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## HP THUNDERBOLT DOCK G2 FEATURES AND TROUBLESHOOTING



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# DOCKING REINVENTED FOR THE MODERN WORKSPACE

The HP Thunderbolt Dock G2 is your solution to the ultimate, future-proof docking experience. With just a single cable connection, you can expand your notebook with up to 200 W of charging, fast transfer speeds, support for dual 4K displays, connectivity to your accessories and wired network, plus advanced network manageability. Your augmented PC experience is streamlined into a sleek, space-saving centerpiece that boasts an award-winning design for its friendly form that maximizes your workspace real estate.

The high-performance HP Thunderbolt Dock G2 supports a wide range of notebooks from the HP 400 G5 series to HP x2s and the HP ZBook Mobile Workstations and also supports non-HP notebooks that are designed to Thunderbolt<sup>™</sup> and USB Type-C<sup>™</sup> standards providing workspace flexibility and a scalable experience for you and your fleet.

## HP THUNDERBOLT DOCK G2 SPECIFICATIONS

SKUs	HP Thunderbolt Dock 120 W G2 (2UK37AA)
	HP Thunderbolt Dock 230 W G2 (2UK38AA) HP Thunderbolt Dock G2 w/ combo cable (3TR87AA)
	HP Thunderbolt Dock G2 W/ combo cable (31 R87AA) HP Thunderbolt Dock 120 W G2 w/ Audio (3YE87AA)
	HP Thunderbolt Dock T20 W G2 W/ Audio (3YE87AA)
Design	Cube Modular Design with optional Audio Module for huddle rooms, closed or home offices
Power Button on dock and Audio Module <sup>1</sup>	LED in top case that powers system by pressing it
Cable length and AMO options	Default 0.7 meter cable
	0.7 meter for mobile workstations (requires 230 W AC Adapter)
	0.7 meter for notebooks and detachables (requires 120 W AC Adapter)
	0.7 meter combo cable (requires 230 W AC Adapter)
	Cables are end user accessible
USB Type-C™ ports	1x Thunderbolt™ port (back)
USB 3.1 Gen2	1x Alt Mode & Data port (back)
	1x data port (front)
USB-A ports	3x USB-A ports (1 powered)
USB 3.0 Gen1	
Video Ports	5 x video ports
	2 DisplayPort™, 1 VGA, 1 USB-C™ Thunderbolt™, 1 USB Type-C™ Alt Mode
Number of Monitors supported	Up to 4 external (+notebook* display)
	Dependent on notebook video capability
Video Resolutions	Up to DP 1.4 support
	Dual 4K @ 60 Hz (DP 1.2 systems)
	Triple 4K @ 60 Hz (DP 1.4 DSC <sup>2</sup> systems)
System compatibility <sup>3</sup>	Compatible with Thunderbolt <sup>™</sup> systems and USB Type-C <sup>™</sup> systems
	with power and video
Operating Systems <sup>3</sup>	Windows 7, Windows 10, Chrome, macOS
Power to system thru USB Type-C™	Up to 100 W (USB Type-C <sup>TM</sup> )
Power to system thru barrel	Up to 200 W (4.5 mm barrel)
AC adapter	120 W / 230 W 7.4 mm
Power Profiles	5V/5A, 9V/5A, 12V/5A, 15V/5A, 20V/5A PD 3.0

\*Note: Unless specifically stated the term 'notebook' refers to both business notebooks and mobile workstations

### MINIMUM SOFTWARE/FIRMWARE REQUIREMENTS

HP always recommends that customers download the latest software and firmware for the best user experience.

Platform/Component	OS/Deliverable	Version	
	Windows 7	16.3.71.300 or later	
Intel® Thunderbolt™ 3 Secure Connect Software	Windows 10	17.4.75.250 or later	
Thunderbolt™ system using Native hot plug mode	Windows 10	OS build 16299.125 or later	
	BIOS	1.11 or later	
HP Pro x2 612 G2 Tablet	Intel® Graphics driver	15.60.4849 or later	

Table 1: Software/firmware requirements



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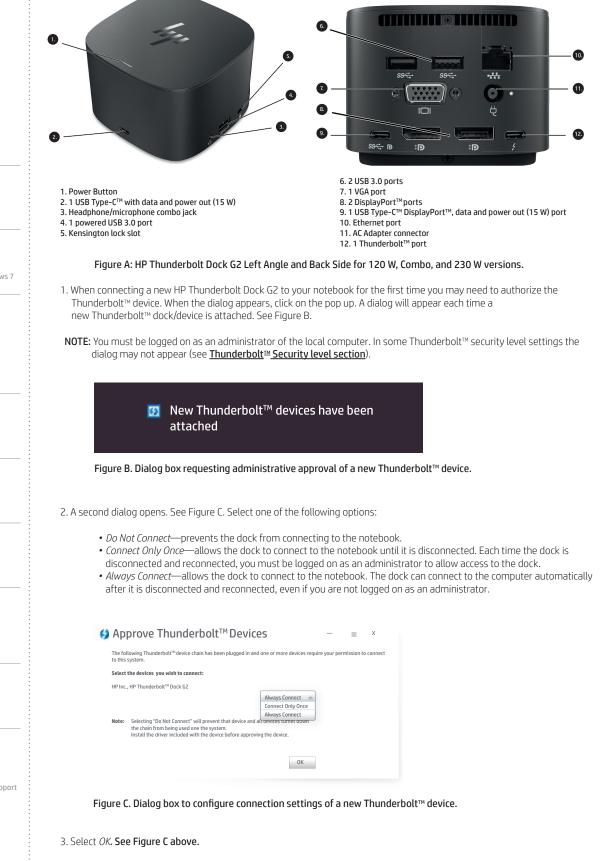
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15–19 Support list for the HP Thunderbolt 2 Dock HP Commercial Notebook / mWS Platform Support If the New Thunderbolt<sup>TM</sup> Devices dialog box (Figure C) is missed or does not pop up from Step 1 above, go to the system tray to relaunch Approved Thunderbolt<sup>TM</sup> Devices.

1. Right click the Thunderbolt<sup>™</sup> icon on the system tray.

2. Select Approve Attached Devices.

View Attac	ched Device	s				
Approve A	ttached De	vices	•	Po	nt 1	
Thunderb	olt" Networ	rking				
Manage A	pproved De	vices				
Settings						
About						
Exit						
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Figure D: Approved Thunderbolt<sup>™</sup> device dialog box.

- 3. Click on the port in which the Thunderbolt<sup>™</sup> device is connected. See Figure D above.
- 4. The Approve Thunderbolt<sup>™</sup> Devices dialog box should now appear and you will be able to approve your Thunderbolt<sup>™</sup> dock. See Figure D above.
- 5. If you miss this dialog box you may reopen it by clicking on the message icon in your system tray. See Figure E.

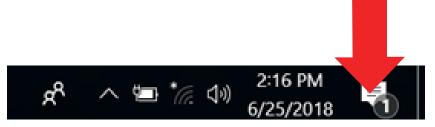


Figure E: Message icon in system tray.

### BEST PRACTICE - DOCKING/UNDOCKING FOR WINDOWS 7

#### Recommended practice:

It is recommended that the HP Thunderbolt Dock G2 be plugged into the HP Notebook or HP ZBook Mobile Workstation while it is fully on or fully off (not in a standby or hibernate state). When detected, a Thunderbolt<sup>™</sup> icon, shown in Figure F, will appear in the system tray. At this point, the HP Notebook or HP ZBook Mobile Workstation will start initializing all the devices connected to the dock, so there might be a slight delay before the devices are ready to use.



Figure F. Thunderbolt<sup>™</sup> Software Icon in system tray.

#### Updating to the latest software and firmware for optimal performance:

It is always recommended that end users are running the latest drivers and firmware for optimal performance. The HP Thunderbolt Dock G2 may require updates to your host platform software or firmware to support the new technologies.

To ensure the best experience on a Windows 7 Operating system, please make sure to install the latest software and firmware to support the HP Thunderbolt Dock G2. Please refer to the chart in Table 1.

After firmware and software is updated, please do the following:

 Ensure you install the WinUSB driver through Windows Update. You can do this by right clicking the WinUSB device in Device Manager and selecting Update Driver. Then select the option Search automatically for updated driver software.
 Installing the required USB drivers may require a certain installation process or you may encounter an error. Required steps below.



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#### Installing the USB drivers for HP Thunderbolt Dock G2 on Windows 7:

HP installed Image:

- 1. Uninstall the Intel<sup>®</sup> USB 3.1 Device Driver version 15.x.x.x in the HP image.
- 2. Install the Intel® USB 3.0/3.1 eXtensible Host Controller Driver version 5.0.3.42 or later.
- 3. Install the Intel<sup>®</sup> USB 3.1 Device Driver 17.2.70.100 or later.

