

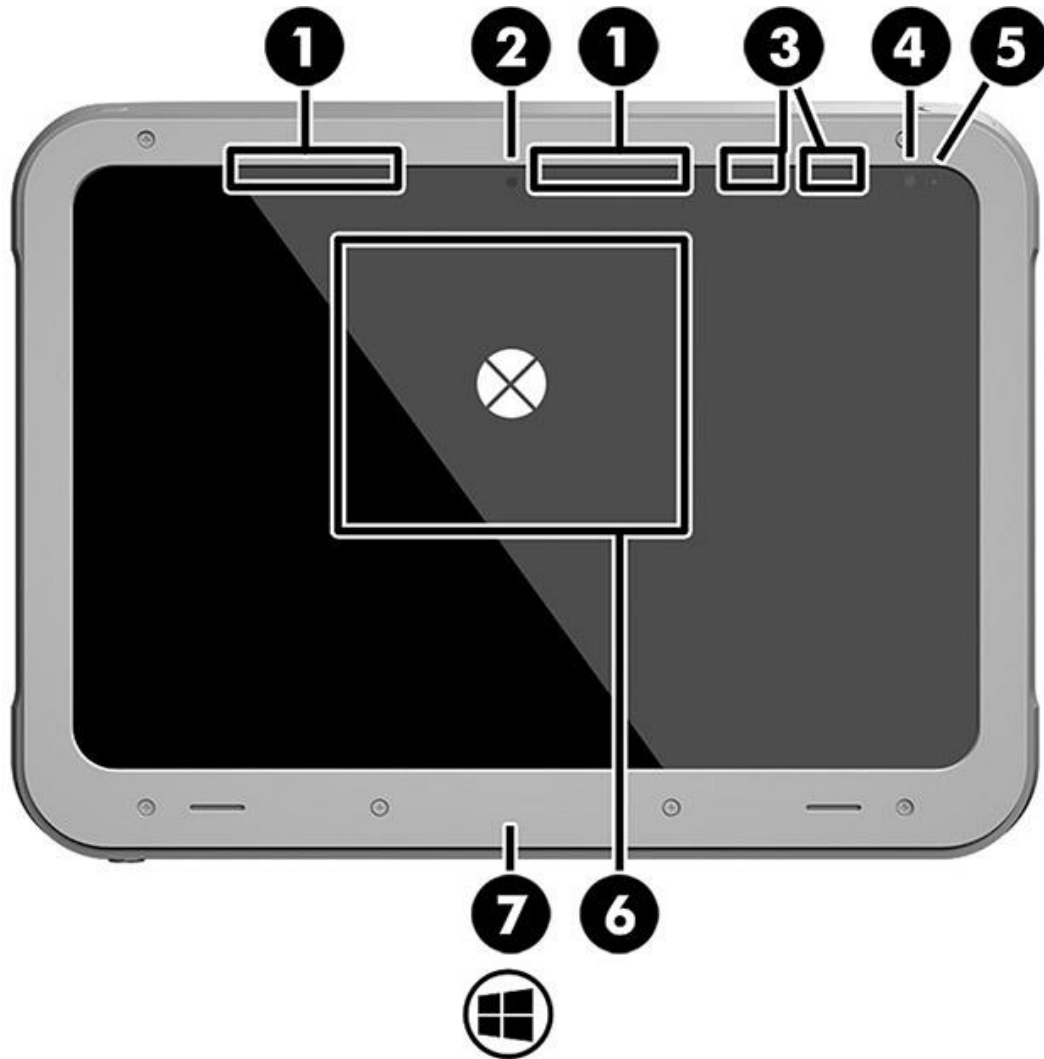
### Overview

### HP ElitePad 1000 G2 Rugged Tablet



- |  |                            |                          |   |
|--|----------------------------|--------------------------|---|
| 1. Combo Audio-in (headset) / Audio-out (microphone) jacks | 5. USB 3.0 port            | 9. Lock slot             | 13. System connector                    |
| 2. Power button  | 6. Hand strap holes        | 10. DB-9 Serial port     | 14. HDMI Port                           |
| 3. Camera and LED Flash                                    | 7. Smart card reader       | 11. RJ-45 (network) jack | 15. Barcode reader (select models only) |
| 4. Volume Up/Down button                                   | 8. Barcode scanner buttons | 12. USB 3.0 port         |   |

### Overview



- 1. WWAN antennas (2)\* (select models only)
- 2. Front webcam
- 3. WLAN antennas (2)
- 4. Ambient light sensor
- 5. Webcam status light (front)
- 6. Near Field Communications (NFC) tapping area (select models only)
- 7. Windows button

### Overview

#### AT A GLANCE

- Windows 8.1 Pro 64, Windows 8.1 64, Windows 10
- Two integrated webcams (2.1 MP/1080p (front facing); 8 MP with LED flash (rear facing))
- Intel® Atom™ Bay Trail-T Z3795 Quad Core 1.6 GHz SoC BGA
- Integrated Intel® HD Graphics
- 10.1-inch diagonal full HD (1920 x 1200) wide-viewing angle outdoor display; 16:10 Aspect Ratio
- 4GB LPDDR3 1067 MHz Memory
- Primary battery: 2-cell (30 WHr) polymer HP Long Life battery
- Secondary battery 2-cell (30 WHr) polymer HP Long Life battery
- 128 GB embedded Multi Media Card (eMMC)
- Weight starting at 3.2 lb (1.45 kg) (jacket and ElitePad)
- Wireless connectivity:
  - HP hs3110 HSPA+ Mobile Broadband Module with GPS support
  - HP lt4111 LTE/EV-DO/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support
  - HP lt4112 LTE/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support
  - HP lt4225 LTE/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support
  - HP lt4226 LTE/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support
  - Broadcom 43241 802.11 a/b/g/n (2x2)+ BT 4 LE SDIO
- ENERGY STAR® 6.1 certified
- EPEAT® Gold registered (AMS only); EPEAT® Silver registered (APJ and EMEA only)
- IP 65 tested. IP 65 provides level seals against liquid and dust ingress to IP 65 rating
- MIL-STD 810G tested including 6ft (1.82m) drop onto linoleum covered concrete
  - MIL STD is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. MIL STD test results are not a guarantee of future performance under these test conditions. Damage from drops requires separately purchase Accidental Damage Protection HP Care Pack.\*
- Includes an additional battery as standard for longer life between charges
- Washable with common cleaners, including isopropyl alcohol wipes, bleach and other typical cleaners
- Includes an optional 2D barcode reader with a unique “visual success indicator” that displays a green dot on the target when the barcode is successfully read. No need to take eyes off the target to verify the barcode has been read.
- Dual triggers for easy push-button access to bar code activation
- Additional configurable audio indicator (beep) for successful barcode read
- Integrated Smart Card reader capable of reading Smart cards\* and Common Access Cards\*
- Dockable using optional HP ElitePad Docking Station\* (Dock Extension is shipped with Rugged Tablet for use with optional Docking Station)
- Included I/O: Two USB 3.0, HDMI, RJ-45 and DB-9 serial in addition to standard system connector
- Compatible with existing HP ElitePad adapters\* (Ethernet, VGA adapter and many others)
- Included detachable and washable hand strap
- Shoulder sling provisions for hands-free mobility. Shoulder sling\* sold separately as an optional feature.
- Standard commercial 1 year limited warranty; upgrade available with optional HP Care Pack\*.

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

\*Sold separately as an optional feature.

