	Category B To qualify under Category B, notebooks must have: ▪ A Discrete GPU.	N/A
	Category C	N/A

<table>
<tr><td></td><td>To qualify under Category C, notebooks must have:
▪ Greater than or equal to 2 Physical Cores;
▪ Greater than or equal to 2 gigabytes (GB) of System Memory; and
▪ A Discrete GPU with a Frame Buffer Width greater than 128-bit.</td><td></td></tr>
<tr><td>3.5.2</td><td>Calculated Typical Energy Consumption (E_{TEC}) per Equation 1 shall be less than or equal to the maximum TEC requirement (E_{TEC_MAX}), as calculated per Equation 2, subject to the following requirements:</td><td>P</td></tr>
<tr><td></td><td>i. The Additional Internal Storage adder ($TEC_{STORAGE}$) shall be applied if there are one or more internal storage devices present in the product, in which case it shall only be applied once.</td><td>P</td></tr>
<tr><td></td><td>ii. For a product to qualify for the Full Network Connectivity weightings, the following criteria shall be satisfied:
• Products shall meet a non-proprietary Full Network Connectivity standard that has been approved by the EPA and the European Union as meeting the goals of ENERGY STAR. Such approval must be in place prior to submittal of product data for qualification.
• Products shall have the applied level of functionality enabled and configured by default upon shipment. If Full Network Connectivity features are not enabled by default, the system shall be tested and reported with Conventional TEC weightings.</td><td>N/A</td></tr>
<tr><td></td><td>Equation 1: TEC Calculation (E_{TEC}) for Desktop, Integrated Desktop, and Notebook Computers
$E_{TEC} = (8760 / 1000) * \{(P_{OFF} * T_{OFF}) + (P_{SLEEP} * T_{SLEEP}) + (P_{IDLE} * T_{IDLE})\}$</td><td>-</td></tr>
<tr><td></td><td>Equation 2: E_{TEC_MAX} Calculation for Desktop, Integrated Desktop,
$E_{TEC\_MAX} = TEC_{BASE} + TEC_{MEMORY} + TEC_{GRAPHICS} + TEC_{STORAGE}$</td><td>-</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td>Table 5: Mode Weightings for Desktop and Integrated Desktop Computers
<table>
<tr><th rowspan="2">Mode Weighting</th><th rowspan="2">Conventional</th><th colspan="4">Full Network Connectivity</th></tr>
<tr><th>Base Capability</th><th>Remote Wake</th><th>Service Discovery/Name Services</th><th>Full Proxying</th></tr>
<tr><td>Meet</td><td>■</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>Toff</td><td>55%</td><td>50%</td><td>47%</td><td>43%</td><td>40%</td></tr>
<tr><td>Tsleep</td><td>5%</td><td>14%</td><td>20%</td><td>25%</td><td>30%</td></tr>
<tr><td>Tidle</td><td>40%</td><td>36%</td><td>33%</td><td>32%</td><td>30%</td></tr>
</table></td><td>P</td></tr>
<tr><td></td><td>Table 6: Mode Weightings for Notebook Computers
<table>
<tr><th rowspan="2">Mode Weighting</th><th rowspan="2">Conventional</th><th colspan="4">Full Network Connectivity</th></tr>
<tr><th>Base Capability</th><th>Remote Wake</th><th>Service Discovery / Name Services</th><th>Full Proxying</th></tr>
<tr><td>Meet</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td>Toff</td><td>60%</td><td>54%</td><td>49%</td><td>48%</td><td>45%</td></tr>
<tr><td>Tsleep</td><td>10%</td><td>18%</td><td>24%</td><td>26%</td><td>30%</td></tr>
<tr><td>Tidle</td><td>30%</td><td>28%</td><td>27%</td><td>26%</td><td>25%</td></tr>
</table></td><td>N/A</td></tr>
</table>