#### Clean install:

- 1. Install the Intel<sup>®</sup> USB 3.0/3.1 eXtensible Host Controller Driver version 5.0.3.42.
- 2. Install the Intel<sup>®</sup> USB 3.1 Device Driver 17.2.70.100 or later.

### MULTI-FUNCTION MODE

The HP Thunderbolt Dock G2 can connect to systems without Thunderbolt<sup>™</sup> through multi-function mode. There are three main differences between Thunderbolt<sup>™</sup> mode of the HP Thunderbolt Dock G2 and multi-function mode.

- The Thunderbolt<sup>™</sup> port on the back of the unit will degrade to USB2 only.
- The Thunderbolt<sup>™</sup> port is only fully functional with a Thunderbolt<sup>™</sup> host connected.
- The number of independent video streams is decreased from two DP x4 to one DP x2.

### PRE-BOOT SUPPORT

The HP Thunderbolt Dock G2 supports pre-OS environment only in Thunderbolt<sup>TM</sup> Security Level 0 and Security Level 1 (please reference the **Security Levels – Available Functions and Ports** section of this document for more details about the Thunderbolt<sup>TM</sup> Security level settings).

#### Supported features:

- USB peripherals such as keyboards, mouse, and flash drives connected to the docking station
- Pre-boot Execution Environment (PXE)
- External displays (the internal panel must be closed for external panels to function at pre-boot)

For any pre-boot support with the HP Thunderbolt Dock G2 you will be required to disable FastBoot in F10 BIOS settings.

#### Disabling FastBoot in F10 BIOS:

- 1. Press the power button to turn on the unit.
- 2. At the HP logo screen press **F10** to enter the BIOS settings menu.
- 3. Click the *Advanced* tab and select *Boot Options*.
- 4. Unselect the FastBoot Option.
- 5. Save and exit.

\*Note: Please ensure you are running the latest drivers, BIOS, and firmware to enable full functionality of all features

### LED/POWER BUTTON

On HP Commercial notebook systems, the power button on the dock will simulate the power button on the host system. Additionally, the LED on the dock power button will reflect the state of the host and will behave similarly to the power LED of the host.

On non-HP notebooks, Chrome, or non-supported HP notebooks the dock power button and power LED do not control or reflect the status of the host.

### CHARGING SUPPORT FROM HP DOCK

#### a. LED in back – indicates valid adapter

If an HP adaptor of 19.5 V and 120 W or larger is connected to the dock the white LED will light. When an HP adapter of 19.5 V and 120 W or larger is connected to the dock the white LED will light. All other adaptors will be rejected and the LED will be off and the dock will not function.

#### b. Power to Host

i. Type-C power to host: 5 V / 5 A, 9 V / 5 A, 12 V / 5 A, 15 V / 5 A, 20 V / 5 A.

ii. Power over AC pass-through cable (barrel connection): 200 W.

#### c. USB ports. See Table 2



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USB Port				
USB Type-C™ Port 2 (front)	USB 3.1 Gen 2 USB PD; 0.9 A, 1.5 A, 3 A @ 5 V (max 15 W)			
USB Type-C™ Port 9 (back)	USB 3.1 Gen 2 USB PD; 0.9 A, 1.5 A, 3 A @ 5 V (max 15 W)			
USB Type-C™ Port 12 (back)	Thunderbolt™ pass-through USB PD; 0.9 A, 1.5 A, 3 A @ 5 V (max 15 W)			
	(port 4)-USB Type-A port 3.0 or 3.1 Gen 1 BCS1.2 (1.5 A @ 5 V) - CHARGING			
USB Type-A	(port 6)-USB Type-A port 3.0 or 3.1 Gen 1			
	(port 6)-USB Type-A port 3.0 or 3.1 Gen 1			

Table 2: USB Port Capabilities

#### HP Thunderbolt Dock G2 power/charging

The HP Thunderbolt Dock G2 has two different configurations and provides power to the host through two different cables. The only difference is the AC adaptor and cable assembly. The USB Type-C<sup>™</sup> cable is configured and electronically marked to support 40 Gbps Thunderbolt<sup>™</sup> speeds and 5 ampere capabilities. The capability of the cable can be read by both the HP host and the dock. If the cable must be replaced it is highly recommended to use the HP cable designed for this dock. Failure to use the HP Thunderbolt dock cable may result in decreased Thunderbolt<sup>™</sup> performance and capabilities. Other 3rd party USB Type-C<sup>™</sup> cables may not support 40 Gbps Thunderbolt<sup>™</sup> speeds or currents over 3 amperes.

#### Non-workstation versions

An HP 120 W AC adaptor and an attached USB Type-C<sup>™</sup> Thunderbolt<sup>™</sup> cable that supports up to 20 volts 5 amperes (100 W) is provided. The HP 19.5 V 120 W AC adaptor is the minimum required supply and anything less than this will be rejected. An HP adaptor that supports 19.5 V and is larger than 120 W is acceptable and usable.

#### Mobile workstation versions

An HP 19.5 V 230 W AC adaptor and an attached USB-C/Barrel Thunderbolt<sup>TM</sup> cable is provided. An optional cable that can split the USB Type-C<sup>TM</sup> and Barrel connection may be provided. These cables provide connections to the USB Type-C<sup>TM</sup> opt and the barrel connector on the mobile workstation. The USB Type-C<sup>TM</sup> connection still supports up to 100 W (20 volts 5 amperes) but is not used by the host when the barrel connector is used. The barrel connector only works when a 230 W or above adaptor is attached. If a smaller adaptor is used, only the USB Type-C<sup>TM</sup> connection is used for charging.

### DISPLAY CAPABILITIES

- Multiple monitors support
  - Notebooks and mobile workstations using only an Intel<sup>®</sup> HD graphics solution can support up to three displays, including the notebook display
  - NVIDIA® graphics can support up to four displays, including the notebook display
  - AMD graphics can support up to six displays, including the notebook display
  - Hybrid graphics:
    - When used together the HP Thunderbolt Dock G2 and HP ZBook 15/17 configured with hybrid graphics support a maximum of 6 independent displays
    - When used together the HP Thunderbolt Dock G2 and HP ZBook Studio or Studio x360 configured with hybrid graphics support a maximum of 5 independent displays
  - For more information on multiple displays, refer to the following HP Technical White Paper:
    - Multiple displays on <u>HP ZBook Mobile Workstations</u>
  - HP Thunderbolt Dock G2 port limitation
    - VGA and USB Type-C<sup>™</sup> DP port <sup>9</sup>. See Figure A.
    - When used with USB Type-C<sup>™</sup> multifunction host, port 1 (USB Type-C<sup>™</sup> Thunderbolt<sup>™</sup> port) has only USB 2.0 functionality with no video. See Figure A.



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Segment	Platform	UMA	Discrete
HP x2s	HP 1012 G1 & G2	Up to 3 displays	N/A
	HP Folio G1		
HP 1000 series	HP x360 1020 & 1030 G3	Up to 3 displays	N/A
	HP 1040 G4		
HP 800 Series	HP 800 G5	Up to 3 displays	Up to 3 displays
HP ZBook	HP 14u/15u G5	Up to 3 displays	Up to 3 displays
HP ZBook	HP ZBook 17/15/15v/Studio/Studio x360/ x2 G3, G4, G5		Up to 6 displays (AMD)* Up to 4 displays (NVIDIA®)**

\* AMD graphics are not offered on the HP ZBook or Studio x360 Studio. The number of displays will depend on the graphics mode setting in F10 mode (UMA, Hybrid, Discrete).\*\* HP ZBooks with NVIDIA® graphics on hybrid mode can support up to 4 displays. HP ZBooks with NVIDIA® discrete graphics can only support up to 4 displays.

Table 3: Multi-display capabilities

Number of Displays connected to the dock:

- Dual 4K @ 60 Hz when connected to DP 1.2 systems: currently Intel® Skylake, Kaby Lake & KBL-R processor-based systems

- Triple 4K @ 60 Hz when connected to DP 1.4 systems with DSC (display stream compression) - future

Host Specification	# of displays	Resolution	Supported configuration
DP 1.2 Thunderbolt <sup>™</sup> host HP x2 1012 G1, G2 HP FliteBook Folio G1	1	(1) 4096 x 2160 @ 60 Hz	1 DP or 1 TB or 1 USB Type-C™ Alt mode
HP x360 1020 & 1030 G2 HP 1040 G4 HP 800 G5	2	(2) 4096 x 2160 @ 60 Hz	1 DP + 1 TB port or 1 USB Type-C <sup>™</sup> Alt mode port + 1 TB port
HP ZBook 14u, 15u G5 HP ZBook x2 G4	3	(1) 4096 x 2160 @ 60 Hz + (2) 2560 x 1440 @ 60 Hz	(1) 4096 x 2160 @ 60 Hz from TB port (2) 2560 x 1440 @ 60 Hz from DP ports or DP + USB Type-C™ Alt mode
HP ZBooks 17, 15, Studio G3, G4	4	(1) 4096 x 2160 @ 60 Hz + (2) 2560 x 1440 @ 60 Hz + (1) 1920 x 1080 @ 60 Hz	(1) 4096 × 2160 @ 60 Hz from TB port (2) 2560 × 1440 @ 60 Hz from DP ports or DP + USB Type-C™C Alt mode (1) 1920 × 1080 @ 60 Hz from DP or USB Type-C™ Alt mode