### Features

## PRODUCT NAME

HP ElitePad 1000 G2 Rugged Tablet

## PROCESSOR

Intel® Atom™ Z3795 (Quad Core 1.6 GHz base/2.39 GHz burst SoC BGA)\*

\* Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel® 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

**NOTE:** Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

## CHIPSET

Integrated SoC PCH

## GRAPHICS

Integrated:  
Intel® HD Graphics

## DISPLAY

10.1-inch diagonal full HD (1920 x 1200) WUXGA wide-viewing angle outdoor display

- Brightness: 400 nits (typical)\*
- Wide-viewing angle
- Direct bonded
- Multi-touch capacitive digitizer
- Auto rotate (selectable)
- Tough, durable Corning® Gorilla® Glass 3
- Anti-smudge coating
- External – Up to 32-bit per pixel color depth
- HDMI supports resolutions up to 1920 x 1080 @ 60 Hz

\* All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

## STORAGE AND DRIVES

### Internal Storage Device

128 GB\* embedded Multi Media Card (eMMC)

### Removable Storage

Optional HP External Optical Drive using ElitePad USB connector

\* For Solid State Drives (SSD), GB = 1 billion bytes. Actual formatted capacity is less. Up to 5 GB for Windows 8.1 is reserved for system recovery software.

### Features

## MEMORY

### Standard

4 GB LPDDR3 1067 MHz memory

## NETWORKING/COMMUNICATIONS

### Wireless

Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Broadband Wireless (WWAN) is available in select countries. Wireless LAN and integrated Bluetooth are also available (both are factory configurable only) and can be combined with any of the supported wireless WAN options.

### Broadband Wireless (WWAN)

HP hs3110 HSPA+ Mobile Broadband Module with GPS support <sup>\*,\*\*</sup>

HP lt4111 LTE/EV-DO/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support <sup>\*,\*\*</sup>

HP lt4112 LTE/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support <sup>\*,\*\*</sup>

HP lt4225 LTE/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support <sup>\*,\*\*</sup>

HP lt4226 LTE/HSPA+ Qualcomm® Gobi™ 4G Module with GPS support <sup>\*,\*\*</sup>

### Integrated Wireless LAN

Broadcom 43241 802.11 a/b/g/n (2x2)+ BT 4 LE SDIO<sup>\*\*\*</sup>

### Other Wireless Features

Miracast

Intel WiDi Software<sup>\*\*\*\*</sup>

HP requires that HP Custom Integration Services (CIS), an authorized HP service provider, or participants in the HP Self Maintainer program perform insertion or removal of a SIM or SD card. Any damage caused by the customer removing the tablet from the jacket is not covered under the limited warranty of the product. HP requires that HP Custom Integration Services (CIS), an authorized HP service provider, or participants in the HP Self Maintainer program perform future maintenance operations.

\* WWAN connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.

\*\* 4G LTE not available on all products, and in all regions.

\*\*\*Wireless access point and Internet service is required and is not included. Availability of public wireless access points limited.

\*\*\*\* Integrated Intel Wi-Di feature is available on select configurations only and requires separately purchased projector, tv or computer monitor with an integrated or external Wi-Di receiver. External Wi-Di receivers connect to the projector, tv or computer monitor via a standard HDMI cable, also sold separately.

## AUDIO/MULTIMEDIA

### Audio

HD audio

3.5mm Combo stereo/headphone/microphone jack

### Cameras

Integrated 2.1 MP/1080p\* with LED (front-facing)

8 MP with LED flash (rear facing)

\* HD content required to view HD images.

### Features

## INPUT DEVICES

Optional HP Executive Tablet Pen G2\*

\* Sold separately or purchased as an optional feature.

## SENSORS

Accelerometer  
eCompass  
Gyroscope  
Ambient Light Sensor  
Haptics

## SOFTWARE AND SECURITY

### Software

#### Included

#### Preinstalled (Windows)

Windows 8.1\*  
Windows 8.1 Pro 64\*  
Windows 10 Pro 64\*

#### Web Only

Windows 8.1  
Windows 8.1 Pro 64  
Windows 8.1 Enterprise 64  
Windows 10 Pro 64  
Windows 10 Enterprise 64

**\*Note:** Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.microsoft.com>.

### Windows 8.1

### Windows 10

#### Security

HP Client Security (incl. Credential Manager and Password Manager)  
HP Drive Encryption<sup>5</sup>  
Device Access Manager with Just In Time Authentication  
Microsoft Defender<sup>1</sup>

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HP Drive Encryption<sup>5</sup>  
Microsoft Defender<sup>1</sup>

#### Communications

HP Mobile Connect<sup>2</sup>  
HP Wireless Hotspot<sup>3</sup>  
HP Roaming Alert (available from Windows store)

HP Mobile Connect<sup>2</sup>  
HP Roaming Alert (available from Windows store)

#### HP Value Add Software

HP ePrint Driver<sup>4</sup>  
HP Manageability  
HP PageLift  
HP Registration  
HP Setup

HP ePrint Driver<sup>4</sup>  
HP Manageability  
Win 10 Welcome App  
HP Setup  
HP Softpaq Download Manager

### Features

HP Softpaq Download Manager  
HP Support Assistant  
HP WallPaper  
System Default Settings  
UEFI System Diagnostics

HP Software Setup  
HP Support Assistant  
HP WallPaper  
System Default Settings  
UEFI System Diagnostics

### 3rd Party

Amazon Kindle  
PDF Complete, Corporate Edition  
Box 50GB Offer<sup>8</sup>

### Microsoft Products

Buy Office

Buy Office

1. Internet access required.
2. HP Mobile Connect is available in EMEA only and requires a compatible CDMA or HSPA mobile broadband module and prepaid service purchase. Find coverage and availability for your service area at <http://www.hp.com/go/mobileconnect>.
3. The HP Wireless Hotspot application requires an active internet connection and separately purchased data plan. While HP wireless hotspot is active, on-device applications will continue to work and will use the same data plan as the wireless hotspot. Wireless hotspot data usage may incur additional charges. Check with your service provider for plan details. Requires Windows 8.1 or HP Connection Manager for Windows 7.
4. Offer available on new 2013 and 2014 HP Business Desktops, Notebooks, and Tablets. Requires Box registration. Offer available to new Box users only. Offer subject to change without notice. Box app requires Windows 8 or 8.1
5. Requires Windows. Data is protected prior to Drive Encryption login. Turning the PC off or into hibernate logs out of Drive Encryption and prevents data access.
6. Offer available on new 2013 and 2014 HP Business Desktops, Notebooks, and Tablets. Requires Box registration. Offer available to new Box users only. Offer subject to change without notice. Box app requires Windows 8 or 8.1.

### Features

## SECURITY

**Client Management Solutions** - Fully manageable and supported by industry-standard HP Client Management Solutions. Optional LANDesk management suite simplifies mobile device management and security. Contact your account team or [hp@landesk.com](mailto:hp@landesk.com) for more information.

LANDesk Management Suite 9.5 (optional) LANDesk Security Suite (optional)  
HP SoftPaq Download Manager (SDM)\*  
HP System Software Manager (SSM)\*  
HP BIOS Configuration Utility (BCU)\*  
HP Client Management Interface (HP CMI)\*

\* free downloads available at the CMS website under HP Hardware Management tools  
<http://www.hp.com/go/clientmanagement>

### Standard

Firmware TPM\* (default), hardware TPM (v1.2)  
Near Field Communication with Secure Element\*\*

\* A subset of the TPM 2.0 specification version v0.89 as implemented by Intel Platform Trust Technology (PTT).

