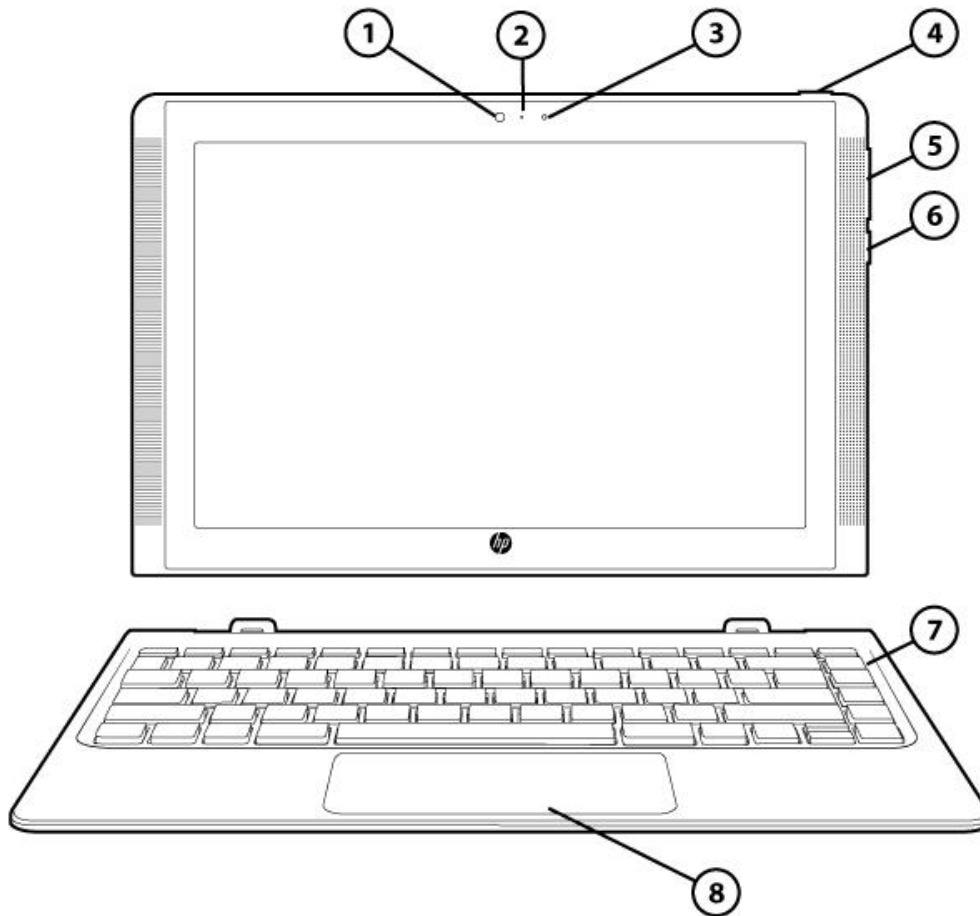


Overview

HP x2 210 Detachable PC



Front Tablet View

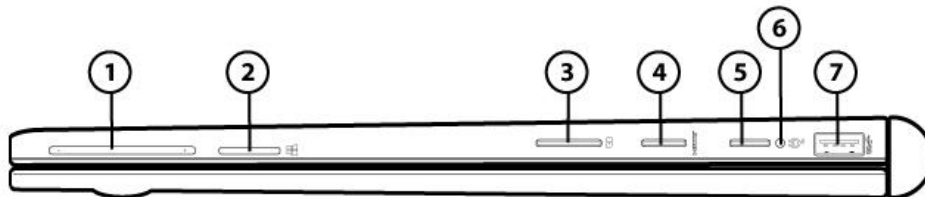
- | | |
|---------------------------------|------------------------|
| 1. 2 MP front facing FHD Webcam | 5. Volume control |
| 2. Front-facing camera LED | 6. Home button |
| 3. Mic | 7. Detachable keyboard |
| 4. Power button | 8. Touchpad |

