

HP EliteBook Ultra G1i

Design and Build

- **HP EliteBook Ultra G1i** ⇒ **Dimensions: Approximately 13.3 x 9.1 x 0.8 inches (338 x 230 x 20 mm)**
- **Weight:** Around 3.5 lbs (1.6 kg)
- **Material:** Magnesium alloy chassis with a brushed aluminum finish, providing a sleek yet durable design.
- **Keyboard:** Full-size, spill-resistant keyboard with backlighting options for comfortable typing in low-light environments.
- **Touchpad:** Precision touchpad with multi-touch support, and a pointing stick (HP's version of a track point) for additional navigation options.
- **Screen:** A 14-inch diagonal display with options for HD (1366 x 768) or Full HD (1920 x 1080) resolution. Anti-glare and LED-backlit technologies make it easier to use in various lighting conditions.

Performance

- **Processor Options**
 - Intel Core i3, i5, or i7 (4th generation, Haswell architecture)
 - The CPU speed ranges from 1.9 GHz (Core i3) up to 3.6 GHz (Core i7 with Turbo Boost).
- **Memory:**
 - Supports up to 16GB of DDR3L RAM, which is important for handling multiple applications and large files simultaneously.
- **Storage:**
 - **HDD:** Up to 500GB 7200 RPM hard drive for larger storage capacity but slower performance.
 - **SSD:** 120GB to 256GB solid-state drives (SSD), providing faster boot times, quick data access, and overall smoother performance.
- **Graphics:**
 - **Integrated Intel HD Graphics 4400 or Intel HD Graphics 5000** for basic tasks and light gaming. While this isn't meant for high-end gaming, it supports everyday work such as video conferencing, presentations, and some casual gaming.

Connectivity and Ports

- **USB 3.0 Ports:** Three USB 3.0 ports for fast data transfer, with one of them supporting always-on charging.
- **HDMI:** One full-sized HDMI port for connecting to external monitors or projectors.
- **DisplayPort:** One DisplayPort 1.2 for a second display.
- **VGA Port:** Useful for connecting older projectors or displays.
- **Ethernet:** One RJ-45 port for wired networking (Gigabit Ethernet).
- **Audio Jack:** A headphone/microphone combo jack.
- **SD Card Reader:** For expanding storage or transferring files from other devices.

Security Features

- **Fingerprint Reader:** Provides biometric security for logging into your device, protecting data from unauthorized access.
- **Smart Card Reader:** For users working with secure systems that require smart card authentication.

- **TPM (Trusted Platform Module):** A hardware-based security feature to store encryption keys, passwords, and certificates.
- **HP Client Security:** Includes features like Drive Lock, BIOS protection, and pre-boot authentication.
- **HP Sure Start:** Protects against BIOS attacks by automatically recovering the BIOS if it becomes corrupted or tampered with.
- **Battery Life:**
 - The battery life of the **HP EliteBook 840 G1 typically ranges from 9 to 10 hours**, depending on usage and configuration (e.g., display brightness, active applications).
 - **Battery options:** The device offers a 3-cell or 4-cell Lithium-ion battery, which can be replaced or swapped out if needed.

Operating System

- **The HP EliteBook 840 G1 originally shipped with Windows 7 Professional or Windows 8.1 Professional.** However, users can upgrade to Windows 10 for enhanced security and features, which is fully supported by the hardware.
- **Additional Features:**
 - **Webcam:** HD webcam for video calls and conferences, with an integrated microphone.
 - **Audio:** Dual speakers tuned by DTS Studio Sound for clear and loud audio, which is ideal for conference calls or multimedia playback.
 - **Wireless:**
 - **Wi-Fi 802.11a/b/g/n (Wi-Fi 5).**
 - **Bluetooth 4.0 for wireless peripherals and accessories.**

Upgradability

- **RAM and Storage** are both user-upgradable, allowing you to increase the device's memory or swap out the hard drive/SSD for better performance and storage capacity.

Durability

- **The EliteBook 840 G1 is MIL-STD 810G certified** for ruggedness and can withstand drops, shocks, and extreme conditions. While not as rugged as some more purpose-built rugged laptops, it's certainly built to survive more than just a few accidental bumps or spills.

Advanced Performance Features

Processor Details

- **Intel Core i3 (4th Gen)** – Entry-level processor, ideal for basic tasks like web browsing, word processing, and running light applications.
- **Intel Core i5 (4th Gen)** – The most popular option, offering a solid balance of performance for multitasking, business applications, and moderate computing workloads.
- **Intel Core i7 (4th Gen)** – High-end option, best for power users who work with intensive applications, such as video editing, programming, and data-heavy tasks.