\*\* NFC is shipped disabled. NFC application or software sold separately. **Please note that only NFC standards compliant cards are supported.**

For more information on HP security solutions refer to: <http://www.hp.com/go/security>



### Features

## POWER

### Stand-alone power requirements (Jacket)

Normal Operating Voltage 6.5 V  
Average Operating Power 8.952 W  
Max Operating Power < 40 W

### Power Supply

External 45-watt HP ElitePad 45W Smart AC Adapter

### Primary Battery

2-cell (30 WHr) Lithium Polymer battery

### Secondary Battery

2-cell (30 WHr) Lithium Polymer battery

### Battery Life

Up to 20 hours and 15 minutes for the tablet and the jacket combined.\*

\*Testing conducted by HP consisting of full battery discharge while running a series of productivity scripts against the following applications (which may or may not be included with your particular product): Adobe® AcrobatReader 7.0, Adobe® Illustrator® CS2, Adobe® Photoshop® CS2, Apple® Quicktime 7.1, Intervideo® WinDVD® 8, Macromedia® Flash 8, Microsoft® Office® 2003 Pro, Microsoft® Project 2003, and Winzip® 10.0. Prior to testing, the system was fully charged, display brightness was set at 60 nits, wireless was turned off, and auto dim, suspend, hibernate and all other programs, utilities, and services not essential to running the computer system or battery life test were disabled. Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality and power management settings. The maximum capacity of the battery will naturally decrease with time and usage.

### System Standby Time

Standby life will vary depending on various factors including battery, Memory, CPU, EC and LAN chip. The maximum capacity of the battery will naturally decrease with time and usage.

### Power Conservation

Balanced

\* Sold separately or as an optional feature.

## WEIGHTS & DIMENSIONS

### Weight

3.3 lb (1.5 kg) (Rugged Jacket and ElitePad)

### Dimensions (w x d x h)

8.48 x 11.3 x 1.51 in (215.15 x 287.1 x 36.4 mm)

**NOTE:** Weight includes (2) 2-cell battery, embedded Multi Media Card, and 4 GB memory.

## PORTS/SLOTS

### Ports

- (2) USB 3.0 ports
- (1) Power/system connector
- (1) HDMI port
- (1) RJ-45 (Ethernet) port
- (1) DB-9 Serial port

### Features

#### EXPANSION SOLUTIONS\*

Optional HP ElitePad Docking Station (requires additional adapter/extension)

\* Sold separately or as an optional feature.

#### EXPANSION MODULES\*

2D barcode reader (optional) with a unique visual success indicator, reader type WVGA 752 x 480 pixels, light source: aiming 650nm VLD, print contrast: 25% minimum; scan angle pitch: +/- 40°, roll: 180°, skew: +/- 40°

\* Sold separately or as an optional feature.

<b>Barcode reader</b>	<b>Reader type</b>	Wide VGA 752 x 480 pixels
	<b>Light Source</b>	Aiming 650nm VLD
	<b>Nominal working distance/depth of field</b>	Code 39 – 5 mil : 4.7 to 17.7cm Code 39 -10 mil : 1.7 to 33.2cm DataMatrix 10 mil : 2.7 to 17.1cm DataMatrix 15mil : 1.2 to 24.6cm EAN 13 mil : 2.5 to 41.9cm PDF 417 – 10 mil : 2.2 to 23.9cm QR Code – 10 mil : 3.5 to 16cm
	<b>Print contrast</b>	25% minimum
	<b>Scan angle</b>	Pitch : +/- 40deg Roll: 180 deg Skew: +/- 40deg
	<b>Decode symbologies factory default barcodes</b>	<ul style="list-style-type: none"> <li>• 1D             <ul style="list-style-type: none"> <li>○ Standard 1D Codes</li> </ul> </li> <li>• 2D             <ul style="list-style-type: none"> <li>○ Aztec Code</li> <li>○ China Han Xin Code</li> <li>○ DataMatrix</li> <li>○ MaxiCode</li> <li>○ MicroQR Code</li> <li>○ QR Code</li> </ul> </li> <li>• Postal Codes             <ul style="list-style-type: none"> <li>○ Australian Post</li> <li>○ British Post</li> <li>○ China Post</li> <li>○ IMB</li> <li>○ Japanese Post</li> <li>○ KIX Post</li> <li>○ Korea Post</li> <li>○ Planet Code</li> <li>○ Postnet</li> <li>○ Royal Mail Code (RM4SCC)</li> </ul> </li> <li>• Stacked Codes:             <ul style="list-style-type: none"> <li>○ EAN/JAN Composites</li> <li>○ GSI DataBar Composites</li> <li>○ GSI DataBar Expanded Stacked</li> <li>○ GSI DataBar Stacked</li> <li>○ GSI DataBar Stacked Omnidirectional</li> <li>○ Macro PDF</li> </ul> </li> </ul>

### Features

- Mircro PDF 417
- PDF 417
- UPC A/C Composites

\* Factory setting has these code selections enabled by default

## SERVICE AND SUPPORT

1-year standard parts, labor and onsite limited warranty, depending on country); 1-year limited warranty on primary battery. Optional HP Care Pack Services\* are extended service contracts which go beyond your standard warranties.\*\*

For more details visit: <http://www.hp.com/go/cpc>.

\* Sold separately or as an optional feature.

\*\* IP65 is covered under the HP limited warranty up to IP65 for water and dust ingress.

**NOTE:** 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 <http://www.hp.com/go/cpc>. Consult the HP Customer Support Center for details. <http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>

**NOTE:** HP requires that HP Custom Integration Services (CIS), an authorized HP service provider, or participants in the HP Self Maintainer program perform insertion or removal of a SIM or SD card. Any damage caused by the customer removing the tablet from the jacket is not covered under the limited warranty of the product. HP requires that HP Custom Integration Services (CIS), an authorized HP service provider, or participants in the HP Self Maintainer program perform future maintenance operations.

## ENVIRONMENTAL/CERTIFICATIONS

<b>Temperature</b>	<b>Operating</b>	41° to 95° F (5° to 35° C)
	<b>Non-operating</b>	-4° to 140° F (-20° to 60° C)
<b>Relative Humidity</b>	<b>Operating</b>	10% to 90%, relative humidity
	<b>Non-operating</b>	5% to 95% relative humidity, 101.6° F (38.7° C) maximum wet bulb temperature
<b>Shock</b>	<b>Operating</b>	Half Sine Wave Shock : 40G, 2ms duration
	<b>Non-operating</b>	Half Sine Wave Shock : 240G, 2ms duration Squarewave Shock : 150G; 180in/sec velocity change
<b>Random Vibration</b>	<b>Operating</b>	10-500 Hz, 0.5 grms
	<b>Non-operating</b>	10-500 Hz, 1.0 grms
<b>Altitude</b> (unpressurized)	<b>Operating</b>	-50 to 10,000 ft (-15.24 to 3,048 m)
	<b>Non-operating</b>	-50 to 40,000 ft (-15.24 to 12,192 m)

### Planned Industry Standard Certifications

For accessibility information on HP products, please visit: <http://www.hp.com/accessibility>.