Host Specification	# of displays on dock	Resolution	Supported configuration
DP 1.3 Thunderbolt <sup>TM</sup> host	1	(1) 5120 × 2880 @ 60 Hz	1 DP or 1 TB or 1 USB Type-C™ Alt mode
HP ZBook Studio x360 G5	2	(2) 4096 x 2160 @ 60 Hz	1 DP + 1 TB port or 1 USB Type-C™ Alt mode + 1 TB port
HP ZBaok 15v G5 HP ZBaok 15 G5 HP ZBaok 17 G5	2	(2) 3840 x 2160 @ 60 Hz	2 DP ports or 1 DP + 1 USB-C Alt mode port or 1 DP + 1 TB port or 1 TB + 1 USB Type-C™ Alt mode
	3	(2) 3840 x 2160 @ 60 Hz + (1) 1920 x 12000 @ 60 Hz	(2) 3840 x 2160@ 60 Hz from DP ports or DP + USB-C Alt mode (1) 1920 x 1200 @ 60 Hz from TB port
	3	(3) 2560 x 1600 @ 60 hz	2 DP ports + USB Type-C™ Alt mode
	4	(1) 3840 × 2160 @ 60 Hz + (2) 2560 × 1440 @ 60 Hz+ (1)1920 × 1200 @ 60 Hz	<ul> <li>(1) 3840 x 2160 @ 60 Hz from DP or</li> <li>USB Type-C<sup>™</sup> Alt mode</li> <li>(2) 2560 x 1440 @ 60 Hz from DP</li> <li>ports or DP + USB Type-C<sup>™</sup> Alt mode</li> <li>(1) 1920 x 1200@ 60 Hz from TB port</li> </ul>

NOTE: with a DP 1.3 Thunderbolt<sup>™</sup> host, when 3 or more displays are attached the Thunderbolt<sup>™</sup> port is limited to a 1920 × 1200 @ 60 Hz DP 1.2 display or a 2560 × 1440 @ 60 Hz DP 1.3 display.

Table 4: Host specification support



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#### • HP Thunderbolt Dock G2 is DSC ready

- In order to fully support DP 1.4 DSC customers must be using a host platform that fully supports the DP 1.4 DSC.

### MANAGEABILITY

#### HP Firmware Installer deployment

Disconnection during a firmware update can cause damage to the dock. Care must be taken to ensure that a user does not undock a machine during the firmware installation.

#### MAC Address Pass Through

HP Thunderbolt Dock G2 supports MAC Address Pass Through with select notebooks which allows the notebook to override the dock's NIC factory MAC address with a "Host Based" unique MAC address (HBMA). With MAC Address Pass Through the notebook can be uniquely identified on the network when it is using the HP Thunderbolt Dock G2 dock's NIC to connect to the network using just the HBMA address.

There is also a user defined "Custom" MAC address that could be used as the MAC Address Pass Through address instead of the System HBMA address. Optionally systems that have an embedded LAN the user can choose to "Reuse the embedded LAN Address" instead of the System and Custom HBMA addresses which allows the same MAC address to be used if either the embedded LAN or the HP Thunderbolt Dock G2 is connected to the network. The MAC Address Pass Through address is stored in BIOS at the factory and is configurable in F10.

MAC Address Pass Through feature supports UEFI PXE boot, Legacy PXE boot, Windows PE, Windows 7, Windows 8.1 and Windows 10.

MAC Address Pass Through is supported when the notebook is On and the dock is attached and transitions to Sleep, Hibernate or Off states and when the dock is attached after the notebook is already in the Sleep, Hibernate, or Off state.

The MAC Address Pass Through technical white paper can be found in the following location:

http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA7-0690ENW

#### Wake on LAN

HP Thunderbolt Dock G2 supports Wake on LAN (WoL) with select notebooks from all the system sleep states (On, Sleep, Hibernate, and Off) with MAC Address Pass Through feature enabled or disabled.

WoL from Off when network is through a HP Thunderbolt Dock G2 is not supported on ZBooks prior to ZBook G4 with Intel Gen 7 processors.

Both the NIC network adaptor and the Wake on LAN parameter needs to be configured to enable WoL.

From Windows device manager and within the NIC network adaptor properties dialog, the Allow the device to wake the computer option must be checked under Power Management option. The BIOS Wake on LAN parameter is located under the Built in Device BIOS F10 menu. The Wake on LAN default is enabled and set to Boot to Hard Drive.

On modern standby-enabled notebooks there is no traditional Sleep state, however, WoL will continue to work when those notebooks are in Hibernate or Off states.



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#### HP One Click Installer

The HP One Click Installer allows for seamless firmware updates of all HP Thunderbolt G2 docking stations. The HP One Click installer dashboard displays the existing and latest firmware version of the dock firmware for user friendly experience. This generation of the installer no longer requires an external display attached to flash the display hub firmware as in previous generations. Finally there is a "Force All" options to allow installation of older firmware as needed.

Requirements:

- Windows 7 32/64 bit OS and Windows 10. Does not support Chrome/Linux®/macOS
- Remove all devices connected to the USB 3.0 ports except USB keyboard and mouse
- .Net Framework 4.5 or higher installed

Supported Installer Modes:

- · Interactive mode: user action required with UI
- Silent mode (not recommended)
- Non-interactive mode: recommended for SSM support. This will allow the user to auto-advance through the user interface without user interaction. This is similar to a silent install but will have the UI to alert customer that FW is being installed



HP Thunderbolt Dock G2 Package Version 1.0.35.1 Installed Packaged Version: 1.0.35.1

DisplayPort Hub	5.3.0.0	5.3.0.0	Installed
VGA Port	15.4.0.0	15.4.0.0	Up to date
Audio Base	0.3.0.16	0.3.0.16	Up to date
(Optional) Audio Top DSP	1.0.0.137	1.0.0.137	Up to date
(Optional) Audio Top Module	0.3.1.44	0.3.1.44	Up to date
USB3.1 Gen2 Hub	7.0.1.3	7.0.1.3	Up to date
Base Microcontroller	3.0.6	3.0.6	Up to date
US USB Type-C PD Controller	3.2.12	3.2.12	Installed
DS USB Type-C PD Controller	3.2.2	3.2.2	Installed
(Optional) Audio Module Microcontroller	1.8.0	1.8.0	Up to date
Thunderbolt Controller	19.1.0.0.1	19.1.0.0.1	Up to date

Installation completed. You may close this window

Figure G: One Click Installer.

#### HP Firmware Installer deployment reminder

Most importantly, disconnection during a firmware update can cause damage to the dock. Care must be taken to ensure that a user does not undock a machine during the firmware installation.

The following two installation options are available, each with the option of further customization:

#### Immediate installation of firmware onto the device

This solution requires the dock to be connected to the notebook when the installer is executed. HP Firmware Installer will determine which firmware on the dock is out of date and flash to the latest. This method can be run non-interactively, which shows UI to the user but does not require action.

#### Staging of firmware onto the host platform

This solution is used to deploy to machines that may or may not be connected to the dock at time of installation of the package. HP Firmware Installer will be installed onto the notebook via Windows Installer in the same manner as any other software deliverable. The software installed will also contain the latest firmware. When a compatible device is connected, the software will determine if a firmware update is needed. When the firmware update is run, a UI is displayed to the active user inform them of what to expect from the firmware update, as well as give them the option to postpone. A user must be aware and consent to a firmware update so that they can prevent disconnection of the dock during the update.

The HP Firmware Installer Deployment User Guide is available for more information.



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## AUDIO

#### Audio capabilities:

HP Thunderbolt Dock G2 provides for two audio options:

- Echo cancelling speakerphone (an add-on module)
- Headset jack on the base dock (3.5 mm audio jack)

Audio module (add-on module): The echo cancelling speakerphone is ideally used in a small conference room or team/ huddle rooms. The conferencing module is optional and can be added or removed after purchase of the dock. It's a USB Audio Class 1.0 compliant device and supports HID telephony usage. The Realtek USB Audio driver is recommended for the best user experience.

#### Functional Characteristics

Audio module button and LED behaviors: In this state LEDs grow from front to rear symmetrically on either side of the dock indicating that the audio module is powered up and initialized.

