EEcoMark v2 Setup Guide

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Introduction

EEcoMark v2 is a benchmarking tool that uses real world applications for the purpose of measuring the performance-qualified energy consumption of personal computers.

Requirements for Running EEcoMark v2

- EEcoMark v2 benchmark software
- Unit Under Test (UUT) (i.e. computer to be tested)
- Controller
- Supported power meter
- Gigabit Ethernet Switch

Setting up the Connection

- 1. Connect power meter to AC wall outlet.
- 2. Connect UUT to power meter.
- 3. Connect Ethernet cable from UUT to gigabit Ethernet switch.
- 4. Connect Ethernet cable from Controller to gigabit Ethernet switch.
- 5. Connect GPIB /Serial cable from power meter to controller.

Note: ensure the correct drivers are installed for GPIB interface cable on the controller.

The following image illustrates the setup:



Installing EEcoMark v2 UUT Software

Insert EEcoMark v2 DVD media into the DVD drive of the UUT.

The "AutoPlay" feature displays a window listing available options, as illustrated in the following screenshot:



Click the "Open folder to view files" option. The following window displays:



Click the "EEcoMark UUT Setup" icon.

The verification installer bar displays, detailing the progress of the verification.



When the setup verification completes, the BAPCo logo displays as illustrated in the following screenshot:



The EEcoMark v2 UUT Setup Wizard window displays, as illustrated in the following screenshot:

🔞 EEcoMark UUT 2.0.0.422 Setu	an a a a a a a a a a a a a a a a a a a
	Welcome to the EEcoMark UUT Setup Wizard
	This wizard will guide you through the installation of EEcoMark UUT.
	It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
	Click Next to continue.
BAPCO	
	Next > Cancel

Click the "Next" button. The license agreement for the EEcoMark v2 UUT displays, as illustrated in the following screenshot:

🎯 EEcoMark UUT 2.0.0.422 Setup 📃 📼 💌
License Agreement Please review the license terms before installing EEcoMark UUT.
Press Page Down to see the rest of the agreement.
BUSINESS APPLICATIONS PERFORMANCE CORPORATION (BAPCO®)
LICENSE AGREEMENT FOR BAPCO BENCHMARK PRODUCT
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install EEcoMark UUT.
 I accept the terms of the License Agreement I do not accept the terms of the License Agreement
Nullsoft Install System v2.45

Review the agreement and select the "I accept the terms of the license agreement" button to accept the terms of the agreement.

Click the "Next" button. A window displays, as illustrated in the following screenshot:

@ EEcoMark UUT 2.0.0.422 Setu	qu	- • ×
Choose Components Choose which features of EEco	Mark UUT you want to install.	
Check the components you wai install. Click Next to continue.	nt to install and uncheck the components you	don't want to
Select the type of install:	Full	•
Or, select the optional components you wish to install:	. EEcoMark UUT	
	Description	
Space required: 3.7GB	Position your mouse over a component to description,	see its
Nullsoft Install System v2.45		
	< <u>B</u> ack Next >	Cancel

Select "Full" as the type of installation from the "Select the type of install" drop-down menu.

Click the "Next" button. A window displays, as illustrated in the following screenshot:

COMark UUT 2.0.0.422 Setup	
Choose Install Location Choose the folder in which to install EEcoMark UUT.	
Setup will install EEcoMark UUT in the following folder. To install in a different Browse and select another folder. Click Next to continue.	nt folder, click
Destination Folder C:\Program Files (x86)\BAPCo\EEcoMarkUUT	Browse
Space required: 3.7GB Space available: 211.9GB	
Nullsoft Install System v2.45	Cancel

A default destination folder displays in the "Destination Folder" bar. If this location is acceptable, click the "Next" button. Select an alternative destination folder by clicking

the "Browse" button. When the acceptable location is selected, click the "Next" button.

The installation files install in the destination folder. The following window displays:

6 EEcoMark UUT 2.0.0.422 Setup	- • •
Choose Start Menu Folder Choose a Start Menu folder for the EEcoMark UUT shortcuts.	0
Select the Start Menu folder in which you would like to create the program's can also enter a name to create a new folder.	shortcuts. You
Accessories Administrative Tools CPUID Games Intel Lenovo Mouse Suite Maintenance Startup Tablet PC	
Do not create shortcuts Nullsoft Install System v2.45	Cancel

Select the Start Menu folder in which to create the program's shortcuts.

