

### Overview

### HP Chromebook x360 11 G1 EE



#### Front

- |                                            |                                                  |
|--------------------------------------------|--------------------------------------------------|
| 1. Webcam                                  | 6. USB 3.1 Gen 1 (charging)                      |
| 2. Internal microphone                     | 7. USB Type-C™ power connector and charging port |
| 3. TouchPad                                | 8. Security cable slot                           |
| 4. World Facing Camera with Mic (Optional) | 9. Power Button                                  |
| 5. Volume up/ down                         |                                                  |

### Overview



#### Right

- |                                                  |                     |
|--------------------------------------------------|---------------------|
| 1. USB Type-C™ power connector and charging port | 3. Micro SD slot    |
| 2. USB 3.1 Gen 1 (charging)                      | 4. Audio combo jack |

### Overview

## AT A GLANCE

- Flexible 360° hinge design for multimodal learning
- 19.5mm thin and rugged design for durability
- Enjoy affordable, convenient mobile productivity with Intel® Celeron® processor
- Passed MIL STD 810G tests<sup>1</sup>
- Advanced learning style with optional dual camera system, optional active digitizer along with EMR pen for app launch<sup>2</sup>
- 29.46 cm (11.6") diagonal HD IPS (1366 x 768) Touch display with Corning® Gorilla® Glass 3
- 2 USB-C™ ports for charging, power and data transfer, and 2 USB 3.1 Gen 1 ports for sleep and charge support
- Choice of up to 8GB memory and 64GB eMMc storage.
- Enjoy Android™ Apps\* on Chrome OS™<sup>3</sup>
- Your Chromebook boots up within 10 seconds and you can be browsing online and working in Google Apps just moments later
- Store up to 100 GB of your files and content with Google Drive. Your own virtual hard drive is available anywhere the Internet is accessible with this complimentary two year promotion<sup>4</sup>

**NOTE 1:** MIL STD 810G testing is pending and is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Damage under the MIL STD test conditions or any accidental damage requires an optional HP Accidental Damage Protection Care Pack.

**NOTE 2:** Optional pen required and sold separately; pen requires optional digitizer feature that must be configured at time of purchase.

**NOTE 3:** The availability of Chrome OS System supporting Android Apps is dependent on Google's Chrome OS support, readiness timeline will be announced by Google <https://sites.google.com/a/chromium.org/dev/chromium-os/chrome-os-systems-supporting-android-apps>

**NOTE 4:** This offer is tied to this device and is non-transferable. If this device is returned, the extra storage will be revoked. In order to redeem this offer, you will need to be on Chrome OSTM 23 or later. Internet access is required and not included. Additional information about storage plan refunds, renewals, cancellations and expiration is available at the Google website: <https://support.google.com/chromebook/answer/2703646?hl=en>

**NOTE: See important legal disclosures for all listed specs in their respective features sections.**

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### Summary of Changes

## PRODUCT NAME

HP Chromebook x360 11 G1 EE

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## OPERATING SYSTEM

**Preinstalled OS** Chrome OS™

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## PROCESSOR

### Intel® Celeron® processors

Intel® Celeron® N3450 with Intel® HD Graphics 500 (1.1 GHz, Single Core turbo up to 2.2 GHz, 2 MB cache, 4 cores)<sup>5</sup>

Intel® Celeron® N3350 with Intel® HD Graphics 500 (1.1 GHz, Single Core turbo up to 2.4 GHz, 2 MB cache, 2 cores)<sup>5</sup>

### Processor Family

Intel® Celeron® processor

**NOTE 5:** Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

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## CHIPSET

Chipset is integrated with processor

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## GRAPHICS

### Integrated

Intel® HD Graphics 500 <sup>6</sup>

**NOTE 6:** HD content required to view HD images.

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## DISPLAY

### Internal

29.46 cm (11.6") diagonal HD UWVA TOP Plus, direct bonded touch screen with Corning® Gorilla® Glass 3 (1366 x 768)<sup>7,8</sup>  
11.6" diagonal HD UWVA TOP Plus, direct bonded touch screen with Corning® Gorilla® Glass 3 (1366 x 768) with active digitize film<sup>7,8</sup>