### Features

### PLANNED INDUSTRY STANDARD CERTIFICATIONS

<b>UL</b>	Yes
<b>CSA</b>	Yes
<b>FCC Compliance</b>	Yes
<b>ICES</b>	Yes
<b>Australia / NZ A-Tick Compliance</b>	Yes
<b>CCC</b>	Yes
<b>Japan VCCI Compliance</b>	Yes
<b>KC</b>	Yes
<b>BSMI</b>	Yes
<b>CE Marking Compliance</b>	Yes
<b>BNCI or BELUS</b>	Yes
<b>CIT</b>	Yes
<b>GOST</b>	Yes
<b>Saudi Arabian Compliance (ICCP)</b>	Yes
<b>SABS</b>	Yes
<b>UKRSERTCOMPUTER</b>	Yes

### MIL-STD 810G TEST

<b>High Temperature test*</b>	The High Temperature test was performed in accordance with MIL-STD-810G, Method 501.5, Procedure I (Storage). This test evaluated the units' performance while it was being exposed to high temperature conditions: 71°C (160°F) nonoperational. Test cycle 24 hours; test consisted of seven cycles.
<b>High Temperature test*</b>	The High Temperature test was performed in accordance with MIL-STD-810G, Method 501.5, Procedure II (Operation). This test evaluated the units' performance while it was being exposed to high temperature conditions: 60°C (140°F) operational. Four hours duration.
<b>Low Temperature test*</b>	The Low Temperature test was performed in accordance with MIL-STD-810G, Method 502.5, Procedure I (Storage). This test evaluated the unit's performance while it was being exposed to low temperature conditions: -51°C (-60°F) nonoperational. Four hours duration.
<b>Low Temperature test*</b>	The Low Temperature test was performed in accordance with MIL-STD-810G, Method 502.5, Procedure II (Operation). This test evaluated the unit's performance while it was being exposed to low temperature conditions: -29°C (20°F) operational. Four hour duration.
<b>Altitude*</b>	The Altitude test was performed in accordance with MIL-STD-810G, Method 500.5, Procedure I (Storage) and II (Operation). The altitude level simulated for both procedures was 15,000 feet at 57kPa. Four hour duration
<b>Humidity*</b>	The humidity test was performed in accordance with MIL-STD-810G, Method 507.5, Procedure II. Relative humidity 95%. Temperature cycled between 86oF and 140oF. Test cycle 24 hours; test consisted of ten cycles
<b>Drop*</b>	The drop test was performed in accordance with MIL-STD-810G, Method 516.6, Procedure IV. The objective of this test was to determine whether the unit was operational after being dropped from desk height. For this test, 26 drops were performed from 6ft onto every side, angle and edge onto 2" of plywood over steel over concrete.
<b>Dust*</b>	The dust test was performed in accordance with MIL-STD-810G, Method 510.5, Procedure I. Test parameters were set so that the unit was dusted with Arizona Road Dust for six hours

### Features

while being operated. Each cycle was one day (24 hours); ten cycles with the temperature being cycled between 30°C (86°F) and 60°C (140°F); and relative humidity was a constant 95%.

#### **Vibration\***

The vibration test was performed in accordance with MIL-STD-810G, Method 514.6, Procedure I category 4. This test evaluated the units performance after it has been subjected to higher levels of vibration while in storage: Operational U.S. highway truck exposure, 1000 mile Simulation and One hour/axis duration

#### **Vibration 2\***

The vibration test was performed in accordance with MIL-STD-810G, Method 514.6, Procedure I category 24. This test evaluated the units performance after it has been subjected to higher levels of vibration while in storage: Non-operational 0.04 g<sup>2</sup>/Hz at 20-1000 Hz, -6 dB/octave at 1000-2000 Hz and One hour/axis duration

#### **Shock\***

The shock test was performed in accordance with IL-STD-810G, Method 516.6.5, Procedure I. This test objective was to determine whether the unit could be safely operated after being exposed to sudden physical shock events while operational. For this test, 3 shocks were performed across each axis and direction for a total of 18 shocks -40Gs peak, 11ms

\*MIL STD 810G testing 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.

## COUNTRY OF ORIGIN

China

Mexico for TAA Compliant Configurations

### Environmental Data

## STORAGE AND DRIVES

<b>128 GB embedded Multi Media Card (eMMC)</b>	<b>Drive Weight</b>	Up to 2g
	<b>Capacity</b>	128 GB
	<b>Height</b>	1.4 mm
	<b>Width</b>	12 x 16 mm
	<b>Interface</b>	MultiMediaCard Bus
	<b>Performance</b>	Sequential Read : 100MB/s (min.) Sequential Write : 40MB/s (min.)
	<b>Features</b>	Embedded Multi Media Card v4.51 compliant, TRIM, Secure Erase, CMD5 support, Partition management, Enhanced Write Protection, HS200 support

## SECURITY

<b>Near Field Communications (NFC)*</b>	<b>NFC Specifications</b>	ISO/IEC 14443A, ISO/IEC 14443B PCD 106 kbps to 848 kbps ISO/IEC 14443A, ISO/IEC 14443B PICC 106 kbps to 424 kbps ISO/IEC 15693/ICODE reader NFC-IP1 and NFC-IP2 protocols, 106 kbps to 424 kbps MIFARE reader encryption mechanism NFC Forum Types 1-4 card reader
	<b>Supported Host Interfaces</b>	I2C Automatic wakeup from Standby via host control interface
	<b>Dimensions</b>	0.18 x 0.18 x 0.04 in (4.5 x 4.5 x 0.9 mm)
	<b>Frequency Band</b>	13.56 MHz ISO Band
	<b>RF Output Voltage</b>	3.3 V max 150 mA max (@3.0V output)
	<b>Power Consumption</b>	1.5 W (max)
	<b>Antenna</b>	Built-in
	<b>Antenna Range</b>	Up to 0.79 in (2 cm)
	<b>Secure Element Interfaces</b>	SWP/HCI according to ETSI/SCP standardization ISO/IEC 28361 (ECMA 373) NFC-WI. Data rate restricted to 106kbps
<b>Embedded Secure Element (eSE)</b>		P5CN145 SmartMX Secure Dual Interface PKI Smart Card Controller
<b>eSE Memory</b>		144 kB EEPROM 264 kB User ROM 7.5 kB RAM (5 kB standard, 2.5 kB FameXE RAM)
	<b>Operating Temperature</b>	-13 to 185 °F (-25 to +85°C)

NFC Type Definition				
	Type 1	Type 2	Type 3	Type 4
ISO/IEC standard	14443 A	14443 A	JIS 6319-4	14443 A/B

### Environmental Data

<b>Compatible Product</b>	Innovision Topaz	NXP MIFARE	Sony FeliCa	NXP DESFire, SmartMX-JCOP
<b>Data Rate</b>	106 kb/s	106 kb/s	212, 424 kb/s	106/212/424 kb/s
<b>Memory</b>	96 bytes, expandable to 2 kb	48 bytes, expandable to 2 kb	Variable, max. 1 MB	Variable, max. 32 kb
<b>Anti-collision</b>	No	Yes	Yes	Yes

\* NFC is shipped disabled. NFC application or software sold separately. **Please note that only NFC standards compliant cards are supported.**

