

# OMEN X Laptop 17-ap020nr



## OMEN's first overclockable laptop

Engineered for overclocking, the OMEN X Laptop lets you define your own limits. With desktop-class graphics performance and a mechanical keyboard, your team is destined for glory.<sup>(17)</sup>

### Product overview

- **Overclocked performance. Unstoppable power.** Includes an Intel® Core™ processor and NVIDIA GeForce® GTX® graphics. All that power stays cool with advanced thermals, so you can play even the most demanding games without throttling performance.
- **Mechanical precision. Maximum immersion.** Control the outcome of every match on a mechanical RGB LED backlit keyboard with 2.5mm travel, N-key rollover, and customizable key maps. Stay competitive with a crisp 1080p display<sup>(39)</sup> with 120Hz refresh rate<sup>(40)</sup> and NVIDIA® G-SYNC technology.
- **Easy upgrades. Enhancements you can see.** See-through single panel access to internals makes upgrading a breeze and lets you see what your laptop's got inside. Create your ideal battle station with 2 Thunderbolt certified USB 3 Type-C™ ports, 3 USB 3.1 Type A ports, and an HDMI port.

### Key specifications

- **Operating system:** Windows 10 Home<sup>(1)</sup>
- **Processor:** 7th Generation Intel® Core™ i7-7820HK Processor<sup>(2)</sup>
- **Display:** 17.3-inch diagonal FHD<sup>(39)</sup> 120 Hz IPS anti-glare WLED-backlit (1920 x 1080)
- **Memory:** 16 GB DDR4 SDRAM (2 DIMM)
- **Internal storage:**
  - 256 GB PCIe® NVMe™ M.2 Solid State Drive<sup>(15)</sup>
  - 1 TB 7200 RPM SATA hard drive<sup>(45)</sup>
- **Graphics:** NVIDIA® GeForce® GTX 1080 (8GB GDDR5X dedicated)<sup>(13)</sup>
- **Audio:** Bang & Olufsen with dual speakers
- **Battery life:**
  - Up to 5 hours and 30 minutes (mixed usage)<sup>(70)</sup>
  - Up to 4 hours and 15 minutes (video playback)<sup>(75)</sup>
- **Wireless:** 2x2 802.11ac WLAN<sup>(19a)</sup> and Bluetooth®<sup>(26)</sup>
- **Webcam:** Front-facing HP Wide Vision FHD Webcam with integrated dual array digital microphones<sup>(89)</sup>
- **Product weight:** 10.73 lb<sup>(75)</sup>
- **Keyboard:** Full-size backlit keyboard with numeric keypad and NKRO

### Product features

- **Windows 10 Home:** Do great things confidently with the familiar feel of Windows - only better.<sup>(1)</sup>
- **Factory-overclocked NVIDIA® GeForce® GTX 1080:** Fueled by ultra-fast FinFET and high-bandwidth GDDR5X technologies, get clock frequencies up to 1771 MHz.<sup>(67)</sup>
- **7th generation Intel® Core™ i7 processor:** Powerful performance easily keeps up with all your multitasking demands and enables new ways to interact with your PC.
- **Overclocking capability:** Boost your gaming performance with turbocharged processor speeds.<sup>(17)</sup>
- **N-key rollover:** Run, fire, and reload simultaneously—every keystroke is detected with n-key rollover.
- **Backlit keyboard with integrated numeric pad:** Keep going comfortably even in darker environments.
- **120Hz Full HD anti-glare display:** Power the latest games in 1080p at 60fps for fast, smooth gameplay.
- **NVIDIA® G-SYNC:** This technology synchronizes GPU and display refresh rates for sharp, stutter-free gameplay.
- **Dual storage configuration:** By including both an SSD drive for the operating system and a traditional hard drive you get the benefits of both worlds—fast boot up times, snappy responsiveness, and larger storage capacity.
- **Triple display support:** Add a second and third display for a more immersive and productive computing experience.
- **DDR4 RAM:** With its higher bandwidth, everything from multi-tasking to playing games gets a performance boost.
- **DTS Headphone:X™ technology:** Produces spatially accurate 3D sound through any headphones for immersive sound quality.<sup>(97)(98a)</sup>