Overview



Left side view

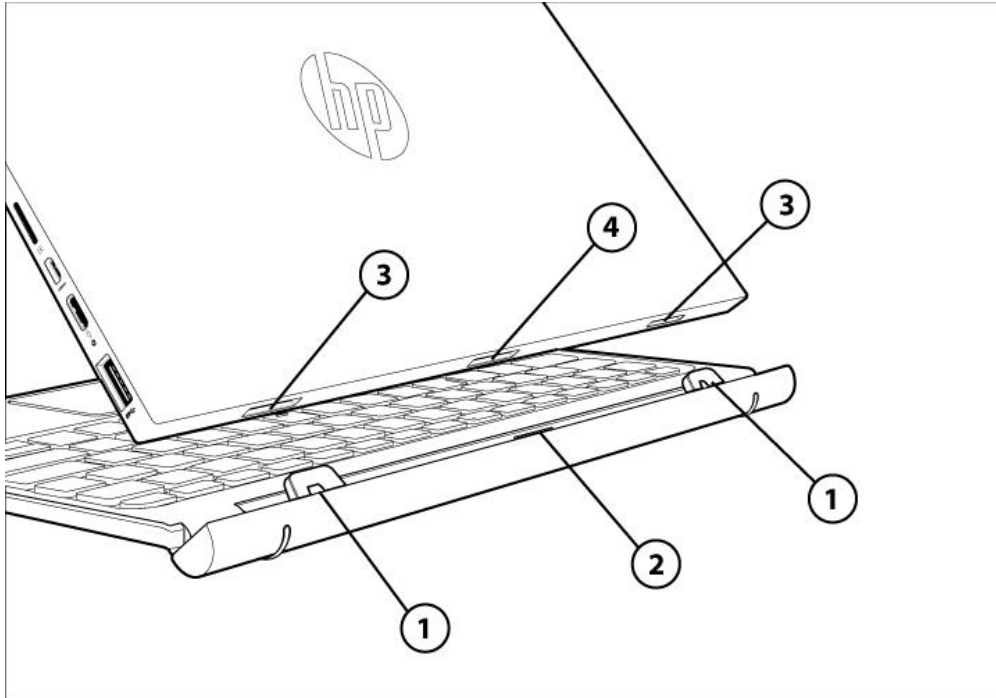
1. Stereo headphone-out/mic-in combo jack



Right side view

- | | |
|-------------------|--------------------------|
| 1. Volume control | 5. USB-C / Charging port |
| 2. Home button | 6. Power LED |
| 3. SD slot | 7. USB 3.0 port |
| 4. HDMI port | |

Overview



Back view with detachable keyboard

- | | |
|--------------|-----------------------|
| 1. Guide pin | 3. Guide pin slot |
| 2. Pogo pin | 4. Pogo pin connector |

Overview

At A Glance

- An affordable 2 in1 designed to tablet-class thinness, featuring five flexible positions for comfort and productivity
- Windows 10 Pro 64-Bit
- Intel® Atom™ x5 Quad-Core Processor Z8300
- Integrated Intel® Generation 8 Graphics
- 10.1" diagonal WXGA AG WLED (1280x800) UWVA (Ultra-slim), 16:10 Ultra Wide Aspect Ratio IPS
- Up to 4 GB of memory
- 19.84 mm thin
- Starting weight for Tablet only .59 Kg/1.3 lbs
- Starting weight with Keyboard 1.2 Kg / 2.6 lbs
- 93% Hard magnetic keyboard base with full travel, plus 135° reflex hinge for a wide range of stable, balanced display positions
- Audio by Bang & Olufsen, integrated front-facing stereo speakers, and HD web camera
- Up to 64 GB eMMC storage
- Multitouch gestures enabled for clickpad
- Security features include fTPM2.0
- Wireless connectivity:
 - Intel® Dual Band Wireless-AC 7265 802.11 ac (2x2) Wi-Fi and Bluetooth®
 - Intel® 3165NGWG 802.11ac (1x1) + Bluetooth® 4.0 LE PCIe+USB NGFF 2230 WW
- Standard commercial 1 year limited warranty. Optional HP Care Packs also available.