- **These processors also feature Intel Turbo Boost Technology**, which dynamically increases processor speed to improve performance during demanding tasks.

Graphics Performance

- **Intel HD 4400:** Suitable for everyday business tasks, video playback, and light photo editing.
- **Intel HD 5000:** Offers a slight upgrade in graphical performance, enabling better performance for media consumption and light gaming.

Both options are integrated graphics, meaning they share system memory (RAM) and are not as powerful as discrete graphics options, so they're not meant for gaming or heavy 3D workloads. However, they handle productivity tasks with ease.

Display Options

- **HD display:** Provides decent resolution for standard business tasks, but the pixels can be noticeably larger, especially on a 14-inch screen.
- **Full HD display:** Offers higher pixel density, resulting in sharper images and text. This is a great choice for users who need to work with multiple windows or want a clearer, more detailed image for presentations, spreadsheets, and video conferencing.
- **Touchscreen Option:** Some configurations of the EliteBook 840 G1 also include a touchscreen, allowing for more interactive use, which is useful in meetings or when utilizing touch-based applications.

Audio and Multimedia

- **Audio Technology:** The DTS Studio Sound feature is built-in, enhancing audio quality through dual speakers. It improves bass, treble, and overall clarity, ensuring a more enjoyable experience during video conferences, music listening, or multimedia presentations.
- **Dual microphones:** These work in conjunction with the speakers to cancel out background noise during calls, improving clarity in noisy environments.

Security Features in Detail

The **HP EliteBook 840 G1** is packed with numerous security features tailored to protect sensitive information, especially in corporate settings.

- **HP Sure Start:** An advanced BIOS recovery solution that automatically repairs the BIOS if it gets corrupted, helping to protect against malware that targets the firmware.
- **HP Client Security:** This suite of security tools enhances data protection with features like:
- **Drive Lock:** Prevents unauthorized access to storage devices by locking the hard drive.
- **Self-Encrypting Drives (SED):** Optional SED storage, which automatically encrypts data to protect it even if the device is lost or stolen.
- **Pre-boot Authentication:** Ensures that the system only boots if it detects authorized users, providing an additional layer of protection before even entering the operating system.

Fingerprint Reader:

- Integrated HP Simple Pass software allows users to store and manage passwords securely via fingerprint recognition. This feature can be especially helpful in environments where users need to access secure systems or networks.

- **Smart Card Reader:** An optional smart card reader allows for secure access to applications or networks, typically used in enterprises that require strict authentication measures.
- **TPM (Trusted Platform Module):** A hardware-based encryption key storage solution, TPM securely stores cryptographic keys, which is a critical feature for enterprise environments focused on data protection.

Keyboard and Input Devices

- **Full-size Keyboard:** The spill-resistant keyboard is comfortable for long typing sessions. The key travel is well-balanced for professional typing tasks.
- **Backlit Option:** Some configurations come with a backlit keyboard, making it easier to type in low-light environments, which can be especially useful when traveling or working in dimly lit meeting rooms or airplanes.
- **Track point:** In addition to the touchpad, HP includes a pointing stick (TrackPoint) in the middle of the keyboard. This is useful for users who prefer to control the cursor without moving their hands off the keyboard.
- **Precision Touchpad:** The touchpad is responsive and supports multi-touch gestures like pinch-to-zoom, scroll, and swipe, improving productivity for users accustomed to these actions.

Ports and Expansion Options

- **USB Ports:**
 - **Three USB 3.0 Ports:** Fast data transfer speeds (up to 5 G bps).
 - **Docking Station Compatibility:** The EliteBook 840 G1 is compatible with HP's Ultra Slim Docking Station (sold separately), allowing users to connect multiple monitors, external storage devices, and other peripherals with a single connection. This is ideal for users who need to frequently dock and undock their laptops while working at a desk.

RJ-45 Ethernet Port

- : This provides a wired connection to the network, ensuring fast and reliable internet access, especially when Wi-Fi may be unreliable or unavailable.
- **VGA Port:** Still an important feature for connecting to legacy projectors, external monitors, or presentations in meeting rooms that may not yet have HDMI or DisplayPort capabilities.
- **DisplayPort 1.2:** Allows for dual-monitor setups or high-resolution external displays, including 4K monitors, providing the flexibility for power users or business professionals who need more screen real estate.

Upgradability

- **RAM:** The EliteBook 840 G1 supports up to 16GB of DDR3L RAM. The RAM slots are easily accessible via a panel on the bottom, making upgrades straightforward for users who need more memory.
 - **Storage:** Users can upgrade from an HDD to an SSD for faster performance
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