Click the "Install" button. The following window displays:

@ EEcoMark UUT 2.0.0.422 Setu	ab 🗖 🗖
БАРСО	Completing the EEcoMark UUT Setup Wizard Your computer must be restarted in order to complete the installation of EEcoMark UUT. Do you want to reboot now? Reboot now I want to manually reboot later
	< <u>B</u> ack Finish Cancel

Select the "Reboot now" option button. Click the "Finish" button.

Once the UUT has rebooted, EEcoMark will automatically launch the UUT software. Verify that EEcoMark has successfully launched by checking for the BAPCo icon in the systray.



This icon indicates that EEcoMark UUT is listening for a connection from the Controller.

Setting up UUT for Testing

Setting Monitor Resolution

EEcoMark v2 testing methodology to be set at 1280x1024.

Right click on the desktop and select the "Personalize" option from the menu. The following window displays:



Click the "Display Settings" option. The display settings menu displays:

Monitor		
Drag the icons to match your mo	nitors.	Identify Monitors
	2	
1. Generic PnP Monitor on NVID	IA GeForce 8800 GT	× ۲
1. Generic PnP Monitor on NVID ✓ Ihis is my main monitor ✓ Extend the desktop onto this r	IA GeForce 8800 GT)	x •]
1. Generic PnP Monitor on NVID ✓ Ihis is my main monitor ✓ Extend the desktop onto this r <u>R</u> esolution:	IA GeForce 8800 GT) nonitor	<u>⊂</u> olors:
1. Generic PnP Monitor on NVID Jhis is my main monitor Extend the desktop onto this r Resolution: Low	IA GeForce 8800 GT) nonitor High	Colors: Highest (32 bit) ▼
1. Generic PnP Monitor on NVID Jhis is my main monitor Extend the desktop onto this r Resolution: Low 1280 by 1024 pixel	IA GeForce 8800 GT) nonitor	 ✓ ✓ ✓ ✓ ✓
1. Generic PnP Monitor on NVID Jhis is my main monitor Extend the desktop onto this r Resolution: Low 1280 by 1024 pixel How do I get the best display?	IA GeForce 8800 GT) nonitor High	Colors: Highest (32 bit)

Select the required resolution by moving the "Resolution" slider until the value reads "1280 by 1024 pixels".

Click the "Apply" button.

Click the "Yes" button. The revised resolution settings are saved.

Setting Power Scheme

EEcoMark v2 testing methodology requires a specific power scheme setting.

Right click on the desktop and select the "Personalize" option from the menu. The following window displays:



Click the "Screen Saver" option. The screen saver menu displays, as illustrated in the following screenshot:

creen Saver	
Screen saver	
(None)	Settings Preview
<u>W</u> ait: 10	minutes 🗌 On resume, display logon screen
Power manager	ment
Var Britsminista Man Over 200	y or maximize performance by adjusting display other power settings.
Conserve energ brightness and	
Conserve energ brightness and <u>Change power</u>	settings

Click the "Change power settings..." option. The following window displays:

Control Panel +	Hardware and Sound Power Options	▼ + j	Search	
Require a password on wakeup	Select a power plan			
buttons do	Power plans can help you maximize your active by selecting it, or choose a plan an	computer's perfo l customize it by	rmance or conserve energy. Make changing its power settings. <u>Tell r</u>	: a plan me more
Create a power plan	about power plans			
Choose when to turn off the display	Preferred plans			
aispidy	SYSmark 2007			
Change when the computer sleeps	Change plan settings			
	Power saver	En	ergy savings: 000000	
	Change plan settings	P	erformance: 00	
1	High performance	En	ergy savings: 👓	
111	Change plan settings	P	erformance: 000000	
	Hide additional plans			
111111111	Balanced	En	ergy savings: 000	
1111 1	Change plan settings	P	erformance: 000	
	EEcoMark			
	Change plan settings			
	MobileMark 2007			
- M.	Change plan settings			
See also				
Personalization				
User Accounts				

Select the "EEcoMark" option under the "Hide additional plans" section of the power options window.

Note: The "EEcoMark" option is only present if the UUT was set up using the AutoConfig tool from www.bapco.com. If the EEcoMark option is not present, choose the OS included 'Balanced' power scheme. Close the power options window. The power scheme settings are saved.