- Idle (no active call):
  - LED ring state: The entire ring is off
  - LED button state:
    - Power: reflects the state of the host system
    - Accept: white, dimmed down
    - Mic Mute: white, dimmed down
    - Volume Up: white, dimmed down
    - Volume Down: white, dimmed down
    - Reject: white, dimmed down

#### Active call:

- Incoming call
  - LED ring state: The entire ring blinks green
  - LED button state:
    - Power: reflects the state of the host system
    - Accept: blinks green indicating that its available for a user action
    - Reject: blinks red indicating that its available for a user action
    - Mic Mute: bright white
    - Volume Up: bright white
    - Volume Down : bright white
- Call on hold
  - LED ring state: The entire ring blinks green
  - LED button state:
    - Power: reflects the state of the host system
    - Accept: blinks green indicating that its available for a user action
    - Reject: stays solid red indicating that user cannot hang up a call that's on hold
    - Mic Mute: bright white
    - Volume Up: bright white
    - Volume Down: bright white
- Call unmuted
  - LED ring state: The entire ring stays solid green
  - LED button state:
    - Power: reflects the state of the host system
      - Accept: stays solid green
      - Reject: stays solid red
      - Mic Mute: bright white
      - Volume Up: bright white
      - Volume Down: bright white



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- Call muted
  - LED ring state: The entire ring stays solid red
  - LED button state
    - Power: reflects the state of the host system
    - Accept: stays solid green
    - Reject: stays solid red
    - Mic Mute: "Amber" in color
    - Volume Up: bright white
    - Volume Down: bright white
- Volume changes: At any given state, pressing Volume buttons makes the LED ring behave as follows:
  - Volume Up: Depending on the current volume level of the device, the LED ring grows towards the back of the dock
  - Volume Down: Depending on the current volume level of the device, the LED ring shrinks towards the front of the dock

Microphone Mute behaviors:

• If the Mute button is pressed when there is no active call, microphone gets muted and no audio input from the dock gets transmitted to the notebook

# THUNDERBOLT™ SECURITY LEVELS – HOST SYSTEM NOTEBOOK INFORMATION

The Thunderbolt<sup>™</sup> interface supports Direct Memory Access (DMA), which some customers consider a security risk. The HP BIOS-based settings described here for the Thunderbolt<sup>™</sup> connection policy allow the customer to select the appropriate tradeoff between convenience and security for the Thunderbolt<sup>™</sup> capable USB Type-C<sup>™</sup> interface port on the notebook.

The Thunderbolt<sup>™</sup> security level that controls the Thunderbolt<sup>™</sup> connection policy of any USB Type-C<sup>™</sup> connectors on the notebook can be changed in the BIOS setup. The BIOS setup can be accessed by pressing the F10 key when booting the notebook. The policies are also remotely manageable via Public WMI interfaces.

#### Security level 0: PCIe and DisplayPort<sup>™</sup> – No security

- No security level. Any Thunderbolt<sup>™</sup> device attached to the notebook USB Type-C<sup>™</sup> port or the HP Thunderbolt Dock G2 USB Type-C<sup>™</sup> port will automatically be enabled without local user approval.
- External displays will function when attached directly to the notebook USB Type-C<sup>™</sup> port or the dock through display or USB Type-C<sup>™</sup> ports.

#### • Security level 1: PCIe and DisplayPort<sup>™</sup> – User authorization

- This is the default BIOS policy.
- Same functionality as Security level 0, but the local user is prompted to approve the connection via a dialog box in windows before the HP Thunderbolt Dock G2 is connected to the system. The local user also has the option of suppressing the prompt for subsequent connections of the same device.
- Each Thunderbolt<sup>™</sup> peripheral, including the HP Thunderbolt Dock G2, includes a unique GUID which is saved on the notebook and used to determine if the device has been previously connected. In the event the user has chosen to suppress future prompts for that particular GUID device, the Thunderbolt<sup>™</sup> device will automatically be enabled when attached.
- This policy also applies to any Thunderbolt<sup>™</sup> peripherals attached to the HP Thunderbolt Dock G2 via the USB Type-C<sup>™</sup> connector on the dock.



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#### Security level 2: PCIe and DisplayPort<sup>™</sup> – secure connect

- Same options as Security level 1 if the device contains a security certificate/chip.
- This option offers enhanced protection for authenticating a previously connected Thunderbolt<sup>™</sup> device beyond relying on a GUID provided by the attached Thunderbolt<sup>™</sup> peripheral.
- When this policy is enabled and the user chooses to suppress future prompts for connection approval the Thunderbolt<sup>™</sup> driver stack software on the notebook will generate a password that is sent to that Thunderbolt<sup>™</sup> device and stored securely in non-volatile memory. Each time that peripheral is subsequently connected the PC will not only verify that the GUID has been approved for auto-connect, it will also use a challenge-response to the peripheral device to verify that the device is in possession of the previously defined password. The Thunderbolt<sup>™</sup> interface will only be enabled if it can prove that it possesses the password.

#### Security level 3: DisplayPort<sup>™</sup> and USB

- All Thunderbolt<sup>™</sup> functionality of the USB Type-C<sup>™</sup> connectors on the notebook is disabled.
- The HP Thunderbolt Dock G2 provides all peripheral device functionality via a Thunderbolt<sup>™</sup> interface. Thus, none of the ports on the HP Thunderbolt Dock G2 will function in this mode.
- The only USB Type-C<sup>™</sup> peripherals that will be functional when connected to the notebook USB Type-C<sup>™</sup> port are those that use a Native USB Type-C<sup>™</sup> mode or DisplayPort<sup>™</sup> alternate mode that uses DisplayPort<sup>™</sup> interfaces (and in some cases USB).

#### • Security level 4: daisy chaining disabled (only applies select notebooks)

- Same functionality as Security level 1, the local user is prompted to approve the connection via a dialog box in Windows before the Thunderbolt<sup>™</sup> device it is connected to the system. The local user also has the option of suppressing the prompt for subsequent connections of the same device.
- Each Thunderbolt<sup>™</sup> peripheral, including the HP Thunderbolt Dock G2, includes a unique GUID which is saved on the notebook and used to determine if the device has been previously connected. In the event the user has chosen to suppress future prompts for that particular GUID device, the Thunderbolt<sup>™</sup> device will automatically be enabled when attached.
- When this policy is enabled the user will not be able to daisy chain Thunderbolt<sup>™</sup> devices from the USB Type-C<sup>™</sup> port B.

### TROUBLESHOOTING ISSUES:

Each topic may have more than one recovery method. Please walk through each step until issue is resolved.

#### The dock or peripherals connected to the dock do not appear in the OS:

Users should do the following:

- 1. Ensure the dock is authenticated properly (Check First Time Connection section)
- 2. Unplug and re-plug the dock
- 3. Restart your notebook or mobile workstation
- 4. Hardware reset (see description below for more details)

#### Thunderbolt<sup>™</sup> Controller and/or Intel<sup>®</sup> USB 3.1 Host controller has error code in Device Manager:

This could be the result of reinserting the dock too quickly without full de-enumeration of the dock

- 1. To work around this issue you can simply unplug the HP Thunderbolt Dock G2 from the system; wait 20 seconds and re-dock the system
- 2. In some rare cases, if the first recover method doesn't recover you can undock and reboot the system

## In some cases you may notice that the HP Thunderbolt Dock G2 power LED may not be in sync with the system power button LED after resume from standby state:

Functionally there is no impact but the LEDs maybe out of sync. The LEDs on the system and the dock are working as expected, just out of sync.

## When system is rebooted with the HP Thunderbolt Dock G2 attached the user may notice the Windows key may not function:

This will be fixed in a later revision of Windows 10 build 17068 or later.

How to recover:

- 1. Unplug the dock from the host system
- 2. Force the system to shut down by holding the power button
- 3. Power the system



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## Customers using Windows 10 build 10586 or earlier may experience a Blue Screen of Death (BSOD) when resume from standby or hibernation with the HP Thunderbolt Dock G2 attached:

Windows 10 revision 10586 or earlier does not have full support of the USB Type-C<sup>™</sup> Connector System Software Interface. You must disable the USB Type-C<sup>™</sup> Connector System Software Interface in the HP BIOS.

How to recover:

- 1. Go to F10 BIOS setup
- 2. Go to the Advanced tab ightarrow System Options
- 3. Disable the USB Type-C<sup>™</sup> Connector System Software Interface
- 4. Save and exit

#### Internal display corruption when cold boot with VGA monitor attached via USB-C to VGA dongle:

This known issue may occur on HP Thunderbolt<sup>™</sup> platforms with Intel<sup>®</sup> graphics running Windows 10 in legacy boot mode. To avoid this issue you can change the boot mode to UEFI in the F10 BIOS.

- 1. Go to F10 BIOS setup 2. Go to the Advanced tab→ Option ROM Launch Policy
- 3. Change to All UEFI
- 4. Save and exit

#### Thunderbolt<sup>™</sup> 3 storage device disappears from "My computer" after restart with device attached:

To work around this issue users can enable Fast Boot in the BIOS.