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

Features

PRODUCT NAME

HP x2 210 Detachable PC

OPERATING SYSTEM

Preinstalled¹	Windows 10 Home 64 ¹ Windows 10 Pro 64 ¹
Web Support	Windows 10 Pro (National Academic only) ¹ Windows 10 Home 64 ¹ Windows 10 Pro 64 ¹ Windows 8.1 Pro 64 ¹ Windows 10 Pro (National Academic only) ¹

1. 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>.

PROCESSOR

Intel® Atom x5 Quad-Core Z8300 (1.44 GHz, 4 cores)¹

1. 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 system required. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

CHIPSET

Intel® HM65 Express Chipset

SoC

Sensor Hub with EC

Ambient light sensor
Accelerometer
Hall sensor

Supported Features

EFI Architecture BIOS - Insyde
Touch Support
Supported lang table US English, FR French, SP Spanish, TC T-Chinese and S-Chinese
Peak shift (for Japan)
Connected Stanby

GRAPHICS

Intel® Generation 8 Graphics and media encode/decode engine

Support:
Dynamic Graphics Frequency

Features

DX11.1
OpenGL 3.X
OpenCL 2.0

DISPLAY

Internal

10.1" diagonal WXGA Anti-glare WLED (1280 x 800) UWVA Ultra-Slim MIPI

- 16:10 Ultra Wide Aspect Ratio IPS
- 250 nits
- 10-finger multi touch, capacitive
- Supports active pen
- Full Win10 touch/pen compliance

STORAGE

Embedded Multi Media Card (eMMC) on Tablet

32 GB (V5.0)
64 GB (V5.0)

Expandable Card Expansion on Tablet

Micro SD Card Slot
Push-Push socket: Up to 2 TB by OS
Support SD 3.0

MEMORY

LPDDR3-1600 (Transfer rates up to 1600 MT/s)
2 GB or 4 GB
On board
Non-accessible
Not upgradeable

NETWORKING/COMMUNICATIONS

Wireless LAN (WLAN)

Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2)7 and Bluetooth® 4.0 Combo (Miracast supported)
Intel® 3165NGWG 802.11ac (1x1) + Bluetooth® 4.0 LE PCIe+USB NGFF 2230 WW¹
Miracast support

[1. Wireless access point and Internet service is required and is not included. Availability of public wireless access points limited.](#)

AUDIO/MULTIMEDIA

Audio

Audio by Bang & Olufsen
Support: D3 mode and HP clear voice feature
Dual Speakers
Support Voice recognition

Features

Web Camera

One Fixed Integrated Web Camera¹

- Front: 720P Fixed Focus (1280 x 720) @30fps - MIPI interface w/o LED and Mic
- Dual array Digital Microphones w/ appropriate software

1. [Wireless access point and Internet service is required and is not included. Availability of public wireless access points limited.](#)

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard and clickpad

93% Island style thin cover keyboard (1.5mm travel distance) with image sensor clickpad
135° latchless, magnetic hinge
Multitouch gestures enabled for clickpad
10 PIN Pogo-pin docking connector connect to slate

Pointing Devices

HP Active Pen¹

1. [Sold separately or as an optional feature.](#)

Buttons

Power
Volume Up
Volume Down
Windows Start/Home

LED Indicators

Tablet

Charging Status
Webcam

Keyboard

Caplock
mute

SOFTWARE AND SECURITY

Information and Productivity

Adobe Shockwave Player
iPass (APJ Only)
The Weather Channel
Netflix
Hearts Deluxe
Amazon
TripAdvisor
Microsoft Office Universal
Internet Explorer Home
Bing
Windows 10 Welcome App

HP Value Added Software

Features

- HP ePrint¹
- HP Touchpoint Manager
- HP AC Power Control
- HP PC Hardware Diagnostics UEFI
- HP Setup Integrated OOBE
- HP Recovery Manager
- HP Support Assistant²
- HP Recovery Media (SSRU/SSRD)
- HP System Event Utility
- HP User Guide with Warranty Documentation
- HP Retail Demo Loop
- HP BIOSphere

Security

- fTPM2.0
- Avast Secureline VPN

HP School Pack

- Fishtree
- Edmin
- Classlink
- Codecademy
- HP Classroom Manager
- OUP Metro
- Sparkvue Education
- HP Prime
- HP Touchpoint Manager
- Corinth

1. HP ePrint requires an internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see www.hp.com/go/businessmobileprinting).
2. Internet access required.