### Additional product features

- **Chassis lighting:** Light up the arena with customizable RGB LED lighting in 8 different zones across the laptop.
- **OMEN Command Center:** Custom settings for overclocking, network traffic, and lighting.<sup>(17)</sup>
- **Rock-solid connections:** With the latest 802.11 a/c (2x2) WLAN adapter and Bluetooth® 4.2, all your connections are rock solid and up to 6 times faster than 802.11n 1x1.<sup>(18)(19a)(26)</sup>
- **HP Fast Charge:** Go from 0 to 50% charge in approximately 30 minutes.<sup>(72)</sup>
- **HP Wide Vision FHD Camera:** 88-degree, wide-angle field of view for video chats with the whole family.<sup>(89)</sup>
- **Dropbox cloud storage:** If you don't have it today, sign up to get 25 GB of Dropbox space free for 12 months with your HP device.<sup>(22)</sup>
- **McAfee LiveSafe™:** Protect your operating system with a free 30-day McAfee LiveSafe™ trial.<sup>(8)</sup>

### Energy efficiency your way

HP is committed to global citizenship and environmental responsibility. Do the environment—and your wallet—a favor when you use the HP OMEN X Laptop that meets strict energy-efficiency and helps reduce your carbon footprint.

- ENERGY STAR® certified<sup>(62)</sup>
- EPEAT® Silver registered<sup>(27)</sup>
- Low Halogen<sup>(61)</sup>
- Mercury-free display backlights
- Arsenic-free display glass
- All HP computing products are delivered by SmartWay carriers.<sup>(63)</sup>
- Recycled Packaging: Count on easy recycling every time. HP designs products and packaging that can be conveniently recycled or reused.<sup>(31)</sup>

### Warranty and support

Our Customer Support Team consistently provides quick, responsive assistance in the U.S., Canada and Latin America.

#### Included with your product:

- **HP's Hardware Limited Warranty:** Full warranty details are included with your product.
- **Technical Support for Software & initial set-up:** Warranty details are included with your product.

#### Support Options:

- **HP Support Assistant - HPSA:** Optimized to enhance your support experience. Help for your PC and HP printers whenever you need it.<sup>(56)(57)</sup>
- **Online Support:** For technical support with this product, visit HP Customer Support <http://support.hp.com>.<sup>(9)</sup>
- **Social Media Support:** To find solutions, ask questions, and share tips, join us on the HP Support Forum at [hp.com/go/supportforum](http://hp.com/go/supportforum), on Twitter at [twitter.com/HPsupport](https://twitter.com/HPsupport), and Facebook at [facebook.com/HPsupport](https://facebook.com/HPsupport).<sup>(9)</sup>

#### Extend your coverage:

- **SmartFriend, part of HP Care:** Experts are available 24/7 to handle any tech issue, on any device, from any brand. Visit [www.hp.com/go/smartfriend](http://www.hp.com/go/smartfriend) to learn more or call toll-free 1.844.814.1800 to get started.<sup>(93)</sup>
- **Care Packs:** Extend protection beyond the standard limited warranty. For more info, visit [www.hp.com/go/cp2](http://www.hp.com/go/cp2) or call toll-free at 1.877.232.8009.<sup>(83)</sup>



BANG & OLUFSEN AUDIO



Specifications

Operating system	• Windows 10 Home <sup>(1)</sup>
Processor	• 7th Generation Intel® Core™ i7-7820HK Processor <sup>(2a)</sup> • Quad-Core
Processor speed	• 2.9 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology <sup>(2b)(2g)</sup>
Processor cache	• 8 MB cache
Memory	• 16 GB DDR4 SDRAM (2 DIMM)
Accessible memory slots	• 2
Video graphics	•
Internal storage	• 256 GB PCIe® NVMe™ M.2 Solid State Drive <sup>(13)</sup> • 1 TB 7200 RPM SATA hard drive <sup>(4b)</sup>
Finish and features	• HP finish in shadow black • Front-facing HP Wide Vision FHD Webcam with integrated dual array digital microphones <sup>(8g)</sup>
Display	• 17.3-inch diagonal FHD <sup>(3g)</sup> 120 Hz IPS anti-glare WLED-backlit (1920 x 1080)
Network card	• Integrated 10/100/1000 GbE LAN <sup>(2g)</sup>
Wireless connectivity	• 2x2 802.11ac WLAN <sup>(19a)</sup> and Bluetooth® <sup>(9)(2e)</sup>
Digital media	• Multi-format digital media card reader
Audio	• Bang & Olufsen with dual speakers • Supports DTS Headphone: X <sup>(4)(7)(49a)</sup>
Keyboard	• Full-size backlit keyboard with numeric keypad and NKRO
Pointing device	• Touchpad supporting multi-touch gestures without on/off button
External notebook ports	• 2 Thunderbolt™ 3 (Data up to 40Gb/s, Power Delivery, DisplayPort™ 1.2, HP Sleep and Charge) <sup>(41)</sup> • 3 USB 3.1 Gen 1 (Data Transfer Only) • 1 Mini DisplayPort™ <sup>(5d)</sup> • 1 HDMI • 1 RJ-45 • 1 Headphone-out/microphone-in combo jack (DTS Headphone: X® enabled) <sup>(4)(7)(49a)</sup> • 1 Microphone in
Dimensions	• <b>Unpackaged:</b> 1.43 in (H) x 16.73 in (W) x 12.88 in (L) • <b>Packaged:</b> 25.49 in (L) x 4.47 in (w) x 16.94 in (H)
Weight	• <b>Unpackaged:</b> 10.73 lb <sup>(7d)</sup> • <b>Packaged:</b> 17.79 lb
Security	• Kensington MicroSaver® lock slot
Power	• 330W AC adapter • 6-cell 99 Whr lithium-ion battery
Battery life	• Up to 5 hours and 30 minutes (mixed usage) <sup>(7)(2)</sup> • Up to 4 hours and 15 minutes (video playback) <sup>(7)(3)</sup>
Warranty and support	• 1-year limited hardware warranty. Additional information available at <a href="http://www.support.hp.com">www.support.hp.com</a> <sup>(9)</sup> • 90 days limited technical support for software and initial setup (from date of purchase) <sup>(5)(3)</sup>