### Supports

HD Decode, DX12, and HDMI<sup>9</sup>

**NOTE 7:** HD content required to view HD images.

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### Summary of Changes

**NOTE 8:** Resolutions are dependent upon monitor capability, and resolution and color depth settings.

**NOTE 9:** Cables and locks sold separately..

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## STORAGE AND DRIVES

### Primary Storage

eMMC 5.0

16 GB

32 GB

64 GB<sup>10</sup>

**NOTE 10:** 5.1 GB of the eMMC are dedicated/allocated to the Chrome OSTM partition.

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## MEMORY

### Standard

LPDDR4-2400 SDRAM (Transfer rates up to 2400MT/s)

Memory soldered down

### Maximum

8 GB LPDDR4-2400 SDRAM

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## NETWORKING/COMMUNICATIONS

### Wireless Lan (WLAN)

Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro™) <sup>11</sup>

Integrated Wireless options with dual antennas.

**NOTE 11:** Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.

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## AUDIO/MULTIMEDIA

### Audio

HD audio; Dual speakers

Integrated microphone

Camera

720p HD webcam; Optional world-facing FHD camera (on keyboard deck)<sup>12,13</sup>

**NOTE 12:** Internet access required

**NOTE 13:** World-facing FHD camera is optional

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## KEYBOARDS/TOUCHPAD



### Summary of Changes

#### Keyboard

Full-sized island-style, spill resistant, pick resistant

Touchpad with multi-touch gestures enabled. Taps enabled as default; HP EMR Pen (optional)<sup>14</sup>

**NOTE 14:** HP EMR Pen sold separately or as an optional feature. Pen requires optional digitizer feature that must be configured at time of purchase.

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## SOFTWARE AND SECURITY

#### Preinstalled Software

Store up to 100 GB with Google Drive (2-year subscription included)<sup>15</sup>

H1 Security IC

Security lock slot - mini<sup>16</sup>

**NOTE 15:** Google Drive offer is tied to this device and is non-transferable. If this device is returned, the extra storage will be revoked. In order to redeem this offer, you will need to be on Chrome OSTM 23 or later. Internet access is required and not included. Additional information about storage plan refunds, renewals, cancellations and expiration is available at the Google website: <https://support.google.com/chromebook/answer/2703646?hl=en>

**NOTE 16:** Cables and locks sold separately.

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## POWER

#### Power Supply

45 W USB Type-C™ straight type AC adapter

#### Primary Battery

HP Long life 2-cell, 47.36 Wh Li-ion Polymer battery<sup>17</sup>

#### Battery life\*

Up to 12 hours<sup>18</sup>

**NOTE 17:** Battery is internal and not replaceable by customer. Serviceable by warranty.

#### Charging Time

3 hours to 100% when the system is off or in suspend or deep sleep mode. Power adapter with a minimum capacity of 45 watts is required

**NOTE 18:** Testing conducted by HP using Google Chrome OS power\_LoadTest. Battery life will vary and the maximum capacity of the battery will naturally decrease with time and usage. See <http://www.chromium.org/chromium-os/testing/power-testing> for test details.

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## WEIGHTS & DIMENSIONS

#### Weight

Starting at 1.44 kg (3.17 lb)<sup>19</sup>

**NOTE 19:** Weight varies by configuration and components.

### Summary of Changes

**Dimensions (W x D x H)**

20.8 x 30.6 x 1.95 cm

8.18 x 12.04 x 0.76 in

### PORTS/SLOTS

**Ports/Connectors**

2 USB 3.1 Type-C™

2 USB 3.1 Gen 1 (Sleep and Charge support)

1 headphone/microphone combo jack

**Slots**

1 micro SD (multi-format digital media reader)

Supports SD, SDHC, SDXC

### SERVICE AND SUPPORT

HP Services offers a 1-year limited warranties and 90 day support options depending on country. Batteries have a default one year limited warranty. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: <http://www.hp.com/go/cpc>.<sup>20</sup>

**NOTE 20:** HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit [www.hp.com/go/cpc](http://www.hp.com/go/cpc). HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

### CERTIFICATION AND COMPLIANCE

ENERGY STAR® certified; EPEAT® Silver21

**NOTE 21:** EPEAT® registered where applicable. EPEAT registration varies by country. See <http://www.epeat.n> registration status by country.