POWER

Power Supply

15W USB Type-C AC adapter with localized cable plug support

Power Cord

Duckhead

Primary Battery (Tablet)

Lithium Polymer battery (33Whr) Nominal) 1S2P

Battery life

11 hours¹

System Standby Time

TBD

1. Windows 10/MM14 battery life will vary depending on various factors including 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. See www.bapco.com for additional details.

Features

WEIGHTS & DIMENSIONS

Weight

Tablet only

.59Kg/1.3lbs

Tablet with Keyboard

1.2Kg / 2.6lbs

Dimensions – Tablet only

(w x d x h)

264 x 173 x 9.65 mm

10.39 x 6.81 x .38 in

Dimensions – Tablet with Keyboard

264 x 182.6 x 19.84 mm

10.39 x 7.19 x .77 in

NOTE: Height varies depending upon where on the notebook the measurement is made.

Weight varies by configuration and components.

PORTS/SLOTS

Tablet

1 USB 3.0

1 USB-C™ 2.0 (Data transfer + Charging)

1 Headphone / Microphone in Combo Jack

1 MicroHDMI v1.4 output (support up to 2048 x 1024 @ 60Hz)

1 Pogo-pin (10-pin) docking connector

Slots

1 MicroSD slot

SERVICE AND SUPPORT

HP 1 year limited warranty. 1-year limited warranty on primary battery. On-site service and optional extended service contracts are also available. Optional¹ HP Care Packs² are extended service contracts which go beyond your standard limited warranties. For more details visit: <http://www.hp.com/go/lookuptool>.

1. Sold separately or as an optional feature.
2. 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. 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. 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>.

Features

NETWORKING/COMMUNICATIONS

Intel® Dual Band Wireless-AC 7265 802.11 ac 2x2 Wi-Fi and Bluetooth®

Wireless LAN Standards	<ul style="list-style-type: none"> IEEE 802.11 a IEEE 802.11 b IEEE 802.11 g IEEE 802.11 n IEEE 802.11 ac
Interoperability Frequency Band	<ul style="list-style-type: none"> Wi-Fi certified 802.11b/g/n <ul style="list-style-type: none"> • 2.402 – 2.482 GHz Note: The FCC has declared as of January 1, 2015 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels. 802.11a/n <ul style="list-style-type: none"> • 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 Note: Indonesia no support this band)
Data Rates	<ul style="list-style-type: none"> • 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11 ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
Modulation	Direct Sequence Spread Spectrum
Security¹	BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM <ul style="list-style-type: none"> • IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • IEEE 802.11i • Cisco Certified Extensions, all versions through CCX4 and CCX Lite • WAPI
Network Architecture Models Roaming Output Power²	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required) IEEE 802.11 compliant roaming between access points <ul style="list-style-type: none"> • 802.11b : +16dBm minimum • 802.11g : +14dBm minimum

Features

- 802.11a : +14dBm minimum
- 802.11n HT20(2.4GHz) : +14dBm minimum
- 802.11n HT40(2.4GHz) : +12dBm minimum
- 802.11n HT20(5GHz) : +14dBm minimum
- 802.11n HT40(5GHz) : +12dBm minimum

Power Consumption	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
Power Management	ACPI and PCI Express compliant power management
Receiver Sensitivity³	802.11 compliant power saving mode 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 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
Antenna type	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
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm
Weight	Type 2230 : 2.8g Or Type 1630 : 2g
Operating Voltage	3.3v +/- 9%
Temperature	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
Altitude	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio ON
	<ol style="list-style-type: none"> 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