## NETWORKING/COMMUNICATIONS

### HP hs3110/3114 HSPA+ Mobile Broadband Module with GPS support\*

<b>Technology/Operating bands</b>	WCDMA/HSDPA/HSUPA/HSPA+: 2100(Band I), 1900 (Band II), AWS(Band IV), 850 (Band V), 900 (Band VIII) MHz GSM/GPRS/EDGE: 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 900 MHz (Band VIII) MHz HSPA+: 2100 (Band 1), 1900 (Band 2), 1700 (Band 4), 850 (Band 5), 900 (Band 8) E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz
<b>Wireless protocol standards</b>	GSM/GPRS/EDGE: Class B, Multi-slot class 33, coding schemes CS1 - CS4 and MSC1 - MSC9. UMTS/WCDMA: Release 99 and Release 7 Advanced Receiver Type 3i
<b>GPS</b>	Standalone, A-GPS
<b>GPS Bands</b>	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
<b>Maximum data rates</b>	HSPA+: UL 5.76 Mbps / DL 21.6 Mbps HSPA: UL 5.76 Mbps / DL 7.2 Mbps WCDMA PS: UL 384 kbps / DL 384 kbps WCDMA CS: UL 64 kbps / DL 64 kbps GPRS: UL 85.6 kbps / DL 107 kbps EDGE: UL 236.8 kbps/DL 296 kbps
<b>Maximum output power</b>	WCDMA/HSPA/HSPA+ MHz: 24 dBm GPRS 1900/1800 MHz: 30 dBm GPRS 900/850 MHz: 33 dBm EDGE 1900/1800 MHz: 26 dBm EDGE 900/850 MHz: 27 dBm
<b>Maximum power consumption</b>	2500 mA (peak); 600 mA (average)
<b>Power consumption, sleep mode</b>	3.6 mA
<b>Power management</b>	USB selective suspend
<b>Antenna type</b>	Dual high efficiency multi-band antennae with spatial diversity
<b>Form Factor</b>	M.2, 3042-S3 Key B
<b>Weight</b>	6 g
<b>Dimensions (Length x Width x Thickness)</b>	1.65 x 1.18 x 0.09 in (42 x 30 x 2.3 mm)
<b>Voltage, Operating</b>	3.3 V +1.1/-0.17 V
<b>Temperature, Operating</b>	14° to 131°F (-10° to 55°C)

### Environmental Data

**Temperature, Non-operating** -40° to 185°F (-40° to 85°C)

**Humidity** 5% to 95%

**\* Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.**

**(NA) HP lt4111 LTE/EV-DO/HSPA+ 4G WWAN with GPS support\***

<b>Technology/Operating Bands</b>	<p>LTE FDD all bands with diversity: 1700/2100MHz (Band IV (AWS), 700MHz (Band XIII), 700MHz (Band XVII), 1900MHz G Block (Band XXV)</p> <p>WCDMA/HSDPA/HSUPA/HSPA+: all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II) , AWS 1700/2100MHz (Band IV), 850 MHz (Band V), 800 MHz (Band VIII)</p> <p>GSM/GPRS/EDGE: 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 900 MHz (Band VIII)</p> <p>CDMA: Cellular 800MHz (BC0), PCS 1900MHz (BC1)</p> <p>LTE: 1900 (Band 2) , 1700/2100 (Band 4), 850 (Band 5), 700 (Band 13), 700 (Band 17), 1900 (Band 25) MHz</p> <p>HSPA+: 2100 (Band 1), 1900 (Band 2) , AWS 1700/2100 (Band 4), 850 (Band 5), 800 (Band 8) MHz</p> <p>E-GPRS: 1900 (Band 2), 1800 (Band 3) , 850 (Band 5) , 900 (Band 8) MHz</p> <p>EV-DO: 800 (BC0), 1900 (BC1) MHz</p>
<b>Wireless Protocol Standards</b>	<p>3GPP Release 8 LTE Specification</p> <p>WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification</p> <p>EVDO Release 0 and Release A</p>
<b>Maximum Data Rates</b>	<p>LTE: UL 50 Mbs / DL 100 Mbs</p> <p>DC-HSPA+: UL 5.76 Mbs / DL 42 Mbps</p> <p>HSPA+: UL 5.76 Mbs / DL 21.6 Mbps</p> <p>EDGE: UL 236.8 kbps / DL 236.8 kbps</p> <p>GPRS: UL 85.6 kbps / DL 85.6 kbps</p>
<b>GPS</b>	<p>Standalone, XTRA</p>
<b>GPS Bands</b>	<p>1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz</p>
<b>Maximum Output Power</b>	<p>LTE: 23 dBm</p> <p>WCDMA/HSPA/HSPA+: 23 dBm</p> <p>GSM850/900, GMSK: 32 dBm</p> <p>GSM850/900, 8PSK: 27 dBm</p> <p>DCS1800 / PCS 1900, GMSK: 29 dBm</p> <p>DCS1800 / PCS 1900, 8PSK: 26 dBm</p> <p>CDMA: 24 dBm</p>
<b>Maximum Power Consumption</b>	<p>LTE: 1,200 mA (peak); 900 mA (average)</p> <p>WCDMA: 1,100 mA (peak); 800 mA (average)</p> <p>EDGE: 2,500 mA (peak); 700 mA (average)</p>
<b>Power Consumption, Sleep Mode</b>	<p>2 mA</p>
<b>Power Management</b>	<p>USB selective suspend</p>
<b>Antenna Type</b>	<p>Dual high efficiency multi-band antennae with spatial diversity</p>
<b>Form Factor</b>	<p>M.2, 3042-S3 Key B</p>
<b>Weight</b>	<p>6 g</p>
<b>Dimensions (Length x Width x Thickness)</b>	<p>1.65 x 1.18 x 0.09 in (42 x 30 x 2.3 mm)</p>



### Environmental Data

<b>Voltage, Operating</b>	3.3 V +1.1/-0.17 V
<b>Temperature, operating</b>	-13° to 140°F (-25° to 60°C)
<b>Temperature, Non-operating</b>	-40° to 185°F (-40° to 85°C)
<b>Humidity, Non-operating</b>	95%

**\* Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.**

### HP It4112 LTE/HSPA+ Gobi 4G Module with GPS support\*

<b>Technology/Operating bands</b>	LTE FDD all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 2600 MHz (Band VII), 900 MHz (Band VIII), 800 MHz (Band XX, DD800) WCDMA/HSDPA/HSUPA/HSPA+ all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 850 MHz (Band V), 900 MHz (Band VIII) GSM/GPRS/EDGE: 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 900 MHz (Band VIII) LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 2600 (Band 7), 900 (Band 8), 800 MHz (Band 20, DD800) MHz HSPA+: 2100 (Band 1), 1900 (Band 2), 850 (Band 5), 900 (Band 8) MHz E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz
<b>Wireless protocol standards</b>	3GPP Release 8 LTE Specification WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification
<b>Maximum data rates</b>	LTE: UL 50 Mbs / DL 100 Mbps DC-HSPA+: UL 5.76 Mbs / DL 42 Mbps HSPA+: UL 5.76 Mbs / DL 21.6 Mbps EDGE: UL 236.8 kbps / DL 236.8 kbps GPRS: UL 85.6 kbps / DL 85.6 kbps
<b>GPS</b>	Standalone, XTRA
<b>GPS bands</b>	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
<b>Maximum output power</b>	LTE: 23 dBm WCDMA/HSPA/HSPA+: 23.5 dBm GPRS 1900/1800 MHz: 29.5 dBm GPRS 900/850 MHz: 32.5 dBm EDGE 1900/1800 MHz: 26.5 dBm EDGE 900/850 MHz: 27.5 dBm
<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); 900 mA (average) WCDMA: 1,100 mA (peak); 800 mA (average) EDGE: 2,800 mA (peak); 700 mA (average)
<b>Power consumption, sleep mode</b>	3 mA
<b>Power management</b>	USB selective suspend
<b>Antenna type</b>	Dual high efficiency multi-band antennae with spatial diversity
<b>Form Factor</b>	M.2, 3042-S3 Key B
<b>Weight</b>	6 g
<b>Dimensions</b> (Length x Width x	1.65 x 1.18 x 0.09 in (42 x 30 x 2.3 mm)