### DISPLAYS

<b>Panel 11.6" HD UWVA TOP touch screen with Corning® Gorilla® Glass</b>	<b>Outline Dimensions</b> (W x H x D)	299.7 x 194.39 x 4.2 mm(max)
	<b>Active Area</b>	256.125 x 144.0
	<b>Weight</b>	320g max.
	<b>Diagonal Size</b>	11.6"

### Summary of Changes

<b>Surface Treatment</b>	BV	
<b>Contrast Ratio</b>	800:1	
<b>Refresh Rate</b>	60Hz	
<b>Brightness</b>	220 nit typ.	
<b>Pixel Resolution</b>	<b>Format</b>	1366 x 768 (HD)
	<b>Configuration</b>	RGB
<b>Interface</b>	eDP 1.2	
<b>LCD Mode</b>	IPS	
<b>Viewing Angle</b>	UWVA 85/85/85/85	

### NETWORKING\*

#### Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro™)

<b>Wireless LAN Standards</b>	IEEE 802.11a
	IEEE 802.11b
	IEEE 802.11g
	IEEE 802.11n
	IEEE 802.11ac
<b>Interoperability</b>	Wi-Fi certified
<b>Frequency Band</b>	802.11b/g/n <ul style="list-style-type: none"> <li>• 2.402 – 2.482 GHz</li> </ul> 802.11a/n <ul style="list-style-type: none"> <li>• 4.9 – 4.95 GHz (Japan)</li> <li>• 5.15 – 5.25 GHz</li> <li>• 5.25 – 5.35 GHz</li> <li>• 5.47 – 5.725 GHz</li> <li>• 5.825 – 5.850 GHz</li> <li>• 2.402 – 2.482 GHz</li> </ul>
<b>Data Rates</b>	<ul style="list-style-type: none"> <li>• 802.11b: 1, 2, 5.5, 11 Mbps</li> <li>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>• 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</li> <li>• 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)</li> </ul>
<b>Modulation</b>	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM



### Summary of Changes

<b>Security<sup>1</sup></b>	<ul style="list-style-type: none"><li>• IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only</li><li>• AES-CCMP: 128 bit in hardware</li><li>• 802.1x authentication</li><li>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li><li>• WPA2 certification</li><li>• IEEE 802.11i</li><li>• Cisco Certified Extensions, all versions through CCX4 and CCX Lite</li><li>• WAPI</li></ul>
<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
<b>Output Power<sup>2</sup></b>	<ul style="list-style-type: none"><li>• 802.11b : +16dBm minimum</li><li>• 802.11g : +14dBm minimum</li><li>• 802.11a : +14dBm minimum</li><li>• 802.11n HT20(2.4GHz) : +14dBm minimum</li><li>• 802.11n HT40(2.4GHz) : +12dBm minimum</li><li>• 802.11n HT20(5GHz) : +14dBm minimum</li><li>• 802.11n HT40(5GHz) : +12dBm minimum</li></ul>
<b>Power Consumption</b>	Transmit: 2.0 W (max)  Receive: 1.6 W (max)  Idle mode (PSP): 180 mW (WLAN Associated)  Idle mode: 50 mW (WLAN unassociated)  Connect Standby: 10 mW (WLAN+BT)  Radio disabled: 5 mW
<b>Power Management</b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>3</sup></b>	802.11b, 1Mbps : -94dBm maximum  802.11b, 11Mbps : -86dBm maximum  802.11g, 6Mbps : -88dBm maximum  802.11g, 54Mbps : -74dBm maximum  802.11a, 6Mbps : -88dBm maximum  802.11a, 54Mbps : -74dBm maximum