Table 7: Maximum TEC Allowances for Desktop and Integrated Desktop Computers — P

Product Category	TEC_{BASE} (kWh)	TEC_{MEMORY} (kWh) *Where: m = System Memory (GB)*	$TEC_{GRAPHICS}$ (kWh)	$TEC_{STORAGE}$ (kWh) *(Applies once if system has more than one Additional Internal Storage element.)*
☐ **A**	148.0	1.0 (*per GB > 2.0*)	35.0 (*GPU Frame Buffer Width ≤ 128-bit*) 50.0 (GPU Frame Buffer Width > 128-bit)	25.0
■ **B**	175.0	1.0 (*per GB > 2.0*)	35.0 (*GPU Frame Buffer Width ≤ 128-bit*) 50.0 (GPU Frame Buffer Width > 128-bit)	25.0
☐ **C**	209.0	1.0 (per GB > 2.0)	50.0 (*GPU Frame Buffer Width > 128-bit*)	25.0
☐ **D**	234.0	1.0 (*per GB > 4.0*)	50.0 (*GPU Frame Buffer Width > 128-bit*)	25.0

Table 8: Maximum TEC Allowances for Notebook Computers — N/A

Product Category	TEC_{BASE} (kWh)	TEC_{MEMORY} (kWh) *Where: m = System Memory (GB)*	$TEC_{GRAPHICS}$ (kWh)	$TEC_{STORAGE}$ (kWh) *(Applies once if system has more than one Additional Internal Storage element.)*
☐**A**	40.0	0.4 (*per GB > 4.0*)		3.0
☐**B**	53.0	0.4 (*per GB > 4.0*)	3.0 (*GPU Frame Buffer Width > 64-bit*)	3.0
☐**C**	88.5	0.4 (*per GB > 4.0*)		3.0

3.6	**Requirements for Workstations**	N/A
3.6.1	Weighted power consumption (PTEC) as calculated per Equation 3 shall be less than or equal to the maximum weighted power consumption requirement	N/A

<table>
<tr><td></td><td>(PTEC_MAX) as calculated per Equation 4.</td><td></td></tr>
<tr><td></td><td>

Equation 3: P_{TEC} Calculation for Workstations

$$P_{TEC} = (P_{OFF} * T_{OFF}) + (P_{SLEEP} * T_{SLEEP}) + (P_{IDLE} * T_{IDLE})$$

Where:
- P_{OFF} = *Measured power consumption in Off Mode (W)*
- P_{SLEEP} = *Measured power consumption in Sleep Mode (W)*
- P_{IDLE} = *Measured power consumption in Idle Mode (W)*
- T_{OFF}, T_{SLEEP}, *and* T_{IDLE} *are mode weightings as specified in Table 9*

Table 9: Mode Weightings for Workstations

T_{OFF}	T_{SLEEP}	T_{IDLE}
0.35	0.10	0.55

Equation 4: P_{TEC_MAX} Calculation for Workstations

$$P_{TEC\_MAX} \leq 0.28 * \{P_{MAX} + (N_{HDD} * 5)\}$$

Where:
- P_{MAX} = *Measured maximum power consumption (W)*
- N_{HDD} = *Number of installed hard disk drives (HDD) or solid state drives (SSD)*

</td><td>-</td></tr>
<tr><td>3.6.2</td><td>Desktop Workstations3.5: Products marketed as workstations may qualify for ENERGY STAR under the Desktop requirements in Section, instead of the Workstation requirements in Section 3.6.1, at the Partner's option. EPA will identify Workstations qualified as Desktops as "Desktops" in all ENERGY STAR marketing materials, on qualified product lists, etc.</td><td>N/A</td></tr>
<tr><td>3.7</td><td>Requirements for Small-scale Servers</td><td>N/A</td></tr>
<tr><td>3.7.1</td><td>Measured Off Mode power (POFF) shall be less than or equal to the maximum Off Mode power consumption requirement (POFF_MAX) listed in Table 10, as calculated per Equation 5, subject to the following requirements:</td><td>N/A</td></tr>
<tr><td></td><td>i. Products shall be evaluated using the highest letter category to which they apply</td><td>N/A</td></tr>
<tr><td></td><td>ii. The Off Mode Wake-On-LAN (WOL) adder (POFF_WOL) shall only be applied to products that offer WOL that is enabled by default upon shipment.</td><td>N/A</td></tr>
<tr><td></td><td>

Equation 5: Calculation of P_{OFF_MAX} for Small-scale Servers

$$P_{OFF\_MAX} = P_{OFF\_BASE} + P_{OFF\_WOL}$$

</td><td>-</td></tr>
<tr><td>3.7.2</td><td>Measured Idle State power (PIDLE) shall be less than or equal to the maximum Idle State power consumption requirement (PIDLE_MAX) specified in Table 10.</td><td>N/A</td></tr>
</table>