- 1. Go to F10 BIOS setup
- 2. Go to the Advanced tab→Boot Options
- 3. Unselect Fast Boot
- 4. Save and exit

#### Intermittently USB displays may not appear after restart:

To work around this issue customers may do either of the following:

- 1. Re-plug the display
- 2. Toggle the display modes from duplicate to extended

#### System cannot be woken by USB mouse click from standby or hibernation on Windows 7:

This is a limitation by the XHCI driver and is currently not supported in Windows 7.

#### USB Type-C<sup>™</sup> Connector System driver may have error code in Windows 10 build 16299:

To work around this issue end user may do either of the following:

1. Unplug the HP Thunderbolt Dock G2 and restart

2. Reload the USB Type-C<sup>™</sup> Connector System driver in device manager

#### HP ZBook G3/G4 platforms with AMD graphics cannot support DP 4K resolution at 60 Hz and a VGA display at the same time:

This requires a feature change in the AMD graphics driver that will be made available in future release. This is not a limitation in the HP ZBook G5 platforms that support DP 1.3.

#### Intel® Collage mode may not persist after resume from standby or hibernation:

This is due to a latency issue after resuming from a sleep state. The issue can be recovered by re-enabling Intel<sup>®</sup> Collage mode from Intel<sup>®</sup> display control panel.

## HP ProBook 455 G5 Notebook cannot flash VGA port firmware on HP Thunderbolt Dock G2 without a VGA display attached:

No solution available yet. User will be required to connect a VGA display in order to flash the VGA port on HP Thunderbolt Dock G2.

## HP Thunderbolt notebooks that have Native PCIe hot plug enabled may encounter an issue where the HP Thunderbolt Dock G2 may not fully enumerate when resume from a warm dock state:

To work around this issue users may do the following:

- 1. Unplug and re-plug the HP Thunderbolt Dock G2
- 2. Wait for a fix as this will be addressed in a future Microsoft OS release



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#### HP ZBook G3/G4 systems with AMD graphics cannot support 5K display (2xDP) on HP Thunderbolt Dock G2:

This is the limitation of the graphics driver and will be addressed in a future release.

#### Monitors connected to the HP Thunderbolt Dock G2 don't wake from a sleep state or on a hot plug with HP display:

Some HP Displays have a known issue waking from a "Low power" state. To work around this issue you can change the option to "Always Active" on the On-Screen-Display Menu

- 1. Open the On-Screen-Display menu on the monitor
- 2. Select the menu option
- 3. Select "Input Control"
- 4. Select "DP Hot-Plug Detection"
- 5. Select the "Always active" option and save

#### USB device connected to the dock stops functioning:

- 1. Unplug and re-plug the USB Device
- 2. Unplug and re-plug the dock
- 3. Restart your notebook or mobile workstation
- 4. Hardware reset (see description below for more details)

## To perform a hardware reset of your notebook or mobile workstation, follow ALL of the following steps. A hardware reset temporarily disconnects the internal battery to fully reset the system:

- 1. Power off the notebook or mobile workstation
- 2. Remove the AC power cord and all USB cables or devices from the notebook or mobile workstation
- 3. Press and hold the power button for 15 seconds

#### To perform a hardware reset of your dock, do the following:

1. Undock the HP Thunderbolt Dock G2 from your notebook

2. Unplug the power cable from your dock for 5 seconds



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### SUPPORT LIST FOR THE HP THUNDERBOLT DOCK G2

The following chart details the support required for HP Notebooks and HP ZBook Mobile Workstations that support the HP Thunderbolt Dock G2.

Please note that all users should update the Audio and LAN drivers before using the HP Thunderbolt Dock G2.

## HP COMMERCIAL NOTEBOOK / MOBILE WORKSTATION PLATFORM SUPPORT

Power Segment		Platform name	BIOS		
			Version	Softpaq	
		HP Elite x2 1012 G1	01.30	SP87110	
		HP Elite x2 1012 G2	01.16	SP87225	
		HP EliteBook Folio G1	01.22	SP87111	
		HP EliteBook 1040 G4	01.18	SP87429	
	HP	HP EliteBook x360 1020 G2	01.17	SP87190	
	EliteBook	HP EliteBook x360 1030 G2	01.16	SP87208	
		HP EliteBook 840 G5	01.01.01	SP87539	
		HP EliteBook 850 G5	01.01.01	SP87539	
		HP EliteBook 840 G5 HC	01.01.01	SP87539	
120 W		HP EliteBook 830 G5	01.01.01	SP87539	
-		HP Pro x2 612 G2	01.16	SP87236	
		HP ProBook 640 G4	01.00.01	SP85552	
		HP ProBook 650 G4	01.00.01	SP85552	
		HP ProBook 645 G4	01.00.02	SP87540	
	HP ProBook	HP ProBook 455 G5	01.00.00	SP84966	
		HP ProBook 440 G5	010204	SP85180	
		HP ProBook 430 G5	010204	SP85180	
		HP ProBook 450 G5	010204	SP85180	
		HP ProBook 470 G5	010204	SP85180	
		HP ZBook 17 G3	01.25	SP87193	
		HP ZBook 15 G3	01.25	SP87193	
		HP ZBook Studio G3	01.26	SP87194	
230 W	HP	HP ZBook x2 G4	01.06	SP87541	
	ZBook	HP ZBook 17 G4	1.21	SP87434	
		HP ZBook 15 G4	1.21	SP87434	
		HP ZBook Studio G4	01.18	SP87189	



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### HP COMMERCIAL NOTEBOOK / MWS PLATFORM SUPPORT (CONTINUED)

Power	Segment	Platform name		Graphics						
			Intel®		AMD		NVI	DIA®		
			Driver version	Softpaq	Driver version	Softpaq	Driver version	Softpaq		
		HP Elite x2 1012 G1	15.65.5018,S,1 P00T8Y-B2F	SP87555	N/A	N/A	N/A	N/A		
		HP Elite x2 1012 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A		
		HP EliteBook Folio G1	15.65.5018,S,1 P00T8Y-B2F	SP87555	N/A	N/A	N/A	N/A		
		HP EliteBook 1040 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A		
	HP	HP EliteBook x360 1020 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A		
	EliteBook	HP EliteBook x360 1030 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A		
		HP EliteBook 840 G5	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A		
		HP EliteBook 850 G5	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A		
		HP EliteBook 840 G5 HC	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A		
		HP EliteBook 830 G5	15.65.5018 P00SDJ-B2P	SP87475	N/A	N/A	N/A	N/A		
120 W		HP Pro x2 612 G2	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	N/A	N/A		
	HP ProBook	HP ProBook 640 G4	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A		
		HP ProBook 650 G4	15.65.5018 P00SDJ-B2P	SP87475	17.50.25.12.C3 (P00T23-B2G)	ETA by 5/14	N/A	N/A		
		HP ProBook 645 G4	15.65.5018 P00SDJ-B2P	SP87475	17.40.3775. 1004.A.35 (POOTEK-B2J)	ETA by 5/14	N/A	N/A		
		HP ProBook 455 G5	N/A	N/A	N/A	N/A	N/A	N/A		
		HP ProBook 440 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723		
		HP ProBook 430 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723		
		HP ProBook 450 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723		
		HP ProBook 470 G5	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: 388.73 P00QT1.B2W	SP84723		
		HP ZBook 17 G3	15.65.5018,S,1 P00T8Y-B2F	SP87555	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z Win7: V391.25 P00RZ5.B2K	Win10: SP87443 Win7: SP87444		
		HP ZBook 15 G3	15.65.5018,S,1 P00T8Y-B2F	SP87555	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z Win7: V391.25 P00RZ5.B2K	Win10: SP87443 Win7: SP87444		
230 W	HP ZBook	HP ZBook Studio G3	15.65.5018,S,1 P00T8Y-B2F	SP87555	N/A	N/A	Win10: V391.25 P00QS3.B2Z Win7: V391.25 P00RZ5.B2K	Win10: SP87443 Win7: SP87444		
		HP ZBook x2 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: V391.25 P00QS3.B2Z	SP87443		
		HP ZBook 17 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z	SP87443		
		HP ZBook 15 G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	ETA by 5/14	ETA by 5/14	Win10: V391.25 P00QS3.B2Z	SP87443		
		HP ZBook Studio G4	15.65.5018.K.1 P00T8Y-B2E	SP87556	N/A	N/A	Win10: V391.25 P00QS3.B2Z	SP87443		