Features

Bluetooth Specification	4.0/4.1/4.2 Compliant												
Frequency Band	2402 to 2480 MHz												
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)												
Data Rates and Throughput	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)												
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.												
Receiver Sensitivity Legacy	<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>$\pi/4$-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											
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW												
Range	Legacy Up to 33 ft (10 m) BLE Up to 99 ft (30 m)												
Electrical Interface	USB 2.0 compliant												
Bluetooth Software Supported Link Topology	Microsoft Windows Bluetooth Software												
Electrical Interface Bluetooth Software Supported Security	Point to Point, Multipoint Pico Nets up to 7 slaves Full support of Bluetooth Security Provisions												
Power Management Certifications	Microsoft Windows ACPI, and USB Bus Support Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff												
Security Certifications Bluetooth Profiles Supported	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249												
Power Management Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark Serial Port Profile (SPP) ¹ Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) ^{1,2} Generic Object Exchange Profile (GOEP) ^{1,2} Object Push Profile (OPP) ^{1,2} Hard Copy Cable Replacement (HCRP) ^{1,2} Personal Area Networking Profile (PAN) ^{1,2} Human Interface Device Profile (HID) ^{1,2} Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) Audio Video Remote Control Profile (AVRCP)												
Certifications Bluetooth Profiles Supported													

Features

Bluetooth V4.1/V4.2 support feature

V4.1: ESR5/6/7 compliant

V4.2: ESR8 compliant, LE Secure Connection – Basic.

Intel® 3165NGWG 802.11ac (1x1) + Bluetooth® 4.0 LE PCIe+USB NGFF 2230 WW

Wireless LAN Standards

IEEE 802.11a
IEEE 802.11b
IEEE 802.11g
IEEE 802.11n
IEEE 802.11ac

Interoperability Frequency Band

Wi-Fi certified
802.11b/g/n

- 2.402 – 2.482 GHz

Note:

The FCC has declared as of January 1, 2015 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.

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

Note:

Indonesia only supports 5.725 - 5.825 GHz (CH149 - CH161)

Data Rates

- 802.11b: 1, 2, 5.5, 11 Mbps
- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)
- 802.11ac : MCS0 ~ MCS7, (1SS) (20MHz, 40MHz, and 80MHz)

Modulation

Direct Sequence Spread Spectrum
BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM

Security¹

- IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only
- AES-CCMP: 128 bit in hardware
- 802.1x authentication
- WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
- WPA2 certification
- IEEE 802.11i
- Cisco Certified Extensions, all versions through CCX4 and CCX

Features

	Lite
	<ul style="list-style-type: none"> WAPI
Network Architecture Models	Ad-hoc (Peer to Peer)
Roaming	Infrastructure (Access Point Required)
Output Power²	IEEE 802.11 compliant roaming between access points <ul style="list-style-type: none"> 802.11b : +16dBm minimum 802.11g : +14dBm minimum 802.11a : +14dBm minimum 802.11n HT20(2.4GHz) : +13dBm minimum 802.11n HT40(2.4GHz) : +13dBm minimum 802.11n HT20(5GHz) : +12dBm minimum 802.11n HT40(5GHz) : +12dBm minimum 802.11ac 80MHz(5GHz) : +11dBm minimum
Power Consumption	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 60 mW (WLAN unassociated) Radio disabled: 30 mW
Power Management	ACPI and PCI Express compliant power management
Receiver Sensitivity³	802.11 compliant power saving mode 802.11b, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -86dBm maximum 802.11a, 54Mbps : -72dBm maximum 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
Antenna type	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
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm
Weight	Type 2230 : 2.8g Or Type 1630 : 2g
Operating Voltage	3.3v +/- 9%
Temperature	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)



Features

Altitude
 Operating 0 to 10,000 ft (3,048 m)
 Non-operating 0 to 50,000 ft (15,240 m)

LED Activity LED Amber – Radio OFF; LED White – Radio ON

4. Check latest software/driver release for updates on supported security features.
5. Maximum output power may vary by country according to local regulations.
6. 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+EDR Wireless Technology

Bluetooth Specification 4.0+EDR Compliant
Frequency Band 2402 to 2480 MHz
Number of Available Channels 79 (1 MHz) available channels
Data Rates and Throughput 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

Transmit Power The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of +4 dBm for BR and EDR.