Table 10: Classification & Power Consumption Requirements for Small-scale Servers

Small-scale Server Classification		Operational Mode Requirements		
Product Category	Category Description	$P_{OFF\ BASE}$ (watts)	$P_{OFF\ WOL}$ (watts)	$P_{IDLE\ MAX}$ (watts)
A	All Small-Scale Servers that do not meet the definition of Category B will be considered under Category A for ENERGY STAR qualification.	2.0	0.7	50.0
B	To qualify under Category B Small-Scale Servers must have: • Processor(s) with greater than 1 physical core or greater than 1 discrete processor; and • Minimum of 1 gigabyte of system memory.	2.0	0.7	65.0

3.8	**Requirements for Thin Clients**	N/A
3.8.1	Measured Off Mode power (POFF) shall be less than or equal to the maximum Off Mode power consumption requirement (POFF_MAX) in Table 11, as calculated per Equation 6, subject to the following requirements.	N/A
	i. Products shall be evaluated using the highest letter category to which they apply.	N/A
	ii. The Off Mode Wake-On-LAN (WOL) adder (POFF_WOL) shall only be applied to products that offer WOL that is enabled by default upon shipment.	N/A
	Equation 6: Calculation of P_{OFF_MAX} for Thin Clients $$P_{OFF\_MAX} = P_{OFF\_BASE} + P_{OFF\_WOL}$$	-
3.8.2	For products that offer a Sleep Mode, measured Sleep Mode power (P_{SLEEP}) shall be less than or equal to the maximum Sleep Mode power consumption requirement (P_{SLEEP_MAX}) in Table 11, as calculated per Equation 7, subject to the following requirement.	N/A
	i. The Sleep Mode Wake-On-LAN (WOL) adder (P_{SLEEP_WOL}) shall only be applied to products that offer WOL that is enabled by default upon shipment.	N/A
	Equation 7: Calculation of P_{SLEEP_MAX} for Thin Clients $$P_{SLEEP\_MAX} = P_{SLEEP\_BASE} + P_{SLEEP\_WOL}$$	-
3.8.3	Measured Idle State power (PIDLE) shall be less than or equal to the maximum Idle State power consumption requirement (PIDLE_MAX) specified in Table 11.	N/A

-

Table 11: Classification & Power Consumption Requirements for Thin Clients

Thin Client Classification		Operational Mode Requirements				
Product Category	Category Description	$P_{OFF\ BASE}$ (watts)	$P_{OFF\ WOL}$ (watts)	$P_{SLEEP\ BASE}$ (watts)	$P_{SLEEP\ WOL}$ (watts)	$P_{IDLE\ MAX}$ (watts)
A	All Thin Clients that do not meet the definition of Category B, below, will be considered under Category A for ENERGY STAR qualification.	2.0	0.7	2.0	0.7	12.0
B	To qualify under Category B, Thin Clients must support local multimedia encode/decode.	2.0	0.7	2.0	0.7	15.0

General conditions for measurements

1.Test Room

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

2.Power supply

Where this standard was referenced by an external standard or regulation that specified a test voltage and frequency, the test voltage and frequency so defined was used for all tests. Where the test voltage and frequency were not defined by an external standard, the test voltage and the test frequency were the nominal voltage and the nominal frequency of the country for which the measurement was 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 did not exceed 2 % (up to and including the 13_{th} harmonic); harmonic content was 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 was 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 was made with an uncertainty of less than or equal to 0.01 W at the 95 % confidence level.

5. Testing Setup

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

Test Data & Information

Test voltage (V)	115V	230V
Frequencies (Hz)	60Hz	50Hz
Total Harmonic distortion of the electricity supply system	0.17%~0.50%	

Idle Mode Consumption	**115V/60Hz**		
a.c. input. Nominal Voltage (V)	**115V**	**Voltage Regulation (< 1%)**	**0.10%**
a.c. input. Maximum Voltage (V)	**115.11V**	**a.c. input. Minimum Voltage (V)**	**115.03V**
a.c. input. Maximum Current (A)	**0.32A**	**a.c. input. Average Current (A)**	**0.28A**
a.c. input Maximum Power (W)	**15.50W**	"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)	**13.97W**		