Configuring UUT for Testing

Right click on the network icon in the system tray. The following menu displays:



Select the "Network and Sharing Center" option. The following menu displays:



Click "Manage network connections" on the left-side pane. The following menu displays:



Right click the "Local Area Connection" icon and select "Properties" from the menu. The following menu displays:

Intel(R) 825	6/LF-2 Gigabit Network Co	nnection
		<u>C</u> onfigure
his connection u	ses the following items:	
Client for	Microsoft Networks	
QoS Pac	ket Scheduler Printer Sharing for Missaaft	Notworka
	FILTER SHARING FOR MICTOSOIL	Networks
V 🔺 Internet F	Protocol Version 6 (TCP/IP)	v6)
 Internet F Internet F 	Protocol Version 6 (TCP/IP) Protocol Version 4 (TCP/IP)	v6) v4)
 ✓ Internet F ✓ Internet F ✓ Internet F ✓ Link-Laye 	Protocol Version 6 (TCP/IP) Protocol Version 4 (TCP/IP) er Topology Discovery Map	v6) v4) per I/O Driver
 ✓ ▲ Internet F ✓ ▲ Internet F ✓ ▲ Link-Laye ✓ ▲ Link-Laye 	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Map er Topology Discovery Resp	v6) v4) per I/O Driver ponder
 ✓ Internet F ✓ Internet F ✓ Internet F ✓ Link-Laye ✓ Link-Laye 	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Map er Topology Discovery Resp	v6) v4) per I/O Driver ponder
 ✓ Internet F ✓ Internet F ✓ Link-Laye ✓ Link-Laye ✓ Install 	Protocol Version 6 (TCP/IP Protocol Version 4 (TCP/IP er Topology Discovery Map er Topology Discovery Resp Uninstall	v6) /4) per I/O Driver ponder P <u>r</u> operties
 ✓ Internet F ✓ Internet f ✓ Link-Laye ✓ Link-Laye ✓ Link-Laye 	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Map er Topology Discovery Resp Uninstall	v6) v4) per I/O Driver ponder P <u>r</u> operties
✓ Internet F ✓ Internet F ✓ Internet F ✓ Internet F ✓ Link-Laye ✓ Link-Laye ✓ Install Description Transmission Co wide area notw	Protocol Version 6 (TCP/IPv Protocol Version 4 (TCP/IPv er Topology Discovery Map er Topology Discovery Resp Uninstall	v6) v4) per I/O Driver ponder Properties tocol. The default

Double click the "Internet Protocol Version 4 (TCP/IPv4)" option. The following menu displays:

ieneral											
You can get IP settings ass this capability. Otherwise, for the appropriate IP sett	igned automatic you need to asl ings.	cally c yo	r if ur	yo ne	tw	net ork	wo ad	rk s mini	str	por ator	ts
Obtain an IP address	automatically										
• Use the following IP a	iddress:										
IP address:		10	18	0		0		2			
Subnet mask:	2	55	. 2	55		255		0			
Default gateway:			0		•				٦		
 Obtain DNS server ad Obtain DNS server ad Preferred DNS server: Alternate DNS server: 	dress automatio	cally ses:				8	*				
		2					A	id <u>v</u> a	anc	ed.	

Enter "10.0.0.2" in the "IP address" field.

Enter "255.255.255.0" in the "Subnet mask" field.

Click the "OK" button. The changes are saved.

Installing EEcoMark v2 Controller Software

Insert EEcoMark v2 DVD media into the DVD drive on the Controller. The "AutoPlay" menu displays as illustrated in the following screenshot:

🕜 AutoPlay 🕞 🗉 💌
OVD RW Drive (D:) EEcoMark
Always do this for pictures:
Pictures options
Import pictures using Windows
View pictures using Windows
View pictures using Windows Media Center
General options
Open folder to view files using Windows Explorer
Set AutoPlay defaults in Control Panel

Click the "Open folder to view files" option. The following menu displays:



Click on the "EEcoMark Controller Setup" icon.

The verification installer bar displays, detailing the progress of the verification.



When the setup verification completes, the BAPCo logo displays .



The EEcoMark v2 UUT Setup Wizard window displays, as illustrated in the following screenshot:

EEcoMark Controller 2.0.0.422 Setup Welcome to the EEcoMark Controller Setup Wizard This wizard will guide you through the installation of EcoMark Controller. It is recommended that you dose all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer. Click Next to continue.					
	Welcome to the EEcoMark Controller Setup Wizard This wizard will guide you through the installation of EccoMark Controller. It is recommended that you dose all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer. Click Next to continue.				
BAPCO					
	Next > Cancel				

Click the "Next" button. The license agreement for the EEcoMark v2 UUT displays.