### Summary of Changes

	802.11n, MCS07 : -69dBm maximum
	802.11n, MCS15 : -66dBm maximum
	802.11ac, 1SS, MCS-0 : -86dBm maximum
	802.11ac, 1SS, MCS-9 : -61dBm maximum
	802.11ac, 2SS, MCS-0 : -83dBm maximum
	802.11ac, 2SS, MCS-9 : -58dBm maximum
<b>Antenna type</b>	High efficiency antenna with spatial diversity, mounted in the display enclosure
	Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
<b>Form Factor</b>	PCI-Express M.2 MiniCard
<b>Dimensions</b>	2.3 x 22.0 x 30.0 mm
<b>Weight</b>	2.8g
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
<b>Altitude</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Amber – Radio OFF; LED White – Radio ON

1. [Check latest software/driver release for updates on supported security features.](#)
2. [Maximum output power may vary by country according to local regulations.](#)
3. [Receiver sensitivity is measured at a packet error rate of 8% for 802.11b \(CKK modulation\) and a packet error rate of 10% for 802.11a/g \(OFDM modulation\).](#)

#### HP Integrated Module with Bluetooth 4.0/4.1/4.2 Wireless Technology

<b>Bluetooth Specification</b>	4.0/4.1/4.2 Compliant
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)

### Summary of Changes

<b>Data Rates and Throughput</b>	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps  BLE : 1 Mbps data rate; throughput up to 0.2 Mbps  Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels  Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)												
<b>Transmit Power</b>	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.												
<b>Receiver Sensitivity</b>													
<b>Legacy</b>	<table border="1"> <thead> <tr> <th>Modulation</th> <th>0.01% BER</th> <th>0.001% BER</th> </tr> </thead> <tbody> <tr> <td>GFSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> <tr> <td><math>\pi/4</math>-DQPSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> <tr> <td>8DPSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> </tbody> </table>	Modulation	0.01% BER	0.001% BER	GFSK	-80 dBm	-70 dBm	$\pi/4$ -DQPSK	-80 dBm	-70 dBm	8DPSK	-80 dBm	-70 dBm
Modulation	0.01% BER	0.001% BER											
GFSK	-80 dBm	-70 dBm											
$\pi/4$ -DQPSK	-80 dBm	-70 dBm											
8DPSK	-80 dBm	-70 dBm											
<b>Power Consumption</b>	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW												
<b>Range</b>	Legacy Up to 33 ft (10 m)  BLE Up to 99 ft (30 m)												
<b>Electrical Interface</b>	USB 2.0 compliant												
<b>Bluetooth Software Supported</b>	Dependent on OS												
<b>Link Topology</b>													
<b>Electrical Interface</b>	Point to Point, Multipoint Pico Nets up to 7 slaves												
<b>Bluetooth Software Supported</b>	Full support of Bluetooth Security Provisions												
<b>Security</b>													
<b>Power Management</b>	Dependent on OS												
<b>Certifications</b>	Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff												
<b>Security</b>	All necessary regulatory approvals for supported countries, including:												
<b>Certifications</b>	FCC (47 CFR) Part 15C, Section 15.247 & 15.249												
<b>Power Management</b>	ETS 300 328, ETS 300 826												