Sleep Mode Consumption	**115V/60Hz**		
a.c. input. Nominal Voltage (V)	**115V**	**Voltage Regulation (< 1%)**	**0.08%**
a.c. input. Maximum Voltage (V)	**115.09V**	**a.c. input. Minimum Voltage (V)**	**115.04V**
a.c. input. Maximum Current (A)	**0.09A**	**a.c. input. Average Current (A)**	**0.09A**
a.c. input Maximum Power (W)	**3.04W**	"The laptop 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)	**3.01W**		

Off Mode Consumption	**115V/60Hz**		
a.c. input. Nominal Voltage (V)	**115V**	**Voltage Regulation (< 1%)**	**0.07%**
a.c. input. Maximum Voltage (V)	**115.08V**	**a.c. input. Minimum Voltage (V)**	**115.04V**
a.c. input. Maximum Current (A)	**0.08A**	**a.c. input. Average Current (A)**	**0.08A**
a.c. input Maximum Power (W)	**2.72W**	"The laptop 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)	**2.69W**		

Idle Mode Consumption	**230V/50Hz**		
a.c. input. Nominal Voltage (V)	**230V**	**Voltage Regulation (< 1%)**	**0.18%**
a.c. input. Maximum Voltage (V)	**230.42V**	**a.c. input. Minimum Voltage (V)**	**230.20V**
a.c. input. Maximum Current (A)	**0.19A**	**a.c. input. Average Current (A)**	**0.17A**
a.c. input Maximum Power (W)	**15.75W**	"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)	**14.43W**		

Sleep Mode Consumption	230V/50Hz		
a.c. input. Nominal Voltage (V)	230V	Voltage Regulation (< 1%)	0.19%
a.c. input. Maximum Voltage (V)	230.44V	a.c. input. Minimum Voltage (V)	230.23V
a.c. input. Maximum Current (A)	0.09A	a.c. input. Average Current (A)	0.09A
a.c. input Maximum Power (W)	3.85W	"The laptop 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)	3.79W		

Off Mode Consumption	230V/50Hz		
a.c. input. Nominal Voltage (V)	230V	Voltage Regulation (< 1%)	0.19%
a.c. input. Maximum Voltage (V)	230.44V	a.c. input. Minimum Voltage (V)	230.23V
a.c. input. Maximum Current (A)	0.09A	a.c. input. Average Current (A)	0.09A
a.c. input Maximum Power (W)	3.29W	"The laptop 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)	3.23W		

Appliance (Equipment) Detail

Brand	AAEON
Model	TF-AEC-6612-A1-1010 ,TF-AEC-6612-A2-1010
Type	Desktop
Serial Number	Unit 1
Product Description (as appropriate)	Fanless embedded controller
Rated voltage(s)	100-240V
Frequency (frequencies)	50-60Hz
Detail of manufacturer marked on the product (if any)	N/A

Test Environment

Ambient temperature (℃)	24 ℃
Humidity (%)	55%
Air Speed (m/s)	0 m/s

Test instruments

Make/Model	Measurement	Calibration date	Next Calibration date
IDRC Power Analyzer CP-660	Power Analyzer	October 15, 2010	October 15, 2011
TES 1341	Hot-wireanemometer	OCT 28, 2010	OCT 27, 2011
Isuzs 3-3122	Thermo-Hygro Grapg	Nov 15, 2010	Nov 14,2011
ALL POWER APW-1100N	10KVA AC Power Source	N/A	N/A

Test Data & Information

Regulation	Option	Requirements		Note
Energystar	○	**Yes**	○	**ENERGY STAR® Program Requirements for Computers Version 5.2**

Information

Product Type	Desktop	**Operating System Name**	Windows XP
Brand	AAEON	**System Memory**	2G
Processor Brand	Intel	**Hard Disk**	80 G
Processor	Atom™ D510	**Category**	Category B
Process Speed	1.66GHz	**EPS meet the Energystar Requirement (Version 2.0)**	Yes
Physical Core (s)	Dual Core	**EPS Brand:** **Model:**	FSP FSP060-DBAB1

Power Consumption (100V/50Hz)		**Power Consumption (100V/60Hz)**	
Idle Mode	N/A	Idle Mode	N/A
Sleep Mode	N/A	Sleep Mode	N/A
Off Mode	N/A	Off Mode	N/A

