



Desktop and Integrated Desktop Computer
Product Environmental Information Declaration Form for
COMMISSION REGULATION (EC) No 617/2013

SUBJECT: Product Environmental Information Declaration

DATE OF DECLARATION: 20230714

Regulatory Reference:	Commission Regulation (EU) No. 617/2013 of June 26, 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for computers and computer servers
Product Type:	Desktop Computer
Manufacturer's Name:	HP Inc. 1501 Page Mill Road, Palo Alto, CA 94304
Product Model Number:	HP Chromebox Enterprise G4 ENERGY STAR
Year of Manufacture:	2023
Product Category:	Cat D
Regulatory Model Number (RMN):	TPC-Q290



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Number 7.1.1 (e) & (f)

E_{TEC} value (kWh) and capability adjustments applied when all discrete graphics cards (dGfx) are disabled and if the system is tested with switchable graphics mode with UMA driving the display.

Information Description	TEC Cat. A (kWh)[1]	TEC Cat. B (kWh)[1]	TEC Cat. C (kWh)[1]	TEC Cat. D (kWh)[1]
<u>(e1) PCs Configured with UMA Graphics:</u> E _{TEC} value (kWh) and capability adjustments applied when UMA graphics is on.				12.93
<u>(e2) PCs Configured with Switchable Graphics:</u> E _{TEC} value (kWh) and capability adjustments applied when switchable graphics is enabled. Note: TEC With UMA Only (Discrete Disabled) or ETEC With Discrete Only (UMA Disabled) is Not Applicable.				Not Applicable
<u>(f) PCs Configured with Discrete Graphics:</u> E _{TEC} value (kWh) and capability adjustments applied when Discrete Graphics is on.				Not Applicable

[1] Values shown in Kilowatt Hours (kWh) are calculated and based on the Base ETEC plus the available capability adjustments for products configured with UMA graphics – all TEC Categories that apply to the Computer Model Family.



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Number 7.1.1 (g) – (k)

Idle state; sleep mode; sleep mode with WOL enabled; off mode; and off mode with WOL enabled power demand.

State/Mode	Cat. A (in W) 230 Volts AC (\pm 1%), 50 Hz (\pm 1%)	Cat. B (in W) 230 Volts AC (\pm 1%), 50 Hz (\pm 1%)	Cat. C (in W) 230 Volts AC (\pm 1%), 50 Hz (\pm 1%)	Cat. D (in W) 230 Volts AC (\pm 1%), 50 Hz (\pm 1%)
(g) Idle State				3.453
(h) Sleep Mode				3.339
(i) Sleep Mode with WOL Enabled				3.407
(j) Off Mode				0.166
(k) Off Mode with WOL Enabled				0.166

Number 7.1.1 (l)

Internal power supply efficiency at 10 %, 20 %, 50 % and 100 % of rated output power.

Internal Power Supply Efficiency at 230 VAC	
10% Efficiency	Not Applicable
20% Efficiency	Not Applicable
50% Efficiency	Not Applicable
100% Efficiency	Not Applicable



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Number 7.1.1 (m)

External power supply efficiency.

External Power Supply Efficiency at 230 VAC	
0% No Load Efficiency (Unit of Measure in Watts)	0.1143W
25% Average Active Mode Efficiency (Unit of Measure in %)	90.53%
50% Average Active Mode Efficiency (Unit of Measure in %)	89.87%
75% Average Active Mode Efficiency (Unit of Measure in %)	89.63%
100% Average Active Mode Efficiency (Unit of Measure in %)	88.53%

Number 7.1.1 (n)

Acoustic noise levels (the declared A-weighted sound power level) of the computer.

Acoustic Noise Levels (Bels)	
Idle	2.7
Operation	2.7

Number 7.1.1 (o)

The minimum number of loading cycles that the batteries can withstand (applies ONLY to notebook¹ computers).

Minimum Number of Loading Cycles
Not Applicable

¹ Limited to integrated display size measured diagonally that is greater than 9 inches or greater than 6 Watts idle state power demand. Notebook category may include Tablets, Slates and Mobile Thin Clients.



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Number 7.1.1 (p)

The measurement methodology used to determine information mentioned in Number 7.1.1 (e) through (o).

Number Reference	Methodology
7.1.1 (e) through (k)	IEC 62623 Edition 1.0 2012-10 - Desktop and notebook computers - Measurement of energy consumption
7.1.1 (l)	Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies Revision 6.6 (April, 2012)
7.1.1 (m)	EN 50563:2011 - External a.c. - d.c. and a.c. - a.c. power supplies – Determination of no-load power and average efficiency of active modes
7.1.1 (n) and (o)	ECMA-74 11th edition (December 2010) Measurement of Airborne Noise emitted by Information Technology and Telecommunications Equipment And ECMA-109 2nd edition (December 1987) Declared Noise Emission Values of Computer and Business Equipment.