### Summary of Changes

#### POWER

##### HP 45W USB-C AC Adapter

<b>Dimensions (H x W x D)</b>	94.0 x 40.0 x 26.5 mm
<b>Weight</b>	192.5g +/-10%
<b>Input</b>	90 to 265 VAC
<b>Input Efficiency</b>	Average Efficiency of 25%, 50%, 75%, 100% load condition with 115Vac/230Vac Spec: 5V : 78.71% 12V : 87.41% 15V : 87.73%
<b>Input frequency range</b>	47 to 63 Hz
<b>Input AC current</b>	Max. 1.4 A at 90 VAC
<b>Output</b>	<b>Output power</b> 5V/10W 12V/36W 15V/45W
<b>DC output</b>	5V / 12V / 15V
<b>Hold-up time</b>	5 msec at 115 VAC input
<b>Output current limit</b>	<5.0A
<b>Connector</b>	USB Type-C
<b>Environmental Design</b>	<b>Operating temperature</b> 32° to 95° F (0° to 35° C) <b>Non-operating (storage) temperature</b> -4° to 185° F (-20° to 85° C) <b>Altitude</b> 0 to 16,400 ft (0 to 5,000 m) <b>Humidity</b> 20% to 95% <b>Storage Humidity</b> 10% to 95%
<b>EMI and Safety Certifications</b>	*CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. * MTBF - over 200,000 hours at 25°C ambient condition.

##### HP 2-cell Long Life 47 Wh Li-ion

<b>Dimensions</b>	240.80x76.40x5.33mm
<b>Weight</b>	200g +/- 10g
<b>Input</b>	90 to 265 VAC
<b>Cells/Type</b>	2cell Lithium-Ion Polymer cell/ ATL4473A9,6.15Ah/COSLIGHT4473A9,6.15Ah
<b>Voltage</b>	7.7V
<b>Amp-hour capacity</b>	6150mAh
<b>Watt-hour capacity</b>	47.3Wh

### Summary of Changes

<b>Operating (Charging)</b>	0~45°C
<b>Operating (Discharging)</b>	-10~60°C
<b>Fuel Gauge LED</b>	No
<b>Warranty</b>	1000 cycles>65%(at 23°C)
<b>Optional Travel Battery Available</b>	No

### ENVIRONMENTAL

**Eco-Label Certifications & declarations** This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- IT ECO declaration
- US ENERGY STAR®
- EPEAT® Silver registered in the United States. See <http://www.epeat.net> for registration status in your country.

**System Configuration** The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.

<b>Energy Consumption (in accordance with US ENERGY STAR® test method)</b>	<b>115VAC, 50Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 50Hz</b>
Normal Operation (Short idle)	6.31 W	6.43 W	6.28 W
Normal Operation (Long idle)	2.90 W	3.01 W	2.81 W
Sleep	0.73 W	0.78 W	0.73 W
Off	0.41 W	0.46 W	0.40 W

**Note:**

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

### Summary of Changes

Heat Dissipation*	115VAC, 50Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	22 BTU/hr	22 BTU/hr	21 BTU/hr
Normal Operation (Long idle)	10 BTU/hr	10 BTU/hr	10 BTU/hr
Sleep	2 BTU/hr	3 BTU/hr	2 BTU/hr
Off	1 BTU/hr	2 BTU/hr	1 BTU/hr

\*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power ( $L_{WAd}$ , bels)	Sound Pressure ( $L_{pAm}$ , decibels)
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Typically Configured – Idle 16.1

Fixed Disk – Random writes

**Batteries** This battery(s) in this product comply with EU Directive 2006/66/EC

- Additional Information**
- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.
  - This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.
  - This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
  - This product is in compliance with the IEEE 1680 (EPEAT) standard at the gold level, see [www.epeat.net](http://www.epeat.net)
  - Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
  - This product contains 0% post-consumer recycled plastic (by wt.)
  - This product is 95.0% recycle-able when properly disposed of at end of life.

Packaging Materials	External:	360 g
	Internal:	14.4 g
		11 g



### Summary of Changes

#### Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at <http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf>):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants – may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

#### Packaging Usage

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

#### End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <http://www.hp.com/go/reuse-recycle> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

### Summary of Changes

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/recyclers>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

#### **HP, Inc. Corporate Environmental Information**

For more information about HP's commitment to the environment:

Global Citizenship Report

<http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html>

Eco-label certifications

<http://www8.hp.com/us/en/hp-information/environment/ecolabels.html>

ISO 14001 certificates:

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842>

and

<http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf>

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