Review the agreement and select the "I accept the terms of the license agreement" button to accept the terms of the agreement.

Click the "Next" button. A window displays, as illustrated in the following screenshot:

EcoMark Controller 2.0.0.42	2 Setup	
Choose Components Choose which features of EEcol	Mark Controller you want to install.	
Check the components you wan install. Click Next to continue.	it to install and uncheck the components you	don't want to
Select the type of install:	Full	-
Or, select the optional components you wish to install:	EEcoMark Controller	
	Description	
Space required: 18.9MB	Position your mouse over a component to s description.	ee its
Nullsoft Install System v2.45		
	< <u>B</u> ack <u>N</u> ext >	Cancel

Select "Full" as the type of installation from the "Select the type of install" drop-down menu.

Click the "Next" button. A window displays, as illustrated in the following screenshot:

Controller 2.0.0.422 Setup	
Choose Install Location Choose the folder in which to install EEcoMark Controller.	0
Setup will install EEcoMark Controller in the following folder. To install in a di click Browse and select another folder. Click Next to continue.	fferent folder,
Destination Folder	Browse
Space required: 18.9MB Space available: 454.6GB Nullsoft Install System v2.45 <u>< B</u> ack Next >	Cancel

A default destination folder displays in the "Destination Folder". If this location is acceptable, click the "Next" button. Select an alternative destination folder by clicking

the "Browse" button. When the acceptable location is selected, click the "Next" button.

The installation files are installed in the destination folder. The following window displays:

EEcoMark Controller 2.0.0.422 Setup	- • ×
Choose Start Menu Folder Choose a Start Menu folder for the EEcoMark Controller shortcuts.	
Select the Start Menu folder in which you would like to create the program's can also enter a name to create a new folder.	shortcuts. You
BAPCo	
Accessories Administrative Tools	
Games	
Startup	
Tablet PC WattsUp USB	
Do not create chortouts	
Nullsoft Install System v2.45	
< <u>B</u> ack Install	Cancel

Select the Start Menu folder in which to create the program's shortcuts. Click the "Install" button when prompted to continue the installation.

FEcoMark Controller 2.0.0.422 Setup	
Choose Start Menu Folder Choose a Start Menu folder for the EEcoMark Controller shortcuts.	
Select the Start Menu folder in which you would like to create the program's can also enter a name to create a new folder.	shortcuts. You
Accessories Administrative Tools Games Maintenance Startup Tablet PC WattsUp USB	
Do not create shortcuts Nullsoft Install System v2,45	Cancel

Select the Start Menu folder in which to create the program's shortcuts.

Click the "Install" button. The following window displays:

Controller 2.0.0.42	22 Setup	
ВАРСО	Completing the EEcoMa Setup Wizard EEcoMark Controller has been installed of Click Finish to close this wizard.	n your computer.
	< <u>B</u> ack <u>F</u>inis	Cancel

Click the "Finish" button.

A BAPCo icon displays on the Controller desktop, as illustrated in the following screenshot:



Setting up Controller for Testing

Right click on the network icon in the system tray. The following menu displays:



Select the "Network and Sharing Center" option. The following menu displays:



Click "Manage network connections" on the left-side pane.

The following menu displays:



Right click the "Local Area Connection" icon and select "Properties" from the menu. The following menu displays:

	Marvell Yukon 88E8058 PCI-E Gigabit Ethemet Controller
nis c	Configure
> · > ·	 Internet Protocol Version 4 (TCP/IPv4) Link-Layer Topology Discovery Mapper I/O Driver Link-Layer Topology Discovery Responder
	Install Uninstall Properties

Double click the "Internet Protocol Version 4 (TCP/IPv4)" option.

The following menu displays:

eneral								
You can get IP settings assigned this capability. Otherwise, you ne for the appropriate IP settings.	automaticall ed to ask yo	y if our r	you net	ur ne work	two ad	ork s mini	uppo strati	rts or
Obtain an IP address autom	atically							
• Use the following IP address								
IP address:	10	. 0)	. 0	•	1		
Subnet mask:	255	. 25	55	. 25	5.	0	1	
Default gateway:		ĸ	03		3			
Obtain DNS server address a	automaticall	y i						
• OSE the following DNS serve	r addresses	:						
Preferred DNS server:	1	23	8		5			
Alternate DNS server:]	1 22	- 22		- 22			
					ł	\d <u>v</u> a	anced	
								_

Enter "10.0.0.1" in the "IP address" field.