Receiver Sensitivity

Modulation	0.01% BER	0.001% BER
GFSK	-80 dBm	-70 dBm
$\pi/4$ -DQPSK	-80 dBm	-70 dBm
8DPSK	-80 dBm	-70 dBm

Power Consumption Peak (Tx) 330 mW
 Peak (Rx) 230 mW
 Selective Suspend 17 mW

Range Up to 33 ft (10 m)

Electrical Interface USB 2.0 compliant

Bluetooth Software Supported Microsoft Windows Bluetooth Software

Link Topology

Electrical Interface Point to Point, Multipoint Pico Nets up to 7 slaves

Bluetooth Software Supported Full support of Bluetooth Security Provisions

Security

Power Management Microsoft Windows ACPI, and USB Bus Support

Power Management Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff

Certifications

Security All necessary regulatory approvals for supported countries, including:
Certifications FCC (47 CFR) Part 15C, Section 15.247 & 15.249

Bluetooth Profiles Supported

Power Management ETS 300 328, ETS 300 826
Certifications Low Voltage Directive IEC950
 UL, CSA, and CE Mark
 Serial Port Profile (SPP)¹
 Service Discovery Application Profile (SDAP)
 Dial-Up Networking (DUN)^{1,2}
 Generic Object Exchange Profile (GOEP)^{1,2}
 Object Push Profile (OPP)^{1,2}
 File Transfer Profile (FTP)
 Synchronization Profile (SYNC)
 Hard Copy Cable Replacement (HCRP)^{1,2}
 Personal Area Networking Profile (PAN)^{1,2}
 Human Interface Device Profile (HID)^{1,2}
 FAX Profile (FAX)
 Basic Imaging Profile (BIP)²

Certifications

Bluetooth Profiles Supported

Features

Headset Profile (HSP)
Hands Free Profile (HFP)
Advanced Audio Distribution Profile (A2DP)

Intel Modules for 2x2 DB AC WLAN/BT Combo Card

Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
Interoperability Frequency Band	Wi-Fi certified 802.11b/g/n <ul style="list-style-type: none">2.402 – 2.482 GHz Note: The FCC has declared as of January 1, 2015 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels. 802.11a/n <ul style="list-style-type: none">4.9 – 4.95 GHz (Japan)5.15 – 5.25 GHz5.25 – 5.35 GHz5.47 – 5.725 GHz5.825 – 5.850 GHz Note: Indonesia no support this band)
Data Rates	<ul style="list-style-type: none">802.11b: 1, 2, 5.5, 11 Mbps802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
Security¹	<ul style="list-style-type: none">IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode onlyAES-CCMP: 128 bit in hardware802.1x authenticationWPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.WPA2 certificationIEEE 802.11iCisco Certified Extensions, all versions through CCX4 and CCX LiteWAPI
Network Architecture Models Roaming Output Power²	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required) IEEE 802.11 compliant roaming between access points <ul style="list-style-type: none">802.11b : +16dBm minimum802.11g : +14dBm minimum802.11a : +14dBm minimum802.11n HT20(2.4GHz) : +14dBm minimum

Features

- 802.11n HT40(2.4GHz) : +12dBm minimum
- 802.11n HT20(5GHz) : +14dBm minimum
- 802.11n HT40(5GHz) : +12dBm minimum

Power Consumption

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

Power Management

ACPI and PCI Express compliant power management

Receiver Sensitivity³

802.11 compliant power saving mode
 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
 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

Antenna type

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

Form Factor

PCI-Express M.2 MiniCard

Dimensions

Type 2230 : 2.3 x 22.0 x 30.0 mm
 Or

Weight

Type 1630 : 2.3 x 16.0 x 30.0 mm
 Type 2230 : 2.8g
 Or

Operating Voltage

Type 1630 : 2g
 3.3v +/- 9%

Temperature

Operating 14° to 158° F (-10° to 70° C)
 Non-operating -40° to 176° F (-40° to 80° C)

Humidity

Operating 10% to 90% (non-condensing)
 Non-operating 5% to 95% (non-condensing)

Altitude

Operating 0 to 10,000 ft (3,048 m)
 Non-operating 0 to 50,000 ft (15,240 m)

LED Activity

LED Amber – Radio OFF; LED White – Radio ON

7. Check latest software/driver release for updates on supported security features.
8. Maximum output power may vary by country according to local regulations.
9. 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

Bluetooth Specification 4.0/4.1/4.2 Compliant

Frequency Band 2402 to 2480 MHz

Number of Available Channels Legacy : 0~79 (1 MHz/CH)
 BLE : 0~39 (2 MHz/CH)

Data Rates and Throughput Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps

Features

Transmit Power

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)
 The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.