Power Consumption (115V/60Hz)		**Power Consumption (230V/50Hz)**	
Idle Mode	13.97W	Idle Mode	14.43W
Sleep Mode	3.01W	Sleep Mode	3.79W
Off Mode	2.69W	Off Mode	3.23W

TEC Calculations (kWh/Year)	
Category B	≦ **175** kWh
E_{TEC}= (8760/1000) * (P_{off} * T_{off} + P_{sleep} * T_{Sleep} + P_{idle} * T_{idle})	
E_{TEC} (100V/50Hz)	N/A kWh
E_{TEC} (100V/60Hz)	N/A kWh
E_{TEC} (115V/60Hz)	63.23kWh
E_{TEC} (230V/50Hz)	67.78kWh

E_{TEC} **Requirement**	
E_{TEC} (100V/50Hz)	kWh
Compliant with the Requirements	N/A
E_{TEC} (100V/60Hz)	kWh
Compliant with the Requirements	N/A

E_{TEC} **Requirement**	
E_{TEC} (115V/60Hz)	63.23kWh
Compliant with the Requirements	Pass
E_{TEC} (230V/50Hz)	67.78kWh
Compliant with the Requirements	Pass

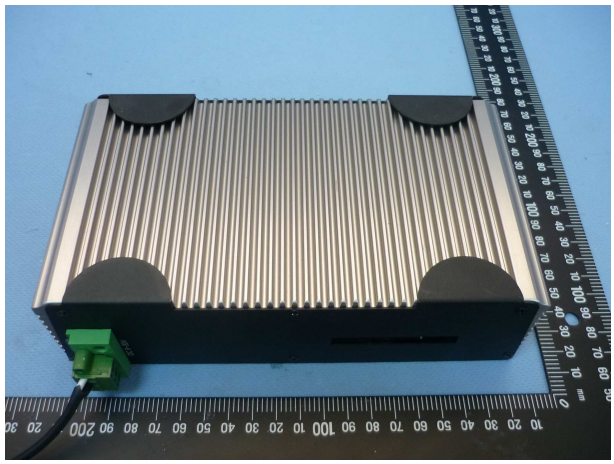
Note

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.

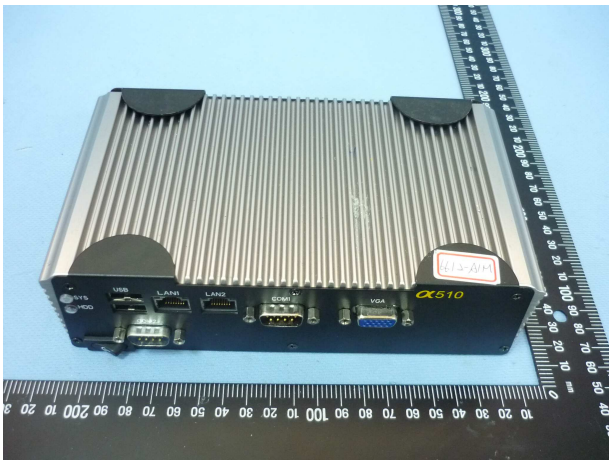
For this case, a Category B desktop computer must meet a TEC level of 175 kWh or less, making 157.5kWh the 10% threshold for additional testing.

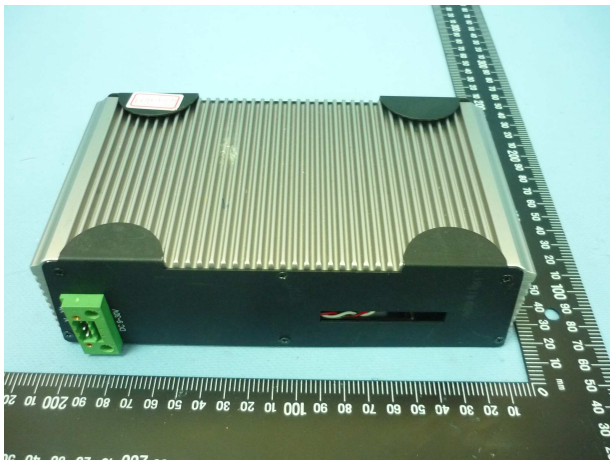
No more testing is needed because the EuT is more efficient than the specification and is therefore “outside” the 10% threshold).

EUT Photo



TF-AEC-6612-A2-1010





TF-AEC-6612-A1-1010

EPS: FSP, FSP060-DBAB1