Number 7.1.1 (q)

Sequence of steps for achieving a stable condition with respect to power demand.

Refer to EC 62623 Edition 1.0 2012-10 - Desktop and notebook computers - Measurement of energy consumption. See “Test Setup” steps listed below. For test sequence for specific modes, refer to the Test Setup section of the EC 62623 Edition 1.0 2012-10 standard.

Number 7.1.1 (r)

Description of how sleep and/or off mode was selected or programmed.

The computer automatically enters a Sleep Mode after a period of user and network inactivity. Typical default time setting is < 30 minutes. This capability is programmed into the Operating System power management scheme (such as Microsoft Windows™ Operating System).

Number 7.1.1 (s)

Sequence of events required to reach the mode where the equipment automatically changes to sleep and/or off mode.

For Sleep Mode, the computer must be left alone (no user or network activity) for a period of time (up to 30 minutes).

For Off Mode, the PC must be shut off through use of the Operating System Software (Press “Start”, and select “Shut down) to allow the computer to shut off.



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Number 7.1.1 (t)

The duration of idle state condition before the computer automatically reaches sleep mode, or another condition which does not exceed the applicable power demand requirements for sleep mode.

The computer must be left alone (no user or network activity) for a period of time (up to 30 minutes).

Number 7.1.1 (u)

The length of time after a period of user inactivity in which the computer automatically reaches a power mode that has a lower power demand requirement than sleep mode.

The computer must be left alone (no user or network activity) for a period of time (up to 30 minutes).

Number 7.1.1 (v)

The length of time before the display sleep mode is set to activate after user inactivity.

The computer must be left alone (no user or network activity) for a period of time (up to 15 minutes).

Number 7.1.1 (w)

User information on the energy-saving potential of power management functionality is listed at the end of this form.

Number 7.1.1 (x)

User information on how to enable the power management functionality is at the end of this form.

Number 7.1.1 (y)

For products with an integrated display containing mercury, the total content of mercury is listed below.

Mercury Content (mg)
0



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Number 7.1.1 (z)

Test parameters for measurements: test voltage in V and frequency in Hz, total harmonic distortion of the electricity supply system, information and documentation on the instrumentation, set-up and circuits used for electrical testing.

Energy Efficiency testing is performed with an AC input of 230 ($\pm 1\%$) Volts AC, 50 Hz ($\pm 1\%$). Test information including required instrumentation, setup etc. for Computers is detailed in EC 62623 Edition 1.0 2012-10 - Desktop and notebook computers - Measurement of energy consumption.
Test information including required instrumentation, setup etc. for Internal Power Supplies is detailed in Generalized Test Protocol for Calculating the Energy Efficiency of Internal Ac-Dc and Dc-Dc Power Supplies Revision 6.6 (April, 2012).

Test information including required instrumentation, setup etc. for External Power Supplies is detailed in): EN 50563:2011 - External a.c. - d.c. and a.c. - a.c. power supplies – Determination of no-load power and average efficiency of active modes.

Number 7.1.1 (aa)

Information on whether the battery is user replaceable (applies ONLY to notebook² computers).

Is the battery user replaceable?
Not Applicable

² Limited to integrated display size measured diagonally that is greater than or equal to 9 inches and greater than or equal to 6 Watts idle state power demand. Notebook category may include Tablets, Slates and Mobile Thin Clients.



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ENERGY STAR® compliance

As an ENERGY STAR Partner, Hewlett-Packard Company has followed the EPA's enhanced product qualification and certification process to ensure that the products marked with the ENERGY STAR logo are ENERGY STAR qualified per the applicable ENERGY STAR guidelines for energy efficiency. The following logo appears on all ENERGY STAR-qualified computers:



The ENERGY STAR program for computers was created by the EPA to promote energy efficiency and reduce air pollution through more energy-efficient equipment in homes, offices, and factories. One way that products achieve this goal is by using the Microsoft® Windows® power management feature to reduce power consumption when the product is not in use.

The power management feature allows the computer to initiate a low-power or "Sleep" mode after a period of user inactivity. When used with an external ENERGY STAR qualified monitor, this feature also supports similar power management features of the monitor. To take advantage of these potential energy savings, the power management feature has been preset to behave in the following ways when the system is operating on AC power:

- Turn off the display after \leq 15 minutes (varies by model)
- Initiate Sleep after \leq 30 minutes (varies by model)

The computer exits Sleep when the power/Sleep button is pressed. When the Wake On LAN (WOL) feature is enabled, the computer can also exit Sleep in response to a network signal.

Additional information on the potential energy and financial savings of the power management feature can be found on the EPA ENERGY STAR Power Management Web site at <http://www.energystar.gov/powermanagement>.

Additional information on the ENERGY STAR program and its environmental benefits are available on the EPA ENERGY STAR Web site at <http://www.energystar.gov>.