Enter "255.255.255.0" in the "Subnet mask" field.

Click the "OK" button. The changes are saved.

Beginning Testing on the Controller

Double click the BAPCo icon on the Controller desktop, as illustrated in the following screenshot:



The following menu displays:



Add a project name to the "Project name" field (i.e. TEST).

Add an IP address to the "UUT IP address" field (e.g. 10.0.0.2).

Select a rating from the "Rating system" drop-down menu (e.g. EnergyStar Version 4.0 (US)).

Select a meter type from the "Meter type" drop-down menu (e.g. WattsUpPro USB). If you are not using a power meter, select the "Null meter" option (simulated readings).

Select a meter connection port from the "Meter connection" drop-down menu (e.g. COM3). If you are not using a power meter, select the "Null port" option.

Click "OK".

Review the status of the application as illustrated in the following screenshot:



Ensure the "Run Test" icon is green. If not, recheck the settings and repeat the process as described.

Click the "Run Test" icon. The test starts.

Reviewing EEcoMark v2 Test Results

A results window displays when testing completes. You may review the results information across four tabs:

- Summary
- Results
- Hardware
- Software
- •

The following screenshot illustrates an example of the "Summary" tab information:

BAPCo EEcoMark Results Brows	er 2.0.0.422	
Choose a completed test to see its re	sults:	6 BAPCO [®]
TEST_PROJECT 2010-12-01 14.35.>	ml	•
Summary Results Hardware So	ftware	
Test Information		
EEcoMark version	2.0.0.422	
Project name	TEST_PROJECT	
UUT IP address	10.0.0.55	
Completion time	2010-12-01 14.35	
Rating system	EEcoMark_V2_External_Display.	agt
Power Meter Information		
Meter type	Yokogawa WT210	
Meter connection	GPIB bus 0: dev 1	
Observed voltage	115.16V-115.36V	
Bad samples	0.00%	
In order to publish test results, you m	ust submit a Full Disclosure Report (FDR) to BA	PCo.
		Save Results Close

The following screenshot illustrates an example of the "Results" tab information:

	BAPCo EEcoN	Mark Results	Browser	2.0.0.422				-		
Ch	oose a comple	ted test to see	e its resul	ts:			🌀 в	APC	ר	
Т	EST_PROJECT	2010-11-30 1	L1.21.xml							•
S	ummary Res	ults Hardwa	re Soft	ware						
										-
	idle shortterm	idle Iongterm	sleep	Productivity Basic	Productivity Advanced	Media Rich Creation	Media Rich Consumption	Graphics	off	E
ĺ	27.98	30.09	1.74						0.00	
ĺ				1365	221	758	777	1078		
				12.22	2.41	9.41	7.45	14.42		
				98.43	101.02	100.91		98.52		
-	0		r	r	·	1	r			
1	order to publis	h test results,	you mus	t submit a Full Disc	losure Report (FDF	R) to BAPCo.				
						(Save Results	Close		

The following screenshot illustrates an example of the "Hardware" tab information:

BAPCo EEcoMark Results Browser 2.	0.0.422	_ = .	
Choose a completed test to see its results	:	🌀 варсо	
TEST_PROJECT 2010-11-30 11.21.xml 🗸			
Summary Results Hardware Softwa	are		
Hardware Summary			
Motherboard manufacturer:	LENOVO		
Motherboard model:			
CPU:	Intel(R) Core(TM) i3 CPU 540 @ 3.07GHz		
CPU Speed:	3067 MHz		
Hard disks	Seagate ST3250318AS 250.0 GB		
Memory size:	4096 MB		
Video Card:	Intel(R) HD Graphics		
In order to publish test results, you must submit a Full Disclosure Report (FDR) to BAPCo.			
	Sav	/e Results Close	

The following screenshot illustrates an example of the "Software" tab information:

BAPCo EEcoMark Results Brows	ser 2.0.0.422		
Choose a completed test to see its re	sults:	() ВАРСО [®]	
TEST_PROJECT 2010-12-01 14.35.xml			
Summary Results Hardware S	oftware		
Software Summary			
OS name:	Windows 7 (Enterprise) x64		
OS version:	6.1.7600.16385		
OS language:	English (United States)		
Power policy:	EEcoMark		
In order to publish test results, you must submit a Full Disclosure Report (FDR) to BAPCo.			
		Save Results Close	

Support Contact Information

In the event that further assistance is required, please contact support@bapco.com.