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FUNDAL WHITE PARE         Drive version         Saftpaq         Pilversion         Saftpaq           CONTENTS & CONTENTS & C	<b>42</b>	Power Segment Platform name			Thunderbol	t™ driver	Thunderbolt <sup>™</sup> firmware	
CONTENTS & NAVIGATION         101 201         PODICK 6290         SP67200         PODICK 4271         S76518           2 uii Thomatabut data Ca backs genometation that Ca	TECHNICAL WHITE PAPER				Driver version	Softpaq	FW version	Softpaq
NAVIGATION         Philado	CONTENTS &					SP87260		SP85118
2         Second Deck 2	•					SP87260		N/A
Inscription         Import Number Numbe	2			HP EliteBook Folio G1		SP87260		SP80716
ната забъзначи (продок 2500)         17.4.72,520 (20.0, 27.0, 27.2,5,5,1)         200.0,2,5,5,1)         NA           3         3         102.00,02         17.4.72,520         5987260         20.0,2,5,5,1         5985067           4         103.00,02         17.4.72,72,00         5987260         20.0,2,5,5,1         5985067           4         103.00,02         17.4.72,72,00         5987260         33.0.0,0,1         5987024           4         19.6         11.6         11.72,72,72,00         5987260         33.0.0,0,1         5987024           19.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         12.7         12.0         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.7         12.7         12.0         11.7         11.7         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.6         11.7				HP EliteBook 1040 G4		SP87260	20.2.5.5.3	N/A
Bit						SP87260		N/A
First-time Connection       PP Decemption       SP97220       33.0.0.1       SP97224         4       HP EliteBook 880.05 HC       P000CK-82P       SP97260       33.0.0.1       SP97224         4       HP EliteBook 880.05 HC       P7473 250       SP97260       33.0.0.1       SP97224         5       HP EliteBook 880.05 HC       P7473 250       SP97260       33.0.0.1       SP97224         5       HP EliteBook 880.05 HC       P7473 250       SP97260       33.0.0.1       SP97261         5       HP EliteBook 880.05 HC       P7473 250       SP97260       33.0.0.1       SP97261         5       HP EliteBook 880.05 HC       P7473 250       SP97260       33.0.0.1       SP97261         6       HP EliteBook 880.05 HC       P7473 250       SP97260       33.0.0.1       SP97261         6       HP EliteBook 880.05 HC       P7475 250       SP97260       33.0.0.1       SP97261         6       HP EliteBook 880.05 HC       P1473 250       SP97260       33.0.0.1       SP97261         6       HP EliteBook 645.04       N/A       N/A       N/A       N/A       N/A         6       P74500       M/A       N/A       N/A       N/A       N/A         10       P	2		EIITEBOOK			SP87260		SP85067
4         HP EliteBook 850 05         PDDRCK-82p         SPB7200         3.3.0.0.1         SPB7024           4         HP EliteBook 830 05         PDDRCK-82p         SPB7260         33.0.0.1         SPB7024           5         Mid-Function Mode         HP EliteBook 830 05         PDDRCK-82p         SPB7260         33.0.0.1         SPB7024           5         Mid-Function Mode         HP Prox 2 612 62         N/A         N/A         N/A         N/A           Pre-Boot Support from HP Dock         HP Prox 2 612 62         N/A         N/A         N/A         N/A           67         Deploy Capabilitie         HP ProBook 640 64         N/A         N/A         N/A         N/A           B9         HP ProBook 645 64         N/A         N/A         N/A         N/A         N/A           1011         HP ProBook 642 65         N/A         N/A         N/A         N/A         N/A           1011         Audo         HP ProBook 420 65         N/A         N/A         N/A         N/A           11         HP ProBook 420 65         N/A         N/A         N/A         N/A         N/A           1011         Audo         HP ProBook 420 65         N/A         N/A         N/A         N/A	S First-time Connection			HP EliteBook 840 G5		SP87260	33.0.0.0.1	SP87024
He littebook 840 05 ht.         Popottc.sep         SH2/260         33.0.0.1         SH2/024           Bast Practice - Docking/Undocking for Windows 7         HP EliteBook 830 05         17/2475 250 POORCK-82P         SP8/260         33.0.0.1         SP8/7051           5         Midt-Function Mode Pre-Boot Support LibPower / Bution Charging Support from HP Dock         IP Pro 26 02 62         N/A         N/A         N/A         N/A           6-77 Doplay Capabilitie         HP ProBook 640 064         N/A         N/A         N/A         N/A         N/A           8-99 Minargetability         HP ProBook 645 065         N/A         N/A         N/A         N/A         N/A           10-111 Audio         HP ProBook 430 055         N/A         N/A         N/A         N/A         N/A           11 Tundetebult         HP ProBook 430 055         N/A         N/A         N/A         N/A         N/A           122-144 Tundetebult         HP ProBook 430 055         N/A         N/A         N/A         N/A           12-144 Tundetebult         Speriod         HP ProBook 430 055         N/A         N/A         N/A         N/A           12-144 Tundetebult         File ProBook 430 055         N/A         N/A         N/A         N/A         N/A         N/A				HP EliteBook 850 G5		SP87260	33.0.0.1	SP87024
120 W         IMP EliteBook B30.05         POORCK-B2P         SPB7260         33.0.0.01         SPB7051           55 Mult-Function Mode Pre-Boot Support LIDPower / Button Charging Support from HP Dock         HP Prox 2612.62         N/A         N/A         N/A         N/A           66-77 Display Capabilitie         HP ProBook 640.64         N/A         N/A         N/A         N/A         N/A           88-99 Manageability         HP ProBook 455.65         N/A         N/A         N/A         N/A         N/A           100-111 Audo         HP ProBook 430.65         N/A         N/A         N/A         N/A         N/A           11 Tundebook!!*Security Levels - Host System Rebeak informations         HP ZBook 17 G3         Win7: 16.3.71:300 Pro0551-B2E Win10: 174.75:250         Win7: 5985610 POORKK-B2P         27.1.3.0.1 POORKK-B2P         SPB7460           12-144 troubleshooking Issues         HP ZBook 17 G3         Win7: 16.3.71:300 Pro0551-B2E Win10: 174.75:250         Win7: 5985610 POORKK-B2P         27.1.3.0.1 POORKK-B2P         SPB7460           HP ZBook 15 G3         HP ZBook 15 G3         Win7: 16.3.71:300 Pro0551-B2E Win10: 174.75:250         Win7: 5987560 POORKK-B2P         27.1.3.0.1 POORKH-B2X         SPB7460           HP ZBook 15 G3         HP ZBook 15 G3         Win7: 16.3.71:300 Pro0551-B2E Win10: 174.75:250         SPB7260         POORKH-B2X         SP	4			HP EliteBook 840 G5 HC		SP87260	33.0.0.1	SP87024
5         HP ProBook 640 G4         N/A         N/A         N/A           Multi-Processor Support LEPDower / Burton Careging Support from HP Dock         HP ProBook 640 G4         N/A         N/A         N/A           G7 Display Capabilitie         HP ProBook 650 G4         N/A         N/A         N/A         N/A           B9 Manageability         HP ProBook 440 G5         N/A         N/A         N/A         N/A           100-111 Audio         HP ProBook 420 G5         N/A         N/A         N/A         N/A           110-111 Tunderbolt <sup>110</sup> Scorify Levels - Host System Netebook Informations         HP ZBook 11 G3         Win7: 16.3.71.300 Pro0551-B2E Win10: 17.4.7.5.250         Win7: 5P85610 Win10: SP87260         27.1.3.0.1 PO0MVM-B2Y         SP87463           12-14 Tunderbolt <sup>110</sup> Scorify Levels - Host System Netebook Informations         HP ZBook 11 G3         Win7: 16.3.71.300 Pro0551-B2E Win10: 17.4.7.5.250         Win7: 5P85610 Win10: SP87260         27.1.3.0.1 PO0MVM-B2Y         SP87463           12-14 Tunderbolt <sup>110</sup> Scorify Levels - Host System Netebook Informations         HP ZBook Studio G3         Win7: 16.3.71.300 Pro0551-B2E Win10: 17.4.7.5.250         Win7: SP85610 Win10: SP87260         27.1.3.0.1 PO0MVM-B2Y         SP87463           HP ZBook Studio G3         Win7: 16.3.71.300 Pro0FK-B2P         Win7: 16.3.71.300 Pro0FK-B2P         SP87260         20.2.5.8.1 PO0FK-B2P         N/A <td>Best Practice – Docking/Undocking for Windows 7</td> <td>120 W</td> <td></td> <td>HP EliteBook 830 G5</td> <td></td> <td>SP87260</td> <td>33.0.0.1</td> <td>SP87061</td>	Best Practice – Docking/Undocking for Windows 7	120 W		HP EliteBook 830 G5		SP87260	33.0.0.1	SP87061
Huth-Hutchon Mode         HP         Pre-Boot Support         HP         Pre-Boot Support         HP         Pre-Boot Support         HP         Pre-Boot Support         N/A         N/A         N/A         N/A           67, Display Capabilitie         HP         ProBook 645 G4         N/A         N/A         N/A         N/A         N/A           8-99 Manageability         HP         ProBook 440 G5         N/A         N/A         N/A         N/A           100-111 Audio         HP         ProBook 430 G5         N/A         N/A         N/A         N/A           11 Tunderbolt** Security Levels – Host System Netebook informations         HP         ProBook 470 G5         N/A         N/A         N/A         N/A           122-144 Toubleshooting Issues         430 W         HP         PBook 17 G3         Win7: 16.3.71.300 Win7: 16.3.71.300         Win7: SP85610 Win10: SP87260         27.1.3.0.1 POMYM-B2Y         SP87463           HP         ZBook 17 G3         Win7: 16.3.71.300 POORK-82P         Win7: SP85610 Win10: SP87260         27.1.3.0.1 POMYM-B2Y         SP87463           HP         ZBook 17 G3         Win7: 16.3.71.300 POORCK-82P         Win7: SP85610 Win10: SP87260         27.1.3.0.1 POMWM-B2X         SP87463           HP         ZBook Studio G3         PORCK-82P         Win7: SP	5			HP Pro x2 612 G2	N/A	N/A	N/A	N/A