### Environmental Data

Thickness)

<b>Voltage, Operating</b>	3.3 V +1.1/-0.17 V
<b>Temperature, operating</b>	14° to 131°F (-10° to 55°C)
<b>Temperature, Non-operating</b>	-40° to 185°F (-40° to 85°C)
<b>Humidity, non-operating</b>	95%

**\* Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.**

#### HP It4225 LTE/EV-DO Gobi 4G Module with GPS support\*

<b>Technology/Operating bands</b>	LTE (FDD) B11/B18 CDMA/DO BC0/BC6
<b>Wireless protocol standards</b>	LTE(FDD):3GPP Release 8 3GPP2: EVDO Rev B, eHRPD
<b>GPS</b>	GPS Standalone, A-GPS, XTRA, Glonass
<b>GPS Bands</b>	GPS L1:1575.42 MHz (± 1.023 MHz), Glonass L1: 1602MHz + 0.5625*k
<b>Maximum data rates</b>	1x: UL (153.6 kbps)/DL (153.6 kbps) EVDO Rev.B: UL (5.4 Mbps)/DL (14.7 Mbps) LTE FDD: UL (50 Mbps)/DL (100 Mbps) @ Bandwidth 20M (CAT3)
<b>Maximum transmitter power</b>	LTE: Accorded with 3GPP TS 36.101 R8 Class 3(23dBm) CDMA BC0 :+23 dBm (Power Class 3) CDMA BC6: +23 dBm (Power Class 2)
<b>Maximum power consumption</b>	2500mA (peak); 1100mA (average)
<b>Power consumption, sleep mode</b>	1.6 mA(RF close) 3.6mA(register on net)
<b>Power management</b>	USB selective suspend
<b>Antenna type</b>	RF connector MM4829-2702RA4 by MURATA or other equivalent connectors
<b>Form Factor</b>	M.2, 3042-S3 Key B
<b>Weight</b>	<6 g
<b>Dimensions</b> (Length x Width x Thickness)	42 mm x 30 mm x 2.3 mm
<b>Voltage, Operating</b>	3.135V to ~4.4V (3.3 V recommended)
<b>Temperature, operating</b>	-10° C° to 55° C
<b>Temperature, storage</b>	-40°C to 85° C
<b>Humidity</b>	5% to 95%

**\* Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.**

#### HP It4226 LTE/HSPA+ Gobi 4G Module with GPS support\*

<b>Technology/Operating bands</b>	LTE (FDD) B1/B19/B21 DC-HSPA+/HSPA+/HSPA/UMTS B1/B5/B6/B19
<b>Wireless protocol standards</b>	LTE(FDD):Release 8 UMTS/WCDMA: Release 99 and Release 7
<b>GPS</b>	GPS Standalone, A-GPS, XTRA, Glonass

### Environmental Data

<b>GPS Bands</b>	GPS L1:1575.42 MHz (± 1.023 MHz), Glonass L1: 1602MHz + 0.5625*k
<b>Maximum data rates</b>	WCDMA PS: UL (384 kbps)/DL (384 kbps) DC-HSPA+: UL (5.76 Mbps)/DL (42 Mbps) LTE FDD: UL (50 Mbps)/DL (100 Mbps) @ Bandwidth 20M (CAT3)
<b>Maximum transmitter power</b>	WCDMA/HSPA+: +24dBm (Power Class 3) LTE: Accorded with 3GPP TS 36.101 R8 Class 3(23dBm)
<b>Maximum power consumption</b>	2500mA (peak); 1100mA (average)
<b>Power consumption, sleep mode</b>	1.6 mA(RF close) 3.6mA(register on net)
<b>Power management</b>	USB selective suspend
<b>Antenna type</b>	RF connector MM4829-2702RA4 by MURATA or other equivalent connectors
<b>Form Factor</b>	M.2, 3042-S3 Key B
<b>Weight</b>	<6 g
<b>Dimensions</b> (Length x Width x Thickness)	42 mm x 30 mm x 2.3 mm
<b>Voltage, Operating</b>	3.135V to ~4.4V (3.3 V recommended)
<b>Temperature, operating</b>	-10° C° to 55° C
<b>Temperature, storage</b>	-40°C to 85° C
<b>Humidity</b>	5% to 95%

**\* Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.**

### BROADCOM DUAL BAND WIRELESS-N 43241 802.11 A/B/G/N (2X2) WIFI + BLUETOOTH 4.0 COMBO ADAPTOR \*

<b>WIRELESS LAN STANDARDS</b>	IEEE 802.11A IEEE 802.11B IEEE 802.11G IEEE 802.11N
<b>Interoperability</b>	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 7, Windows Vista and XP (details at: <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a> )
<b>Frequency Band</b>	802.11b/g/n 2.402 - 2.482 GHz 802.11a/n 4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz 5.825 - 5.850 GHz
<b>Antenna Structure</b>	2 transmit; 2 receive (2x2)
<b>Data Rates</b>	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)
<b>Modulation</b>	Direct Sequence Spread Spectrum CCK, BPSK, QPSK, 16-QAM, 64-QAM
<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> </ul>

### Environmental Data

	<ul style="list-style-type: none"> <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>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.
<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between band Access Points
<b>Output Power<sup>2</sup></b>	<ul style="list-style-type: none"> <li>• 2.4G: +13.5dBm minimum</li> <li>• 5G: +12dBm minimum</li> </ul>
<b>Power Consumption</b>	Transmit: 2.0 Watts Receive: 1.6 Watts Idle mode <sup>3</sup> : 150 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Radio off: 25 mW
<b>Power Management</b>	802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>4</sup></b>	802.11g:-90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps)  802.11b:-95 dBm (1 Mbps), -93 dBm (2 Mbps), -91 dBm (5.5 Mbps), -88 dBm (11 Mbps)  802.11g:-90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps)  802.11n:-69 dBm (150 Mbps), -66 dBm (300 Mbps)
<b>Antenna Connections</b>	2 U.FL type connectors (output impedance of 50 ± 2 ohms)
<b>Form Factor</b>	Customize LGA Card
<b>Dimensions</b>	Width 17 x Depth 10.5 x High 1.5(mm)
<b>Operating Voltage</b>	3.3v +/- 9% and 1.8V +/- 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>HP Integrated Module with Bluetooth 4.0 LE SDIO Wireless Technology*</b>	
*This module is Bluetooth Smart Ready for systems running Windows 8 and Windows 8.1.	
<b>Bluetooth Specification</b>	BT 4.0 LE SDIO
<b>Dimensions</b>	Width 17 x Depth 10.5 x High 1.5(mm)
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	79 (1 MHz) available channels

### Environmental Data

<b>Data Rates and Throughput</b>	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric
<b>Transmit Power</b>	-1.5 dBm to 4 dBm (Bluetooth Class II)
<b>Receiver Sensitivity</b>	Better than -20 dBm at 0.1 % raw bit error rate
<b>Power Consumption</b>	Peak (Tx) 300 mW Peak (Rx) 180 mW Selective Suspend 10 mW
<b>Antenna</b>	Internally integrated within module
<b>Range</b>	Up to 33 ft (10 m)
<b>Electrical Interface</b>	UART compliant Microsoft Windows Plug and Play compliant
<b>Bluetooth Software Supported</b>	Broadcom Bluetooth for Windows Microsoft Windows Bluetooth Software
<b>Link Topology</b>	Point to Point, Multipoint Pico Nets up to 7 slaves
<b>Security</b>	Full support of Bluetooth Security Provisions
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
<b>Certifications</b>	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
<b>Bluetooth Profiles Supported</b>	Serial Port Profile (SPP) <sup>1</sup> Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) <sup>1,2</sup> Generic Object Exchange Profile (GOEP) <sup>1,2</sup> Object Push Profile (OPP) <sup>1,2</sup> File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) <sup>1,2</sup> Personal Area Networking Profile (PAN) <sup>1,2</sup> Human Interface Device Profile (HID) <sup>1,2</sup> FAX Profile (FAX) Basic Imaging Profile (BIP) <sup>2</sup> Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

\* Wireless access point and internet service required and sold separately. Availability of public wireless access points limited.