Receiver Sensitivity Legacy

Modulation	0.01% BER	0.001% BER
GFSK	-80 dBm	-70 dBm
$\pi/4$ -DQPSK	-80 dBm	-70 dBm
8DPSK	-80 dBm	-70 dBm

Power Consumption

Peak (Tx) 330 mW
 Peak (Rx) 230 mW
 Selective Suspend 17 mW

Range

Legacy Up to 33 ft (10 m)
 BLE Up to 99 ft (30 m)

Electrical Interface

USB 2.0 compliant

Bluetooth Software Supported Link Topology

Microsoft Windows Bluetooth Software

Electrical Interface

Point to Point, Multipoint Pico Nets up to 7 slaves

Bluetooth Software Supported Security

Full support of Bluetooth Security Provisions

Power Management Certifications

Microsoft Windows ACPI, and USB Bus Support
 Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff

Security

All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249

Certifications

Bluetooth Profiles Supported

Power Management Certifications

ETS 300 328, ETS 300 826
 Low Voltage Directive IEC950
 UL, CSA, and CE Mark
 Serial Port Profile (SPP)¹
 Service Discovery Application Profile (SDAP)
 Dial-Up Networking (DUN)^{1,2}
 Generic Object Exchange Profile (GOEP)^{1,2}
 Object Push Profile (OPP)^{1,2}
 Hard Copy Cable Replacement (HCRP)^{1,2}
 Personal Area Networking Profile (PAN)^{1,2}
 Human Interface Device Profile (HID)^{1,2}
 Hands Free Profile (HFP)
 Advanced Audio Distribution Profile (A2DP)
 Audio Video Remote Control Profile (AVRCP)

Certifications

Bluetooth Profiles Supported

Bluetooth V4.1/V4.2 support feature

V4.1: ESR5/6/7 compliant

V4.2: ESR8 compliant, LE Secure Connection – Basic.

Features

COUNTRY OF ORIGIN

China

ENVIRONMENTAL

ENERGY STAR® 6.1

EPEAT® Silver

RoHS 2 Compliant

MSH/OBL Compliant

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

Type	Description	Part number
Input/Output - Adapters	Micro HDMI to HDMI/VGA Adapter	K8E31AA
	USB (Type A) to Ethernet Adapter	XZ613AA
Input/Output - Mice	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP X4000b Bluetooth Mouse	H3T50AA
	HP Slim Bluetooth Mouse	F3J92AA
	HP Ultrathin Wireless Mouse	L9V78AA
	HP Ultrathin Wireless Mouse SE	L9V77AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
Input/Output - Pen	HP Pro Tablet 408 Active Pen	K8P73AA
Power-Adapter	HP 15W USB Type-C AC Adapter	N2L83AA
Other - Audio	HP Business Headset	K7V17AA
Other - WiDi Adapter	HP Wireless Presenter Adapter	J1V25AA

Summary of Changes

Date of change:	Version History:		Description of change:
November 25, 2015	Version 1 to 2	Added	Added Intel®Dual Band Wireless-AC 7265 802.11 ac 2x2 Wi-Fi and Bluetooth
	Version 2 to 3	Added	Specs for Intel®Dual Band Wireless-AC 7265
December 15, 2015	Version 3 to 4	Added	Battery life and disclaimer page 8
		Updated	Copyright statement
February 22, 2016	Version 4 to 5	Updated	WLAN card name

©Copyright 2016 HP Development Company, L.P. The information contained herein is subject to change without notice. The only warranties are contained in the limited warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Bluetooth is a trademark of its proprietor used by HP Inc. under license. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency. Intel and Core are trademarks of Intel Corporation in the U.S. and other countries. Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. For DTS patents, see <http://patents.dts.com>. Manufactured under license from DTS Licensing Limited. DTS, the Symbol, & DTS and the Symbol together are registered trademarks, and DTS Sound is a trademark of DTS, Inc. © DTS, Inc. All Rights Reserved.