LEDBower / Button Charging Support from HP Dock         HP ProBook 650 G4         N/A         N/A         N/A         N/A           67 Display Capabilitie         HP ProBook 445 G5         N/A         N/A         N/A         N/A         N/A           8-9 Manageability         HP ProBook 440 G5         N/A         N/A         N/A         N/A         N/A           10-11 Audio         HP ProBook 440 G5         N/A         N/A         N/A         N/A         N/A           11 Tunderbolt         HP ProBook 450 G5         N/A         N/A         N/A         N/A         N/A           12-14 Tunderbolt         Ferry ProBook 450 G5         N/A         N/A         N/A         N/A         N/A           12-14 Tunderbolt         Ferry ProBook 450 G5         N/A         N/A         N/A         N/A           12-14 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           14         HP ProBook 470 G5         N/A         N/A         N/A         N/A           14         HP ProBook 470 G5         N/A         N/A         N/A         N/A           10-11         HP ProBook 470 G5         N/A         N/A         N/A         N/A           11         HP ProBook 4				HP ProBook 640 G4	N/A	N/A	N/A	N/A
Ge-7 Display Capabilitie         HP ProBook 445 G5         N/A         N/A         N/A         N/A           8-9 Manageability         HP ProBook 440 G5         N/A         N/A         N/A         N/A           10-111 Audio         HP ProBook 440 G5         N/A         N/A         N/A         N/A           10-111 Audio         HP ProBook 440 G5         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 440 G5         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 430 G5         N/A         N/A         N/A         N/A           12-114 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           11 Tunderbolt**Security Levels - Host System Natebook Informations         HP ZBook 17 G3         Win7: 16.3.71.300 Win7: 16.3.71.300 POORK-82P         Win7: 5P85610 Win10: SP87260         27.1.3.0.1 POOMW-B2X         SP87463           12-144 Troubleshooting Issues         230 W         HP ZBook Studio G3         Win7: 16.3.71.300 POORK-82P         Win7: 5P85610 Win10: SP87260         27.1.3.0.1 POOMWU-B2X         SP87463           HP ZBook Studio G3         Win7: 16.3.71.300 POORK-82P         Win7: 5P85610 Win10: SP87260         27.1.3.0.1 POOMWU-B2X         SP87460           HP ZBook Studio G3         POORK	LEDPower / Button			HP ProBook 650 G4	N/A	N/A	N/A	N/A
Display Capabilitie         ProBook         HP ProBook 455 G5         N/A         N/A         N/A         N/A           8-99 Manageeability         HP ProBook 440 G5         N/A         N/A         N/A         N/A         N/A           10-111 Audio         HP ProBook 430 G5         N/A         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 430 G5         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           12-14 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           11 Tunuedebotit <sup>m</sup> Security Levels - Host System Notebook Informations         HP ZBook 17 G3         Win7: 16.3.71.300 Win7: 16.3.71.300 POORCK-B2P         Win7: SP85610 Win10: SP87260         27.1.3.0.1 POOMVM-B2X         SP87463           12-14 Troubleshooting Issues         HP ZBook Studio G3         Win7: 16.3.71.300 POORCK-B2P         Win7: SP85610         27.1.3.0.1 POOMVM-B2X         SP87463           14P ZBook X2 G4         HP ZBook X2 G4         POOSSI-B2E POORCK-B2P         Win7: SP85610         27.1.3.0.1 POOMVU-B2X         SP87460           POORKK				HP ProBook 645 G4	N/A	N/A	N/A	N/A
Be-9 Manageability         HP ProBook 430 G5         N/A         N/A         N/A         N/A           10-11 Audio         HP ProBook 430 G5         N/A         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 430 G5         N/A         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A         N/A           11 Tunnderbott <sup>m</sup> Security Levels - Host System Notebook Informations         HP ZBook 17 G3         Win7: 16.3.71.300 Win7: 16.3.71.300         Win7: SP85610 Win7: 16.3.71.300         27.1.3.0.1 POOMYM-B2Y         SP87463           12         230 W         HP ZBook 17 G3         Win7: 16.3.71.300 POORK-B2P         Win7: SP85610 Win10: 17.4.75.250         27.1.3.0.1 POOMYM-B2Y         SP87463           14         HP ZBook 17 G4         HP ZBook 17 G4         Min7: 16.3.71.300 POORK-B2P         Win7: SP85610 Win10: SP87260         27.1.3.0.1 POOMWU-B2Y         SP87460           14         HP ZBook 17 G4         HP ZBook 17 G4         T/4.75.250 POORK-B2P         SP87260         20.2.5.8.1 POOPBA-B2R         N/A           14         HP ZBook 17 G4         T/2.4.75.250 POORK-B2P         SP87260         B3.2.5.5.1 POOPBA-B2R         SP87113	<b>6–</b> /			HP ProBook 455 G5	N/A	N/A	N/A	N/A
Manageability         HP ProBook 450 65         N/A         N/A         N/A           10-111 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           11 Audio         HP ProBook 470 G5         N/A         N/A         N/A         N/A           11 Audio         HP ZBook 17 G3         Win7: 16.3.71.300 Win71: 17.4.75.250         Win7: SP85610 Win10: SP87260         27.1.3.0.1 P00MYM-B2Y         SP87470           12-144 Troubleshooting Issues         230 W         HP ZBook         HP ZBook 17 G3         Win7: 16.3.71.300 P00SS1-B2E Win71: 17.4.75.250         Win7: SP85610 Win10: SP87260         27.1.3.0.1 P00MYN-B2X         SP87463           12-144 Troubleshooting Issues         HP ZBook Studio G3         Win7: 16.3.71.300 P00SS1-B2E Win10: SP87260         Win7: SP85610 Z7.1.3.0.1 P00MVU-B2Y         SP87460           HP ZBook x2 G4         HP ZBook X2 G4         17.4.75.250 P00RCK-B2P         SP87260         20.2.5.8.1 P00PBA-B2R         N/A           HP ZBook X1 G4         P00RCK-B2P         SP87260         20.2.5.8.1 P00PBA-B2S         SP87113				HP ProBook 440 G5	N/A	N/A	N/A	N/A
Improved by the problem of t	8-9			HP ProBook 430 G5	N/A	N/A	N/A	N/A
10-11       Audio       HP ZBook 17 G3       Win7: 16.3.71.300       Win7: SP85610       27.1.3.0.1       SP87470         11       Thunderbolt <sup>M</sup> Security Levels - Host System       HP ZBook 17 G3       Win7: 16.3.71.300       Win7: SP85610       27.1.3.0.1       SP87470         12-14       Troubleshooting Issues       230 W       HP       ZBook Studio G3       Win7: 16.3.71.300       Win7: SP85610       27.1.3.0.1       SP87463         12-14       Troubleshooting Issues       230 W       HP       ZBook Studio G3       Win7: 16.3.71.300       Win7: SP85610       27.1.3.0.1       SP87463         HP ZBook Informations       HP ZBook Studio G3       HP ZBook Studio G3       Win7: SP85610       27.1.3.0.1       SP87463         HP ZBook X2 G4       HP ZBook Studio G3       Win7: 16.3.71.300       P00MVU-B2Y       SP87460         HP ZBook X2 G4       17.4.75.250       Win7: SP85610       27.1.3.0.1       P00MVU-B2Y       SP87460         HP ZBook X2 G4       17.4.75.250       P00RCK-B2P       SP87260       20.2.5.8.1       N/A         HP ZBook 17 G4       P00RCK-B2P       SP87260       SP87260       20.2.5.5.1       SP87113	Manageability			HP ProBook 450 G5	N/A	N/A	N/A	N/A
Audio       HP ZBook 17 G3       PO0S51-B2E Win7: SP85610 Win10: 17.4, 75, 250 PO0RCK-B2P       Win7: SP85610 Win10: SP87260       27.1.3.0.1 PO0MYM-B2Y       SP87470         11 Thunderbott <sup>M</sup> Security Levels - Host System Notebook Informations       4HP ZBook 15 G3       Win7: 16.3, 71.300 PO0RCK-B2P       Win7: SP85610 Win10: SP87260       27.1.3.0.1 PO0MYN-B2X       SP87463         122-144 Troubleshooting Issues       230 W       HP ZBook       HP ZBook Studio G3       Win7: 16.3, 71.300 PO0RCK-B2P       Win7: SP85610 Win10: SP87260       27.1.3.0.1 PO0MVN-B2X       SP87463         HP ZBook X2 G4       HP ZBook Studio G3       Win7: 16.3, 71.300 PO0RCK-B2P       Win7: SP85610 Win10: SP87260       27.1.3.0.1 PO0MVU-B2Y       SP87460         HP ZBook X2 G4       17.4, 75, 250 PO0RCK-B2P       SP87260       20.2.5.8.1 PO0PSEN-B2E       N/A         HP ZBook 17 G4       17.4, 75, 250 PO0RCK-B2P       SP87260       30.3.2.5.1 PO0PSEN-B2E       SP87113	10 11			HP ProBook 470 G5	N/A	N/A	N/A	N/A
HP ZBook 15 G3         PO0551-B2E Win10: 17.4,75.250 PO0RCK-B2P         Win7: SP85610 Win10: SP87260         27.1.3.0.1 PO0MYN-B2X         SP87463           122-14 Troubleshooting Issues         230 W         HP ZBook 15 G3         Win7: 16.3,71.300 PO0RCK-B2P         Win7: SP85610 Win10: SP87260         27.1.3.0.1 PO0MYN-B2X         SP87463           122-14 Troubleshooting Issues         HP ZBook 17 G4         17.4.75.250 PO0RCK-B2P         Win7: SP85610 Win10: SP87260         27.1.3.0.1 PO0MVU-B2Y         SP87460           HP ZBook 17 G4         17.4.75.250 PO0RCK-B2P         SP87260         20.2.5.8.1 PO0PRA-B2R         N/A				HP ZBook 17 G3	P00S51-B2E Win10: 17.4.75.250			SP87470
12-14         HP ZBook Studio G3         Win7: 16.3.71.300 POOS51-B2E Win10: 17.4.75.250         Win7: SP85610 Win10: SP87260         27.1.3.0.1 POOMVU-B2Y         SP87460           HP ZBook x2 G4         17.4.75.250 POORCK-B2P         SP87260         20.2.5.8.1 POOPBA-B2R         N/A           HP ZBook 17 G4         17.4.75.250 POORCK-B2P         SP87260         33.2.5.5.1 POOPBA-B2R         SP87113	•			HP ZBook 15 G3	P00S51-B2E Win10: 17.4.75.250			SP87463
Troubleshooting Issues         HP ZBook x2 G4         17.4.75.250 POORCK-B2P         SP87260         20.2.5.8.1 POOP8A-B2R         N/A           HP ZBook 17 G4         17.4.75.250 POORCK-B2P         SP87260         33.2.5.5.1 POOPEN-B2S         SP87113		230 W		HP ZBook Studio G3	P00S51-B2E Win10: 17.4.75.250			SP87460
HP 2B00k 1/ G4 PO0RCK-B2P SP8/260 PO0PEN-B2S SP8/13				HP ZBook x2 G4		SP87260		N/A
				HP ZBook 17 G4		SP87260		SP87113
PODRCK-B2P 5F07200 PODPEM-B2R 5F00000	15–19			HP ZBook 15 G4		SP87260		SP86808
Support list for the HP Thunderbolt 2 Dock     HP ZBook Studio G4     17.4.75.250 POORCK-B2P     SP87260     33.2.5.5.1 POOPDK-B2S     SP8719				HP ZBook Studio G4	17.4.75.250	SP87260	33.2.5.5.1	SP87119