### AUDIO/MULTIMEDIA – HD AUDIO

<b>Audio Output Quality</b>	<b>Frequency Response</b>	20 Hz - 20 kHz
	<b>Signal to Noise Ratio</b>	>85 dB
	<b>Total Harmonic Distortion</b>	0.01%

### Environmental Data

<b>Noise Floor</b>	-110 dB
<b>Play/Record Sampling Rate(s)</b>	8 kHz - 48kHz
<b>DAC</b>	16, 20 or 24-bit
<b>ADC</b>	16 or 20-bit

### Integrated Stereo Speakers

<b>Power Rating</b>	500mW
<b>Impedance</b>	4 ohm

## POWER

### HP 45W AC Smart Adapter

<b>Dimensions</b>	3.74 x 1.57 x 1.04 in (95.0 x 40.0 x 26.5 mm)
<b>Input</b>	90 to 265 VAC
	<b>Input dPower Rating</b> < 55W
	<b>Input frequency range</b> 47 – 63 Hz
	<b>Input AC current</b> 1.4A at 90 VAC
<b>Output</b>	<b>Voltage</b> 19.5V +/- 5.0%
	<b>Constant power</b> 45 W (maximum) continuously between DC output 19.5V +/- 5.0%
	<b>Hold-up time</b> 5 msec at 115 VAC input
	<b>Output current limit</b> 3.46A
<b>Connector</b>	3 pin/grounded, mates with interchangeable cords; 70 pin / tyco connector (to tablet side)
<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>Operating altitude</b> 0 to 16,404 ft (0 to 5,000 m)
	<b>Non-operating altitude</b> 0 to 50,000 ft (0 to 15,240 m)
	<b>Humidity</b> 0% to 95%
	<b>Storage Humidity</b> 0% 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; Reliability - failure rate of less than 0.1% annually within the first three years of operation.

### HP 2-cell (30 WHr) Polymer Long Life Primary battery

<b>Weight</b>	0.17 kg
<b>Dimensions (H x W x L)</b>	8.7 x 1.56 x 0.17 in (22.09 x 13.963 x 0.43 cm)
<b>Cells/Type</b>	2-cell, Lithium Ion Polymer
<b>Energy</b>	<b>Voltage</b> 7.4V
	<b>Amp-hour capacity</b> 4.2
	<b>Watt-hour capacity</b> 30Wh
	<b>Operating (Charging)</b> 32° to 113° F (0° to 45° C)
<b>Temperature</b>	<b>Operating (Discharging)</b> 14° to 140° F (-10° to 60° C)
	<b>Non-operating</b> -4° to 140° F (-20° to 60° C)

### Environmental Data

	<b>Battery Re-Charge Time</b>	<b>System in OFF or Standby Mode</b>	depends on system setting	
		<b>System ON</b>	depends on system setting	
	<b>Fuel Gauge LED</b>	No		
	<b>Warranty</b>	36 months		
	<b>Optional Travel Battery Available</b>	No		
<b>HP 2-cell (30 WHr) Polymer Long Life Secondary battery</b>	<b>Weight</b>	0.17 kg		
	<b>Dimensions (H x W x L)</b>	8.7 x 1.56 x 0.17 in (22.09 x 13.963 x 0.43 cm)		
	<b>Cells/Type</b>	2-cell, Lithium Ion Polymer		
	<b>Energy</b>	<b>Voltage</b>	7.4V	
		<b>Amp-hour capacity</b>	4.2	
		<b>Watt-hour capacity</b>	30Wh	
	<b>Temperature</b>	<b>Operating (Charging)</b>	32° to 113° F (0° to 45° C)	
		<b>Operating (Discharging)</b>	14° to 140° F (-10° to 60° C)	
		<b>Non-operating</b>	-4° to 140° F (-20° to 60° C)	
		<b>Battery Re-Charge Time</b>	<b>System in OFF or Standby Mode</b>	depends on system setting
			<b>System ON</b>	depends on system setting
		<b>Fuel Gauge LED</b>	No	
	<b>Warranty</b>	36 months		
	<b>Optional Travel Battery Available</b>	No		

### Environmental Data

#### ENVIRONMENTAL DATA

<b>Eco-Label Certifications &amp; declarations</b>	<p>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:</p> <ul style="list-style-type: none"> <li>• IT ECO declaration</li> <li>• US ENERGY STAR®</li> <li>• EPEAT Gold registered in the United States. See <a href="http://www.epeat.net">http://www.epeat.net</a> for registration status in your country.</li> </ul>		
<b>System Configuration</b>	<p>The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.</p>		
<b>Energy Consumption (in accordance with US ENERGY STAR® test method)</b>	<b>115VAC, 60Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 60Hz</b>
Normal Operation (Short idle)	3.83 W	3.96 W	3.85 W
Normal Operation (Long idle)	0.86 W	0.96 W	0.88 W
Sleep	0.86 W	0.96 W	0.88 W
Off	0.19 W	0.20 W	0.19 W
	<p>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.</p>		
<b>Heat Dissipation*</b>	<b>115VAC, 60Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 60Hz</b>
Normal Operation (Short idle)	13 BTU/hr	14 BTU/hr	13 BTU/hr
Normal Operation (Long idle)	3 BTU/hr	3 BTU/hr	3 BTU/hr
Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr
	<p>*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.</p>		
<b>Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)</b>	<b>Sound Power (L<sub>WAd</sub>, bels)</b>		<b>Sound Pressure (L<sub>pAm</sub>, decibels)</b>
Typically Configured – Idle	2		14
Fixed Disk – Random writes	2		14
<b>Longevity and Upgrading</b>	<p>This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:</p> <ul style="list-style-type: none"> <li>• 2 USB port</li> <li>• 1 HDMI port</li> <li>• 1 RJ45 Port</li> <li>• 1 Serial Port</li> <li>• 1 MicroSDXC slot</li> <li>• 1 SIM card slot</li> <li>• 1 Smart card reader</li> <li>• Optional expansion base docking station (adaptor is needed)</li> <li>• Optional serial Adapter</li> <li>• Optional VGA adapter</li> <li>• Optional ethernet adapter</li> </ul>		