#### HP COMMERCIAL NOTEBOOK / MWS PLATFORM SUPPORT (CONTINUED)

	Power	wer Segment Platform name		Audio		LAN	
TECHNICAL WHITE PAPER				Driver version	Softpaq	Driver version	Softpaq
CONTENTS &			HP Elite x2 1012 G1	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
NAVIGATION			HP Elite x2 1012 G2	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
2			HP EliteBook Folio G1	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
HP Thunderbolt Dock G2 Docking Reinvented for the Modern Workspace			HP EliteBook 1040 G4	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Minimum software/firmware requirements		HP	HP EliteBook x360 1020 G2	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
3		EliteBook	HP EliteBook x360 1030 G2	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
First-time Connection			HP EliteBook 840 G5	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Δ			HP EliteBook 850 G5	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Best Practice – Docking/Undocking for Windows 7			HP EliteBook 840 G5 HC	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
<b>F</b>	120 W		HP EliteBook 830 G5	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
<b>5</b> Multi-Function Mode			HP Pro x2 612 G2	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Pre-Boot Support LEDPower / Button			HP ProBook 640 G4	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Charging Support from HP Dock			HP ProBook 650 G4	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
6-7			HP ProBook 645 G4	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Display Capabilitie		HP ProBook	HP ProBook 455 G5	6.3.9600.171 (P00RKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Q_Q			HP ProBook 440 G5	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Manageability			HP ProBook 430 G5	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
10.11			HP ProBook 450 G5	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
<b>10-11</b>			HP ProBook 470 G5	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
			HP ZBook 17 G3	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
			HP ZBook 15 G3	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Thunderbolt™ Security Levels – Host System Notebook Informations	230 W		HP ZBook Studio G3	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
12-14		HP ZBook	HP ZBook x2 G4	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Troubleshooting Issues			HP ZBook 17 G4	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
15-19			HP ZBook 15 G4	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851
Support list for the HP Thunderbolt 2 Dock HP Commercial Notebook / mWS Platform Support			HP ZBook Studio G4	6.3.9600.171 (POORKQ-B2Q)	SP87614	v10.21.1012.2017 P00RSE-B2D	SP84851



Audio

#### HP COMMERCIAL NOTEBOOK / MWS PLATFORM SUPPORT (CONTINUED)

	Power	Segment	Platform name	USB 3.1 XHCI Host Controller (Windows 7 only)	
TECHNICAL WHITE PAPER				Driver version	Softpaq
	NTENTS & VIGATION nderbolt Dock G2 g Reinvented for the Modern Workspace	HP EliteBook	HP Elite x2 1012 G1	N/A	N/A
CONTENTS &			HP Elite x2 1012 G2	N/A	N/A
NAVIGATION 2 HP Thunderbolt Dock G2 Docking Reinvented for the Modern Workspace Minimum software/firmware requirements			HP EliteBook Folio G1	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
			HP EliteBook 1040 G4	N/A	N/A
			HP EliteBook x360 1020 G2	N/A	N/A
			HP EliteBook x360 1030 G2	N/A	N/A
			HP EliteBook 840 G5	N/A	N/A
			HP EliteBook 850 G5	N/A	N/A
			HP EliteBook 840 G5 HC	N/A	N/A
	120 W		HP EliteBook 830 G5	N/A	N/A
			HP Pro x2 612 G2	N/A	N/A
4 Best Practice – Docking/Undocking for Windows 7			HP ProBook 640 G4	N/A	N/A
		HP ProBook	HP ProBook 650 G4	N/A	N/A
			HP ProBook 645 G4	N/A	N/A
			HP ProBook 455 G5	N/A	N/A
			HP ProBook 440 G5	N/A	N/A
5			HP ProBook 430 G5	N/A	N/A
Aulti-Function Mode Pre-Boot Support .EDPower / Button Charging Support from HP Dock			HP ProBook 450 G5	N/A	N/A
			HP ProBook 470 G5	N/A	N/A
			HP ZBook 17 G3	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
6-7			HP ZBook 15 G3	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
Display Capabilitie	bilitie 230 W	HP ZBook	HP ZBook Studio G3	17.2.70.3,A,2 (Win7) P00KXW-B2K	SP82739
			HP ZBook x2 G4	N/A	N/A
8-9			HP ZBook 17 G4	N/A	N/A
Aanageability			HP ZBook 15 G4	N/A	N/A
			HP ZBook Studio G4	N/A	N/A

Thunderbolt<sup>™</sup> Security Levels – Host System Notebook Informations

12-14 Troubleshooting Issues

15-19 Support list for the HP Thunderbolt 2 Dock HP Commercial Notebook / mWS Platform Support

1 The dock power button is not functional when connected to non-HP notebooks, Chrome nor non-supported HP notebooks. <sup>2</sup>DSC: display stream compression.

₃ OS and systems compatibility: The HP Thunderbolt Dock G2 is designed to USB Type-C™ / Thunderbolt™ Industry specs and will support charging and port replication for notebooks that have implemented USB-C™ and Thunderbolt™ industry specifications. Certain features of the dock are not functional when used with non-HP systems nor Chrome systems:

- i. Power button to turn on or wake the system
- ii. Wake on LAN from warm and cold dock
- iii. Wake on LAN from S4/S5
- iv. MAC Address Pass Through S0, S3, S4, S5 warm and cold dock
- v. Ethernet and audio drivers need to be installed separately on non-HP Windows systems for headset auto switching functionality Drivers available on HP website
- vi. For MAC PCs HP does not provide ethernet and audio drivers
- vii. Firmware updates on Window-based host systems only

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