### Environmental Data

	Spare parts are available throughout the warranty period and or for up to 5 years after the end of production.		
<b>Batteries</b>	<p>This battery(s) in this product comply with EU Directive 2006/66/EC</p> <p>Batteries used in the product do not contain:</p> <ul style="list-style-type: none"> <li>Mercury greater than 1ppm by weight</li> <li>Cadmium greater than 20ppm by weight</li> </ul> <p>Battery size: 2-cell high capacity Lithium-Ion battery Battery type: Battery pack</p>		
<b>Additional Information</b>	<ul style="list-style-type: none"> <li>• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.</li> <li>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.</li> <li>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).</li> <li>• This product is in compliance with the IEEE 1680 (EPEAT) standard at the gold level, see <a href="http://www.epeat.net">www.epeat.net</a></li> <li>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.</li> <li>• This product contains 1.2% post-consumer recycled plastic (by wt.)</li> <li>• This product is 98% recycle-able when properly disposed of at end of life.</li> </ul>		
<b>Packaging Materials</b>	<b>External:</b>	PAPER/Paper	360 g
	<b>Internal:</b>	PLASTIC/EPE - Expanded Polyethylene	29 g
		PLASTIC/Polyethylene low density	8 g
	The plastic packaging material contains at least 0% recycled content.		
	The corrugated paper packaging materials contains at least 71% recycled content.		
<b>Material Usage</b>	<p>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 <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf</a>):</p> <ul style="list-style-type: none"> <li>• Asbestos</li> <li>• Certain Azo Colorants</li> <li>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics</li> <li>• Cadmium</li> <li>• Chlorinated Hydrocarbons</li> <li>• Chlorinated Paraffins</li> <li>• Formaldehyde</li> <li>• Halogenated Diphenyl Methanes</li> <li>• Lead carbonates and sulfates</li> <li>• Lead and Lead compounds</li> <li>• Mercuric Oxide Batteries</li> <li>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.</li> <li>• Ozone Depleting Substances</li> <li>• Polybrominated Biphenyls (PBBs)</li> <li>• Polybrominated Biphenyl Ethers (PBBEs)</li> <li>• Polybrominated Biphenyl Oxides (PBBOs)</li> </ul>		

### Environmental Data

	<ul style="list-style-type: none"> <li>• Polychlorinated Biphenyl (PCB)</li> <li>• Polychlorinated Terphenyls (PCT)</li> <li>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.</li> <li>• Radioactive Substances</li> <li>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)</li> </ul>
<b>Packaging Usage</b>	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"> <li>• Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.</li> <li>• Eliminate the use of ozone-depleting substances (ODS) in packaging materials.</li> <li>• Design packaging materials for ease of disassembly.</li> <li>• Maximize the use of post-consumer recycled content materials in packaging materials.</li> <li>• Use readily recyclable packaging materials such as paper and corrugated materials.</li> <li>• Reduce size and weight of packages to improve transportation fuel efficiency.</li> <li>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.</li> </ul>
<b>End-of-life Management and Recycling</b>	<p>Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <a href="http://www.hp.com/go/reuse-recycle">http://www.hp.com/go/reuse-recycle</a> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</p> <p>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: <a href="http://www.hp.com/go/recyclers">http://www.hp.com/go/recyclers</a>. 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.</p>
<b>Hewlett-Packard Corporate Environmental Information</b>	<p>For more information about HP's commitment to the environment:</p> <p>Global Citizenship Report  <a href="http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html">http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html</a></p> <p>Eco-label certifications  <a href="http://www8.hp.com/us/en/hp-information/environment/ecolabels.html">http://www8.hp.com/us/en/hp-information/environment/ecolabels.html</a></p> <p>ISO 14001 certificates:  <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf</a>          and  <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf</a></p>

### Cleaning

#### CLEANING

The following cleaning solutions, if used as instructed in the user guide, will not harm the HP ElitePad 1000 G2 Rugged Tablet:

- Benzyl-C12-18-alkyldimethyl ammonium chlorides <1% with quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides <1%
- Isopropanol 10%–20%, 2-Butoxyethanol 1%–4%, benzyl-C12-18-alkyldimethyl ammonium chlorides <0.125%, and quaternary ammonium compounds, C12-18-alkyl [(ethylphenyl) methyl] dimethyl, chlorides <0.125%
- Isopropanol 30%–60%, benzyl-C12-18-alkyldimethyl ammonium chlorides 0.1%–1%, and quaternary ammonium compounds, C12-18-alkyl [(ethylphenyl) methyl] dimethyl 0.1%–1%
- Isopropyl alcohol wipes (Isopropyl alcohol 70%)
- Isopropanol 10%–20% and ethylene glycol monobutyl ether 1%–5%
- n-Alkyl dimethyl benzyl ammonium chloride 0.2%–0.4% with lauramine oxide 0.5%–1.5%
- Ethylene glycol n-hexyl ether 0.1%–1.0%, isopropanol 1%–5%, and water 90%–95%
- Sodium hypochlorite 1%–5% with sodium hydroxide 0.5%–2%
- Gentle dish soap and water
- Dry microfiber cleaning cloth or a chamois (static-free cloth without oil)
- Static-free cloth wipes

Please refer to the user guide that came with your product for detailed instructions about how to clean your HP ElitePad 1000 G2 Rugged Tablet using these solutions.

Options and Accessories (sold separately and availability may vary by country)

Type	Description	Part #
<b>Docking</b>	HP ElitePad Docking Station (requires additional adapter/extension)	H4J84AA
	HP ElitePad Docking Station (EMEA)	COM84ET#ABB/ABU
	Optional HP ElitePad Docking Station	COM84AA#ABA
	* <b>Note:</b> HP Rugged Tablet Docking Adapter (M0E06AA) required for the HP ElitePad Docking Station (COM84AA) to work with the HP Rugged Tablet. Both accessories sold separately.	
<b>Input/Output</b>	HP Executive Tablet Pen (G2)*	F3G73AA
	HP Executive Capacitive Stylus	G4Y85AA
	HP ElitePad 3.0 Adapter	E8F98AA
	HP ElitePad SD Card Reader	H3N48AA
	HP ElitePad Serial Adapter	H3N50AA
	HP Slim Bluetooth Keyboard	H4Q44AA
	HP Mini Wireless Keyboard (Multitouch)	E5J21AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP X4000b Bluetooth Mouse	H3T50AA
	HP Slim Bluetooth Mouse	F3J92AA
	HP Touch to Pair Mouse (Bluetooth)	H6E52AA
	* HP Executive Tablet Pen (G2) is only compatible with HP ElitePad 1000 G2 and HP Revolve G2.	
<b>Power</b>	HP ElitePad 12W USB Auto Adapter	F5V87AA
	HP ElitePad Smart AC Adapter	H3N47AA
	HP ElitePad USB Chrg 24Pk Cable	F5V88A6
<b>Video</b>	HP ElitePad HDMI & VGA Adapter	H3N45AA
<b>Networking</b>	HP ElitePad Ethernet Adapter	H3N49AA
	HP ElitePad Power/Ethernet Adapter	F9D31AA
<b>Charging Station</b>	HP Multi-Tablet Charging Module	H4W98UT

**NOTE:** For additional information and specifications for the HP ElitePad Accessories, please access the HP ElitePad Accessories QuickSpecs: [http://h18004.www1.hp.com/products/quickspecs/14491\\_div/14491\\_div.html](http://h18004.www1.hp.com/products/quickspecs/14491_div/14491_div.html)

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Options and Accessories (sold separately and availability may vary by country)

### Summary of Changes

Date of change:	Version History:		Description of change:
	From v1 to v2		
February 18, 2015	From v2 to v3	Added	Added a new disclaimer
February 24, 2015	From v3 to v4	Change	Change the disclaimers from at a glance so it would be correctly
		Added	Added the chart for Cleaning
March 6, 2015	From v4 to v5	Changed	Change disclaimer ** and ***
April, 17 2015	v5	Updated	Multiple updates
July 27, 2015	From v 5 to v6	Addition	Added new note under accessories for rugged docking
		Addition	Added new operating system
August 3, 2015	From v6 to v7	Changed	Changes to OS for Windows 10 updates
August 28, 2015	From v7 to v8	Added	Added new chart MIL-STD 810G TEST
October 14, 2015	From v8 to v9	Updated	At a Glance section