Learn more at [hp.com](http://hp.com)

<sup>(1)</sup> 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> <sup>(2a)</sup> 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. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance. Intel, Pentium, Intel Core, Celeron, Intel logo and the Intel Inside logo are trademarks of Intel Corporation in the U.S. and other countries. <sup>(2b)</sup> Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See <http://www.intel.com/technology/turboboost/> for more information. <sup>(4b)</sup> For storage drives, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB of drive is reserved for system recovery software. <sup>(8)</sup> Internet access required and not included. Subscription required after 30 days trial period. McAfee, LiveSafe and the McAfee logo are trademarks or registered trademarks of McAfee, Inc. in the United States and other countries. <sup>(9)</sup> Internet access required and not included. Availability of public wireless access points limited. <sup>(13)</sup> NVIDIA, GeForce, Surround, and the NVIDIA logo are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. <sup>(19a)</sup> Actual formatted capacity is less. Portion of internal storage is reserved for preloaded content. <sup>(17)</sup> Altering clock frequency and/or voltage may: (i) reduce system stability and useful life of the system, processor, and other system components; (ii) cause the processor and other system components to fail; (iii) cause reductions in system performance; (iv) cause additional heat or other damage; and (v) affect system data integrity. HP and Intel have not tested, and does not warranty, the operation of the processor beyond its specifications. HP and Intel have not tested, and do not warranty, the operation of other system components beyond their industry standard specifications. HP and Intel assume no responsibility that the processor and other system components, including if used with altered clock frequencies and/or voltages, will be fit for any particular purpose. <sup>(10)</sup> Based on HP internal testing with MP4 playing, clamshell mode, 3 meter distance from wireless access point. Actual results may vary. <sup>(19a)</sup> Wireless access point and Internet service required. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the PC to communicate with other 802.11ac WLAN devices. <sup>(20)</sup> All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. <sup>(22)</sup> New Dropbox users are eligible to get 25 GB of Dropbox space free for 12 months from date of registration. For complete details and terms of use, including cancellation policies, visit the Dropbox website at [www.dropbox.com](http://www.dropbox.com). Internet service required and not included. <sup>(25)</sup> Bluetooth® is a trademark owned by its proprietor and used by HP Inc. under license. <sup>(27)</sup> EPEAT® Silver registered where applicable. EPEAT registration varies by country. See [www.epeat.net](http://www.epeat.net) for registration status by country. <sup>(29)</sup> Actual speeds may vary. <sup>(31)</sup> Free recycling in select countries. Program may not be available in your area. Check [www.hp.com/go/recycling](http://www.hp.com/go/recycling) to see if HP offers free recycling in your area. <sup>(39)</sup> Full High Definition (FHD) content is required to view FHD images. <sup>(41)</sup> Transfer rate may vary. All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. <sup>(47)</sup> Listening to personal stereo equipment at full volume for long periods can damage the user's hearing. To reduce the risk of hearing damage, lower the volume and amount of time listening at full volume. <sup>(49a)</sup> 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 HEADPHONE:X and the DTS HEADPHONE:X logo are trademarks of DTS, Inc. © DTS, Inc. All Rights Reserved. <sup>(5d)</sup> DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. <sup>(53)</sup> Call 1.800.474.6836 or [www.support.hp.com](http://www.support.hp.com) for more information on Care Packs available after 90 days. After 90 days, an incident fee may apply. <sup>(5d)</sup> For more information visit [hp.com/go/psupportassistant](http://hp.com/go/psupportassistant) [Link will vary outside of the U.S.] HP Support Assistant is available for Android and Windows based PCs. <sup>(57)</sup> Internet connection required for updating and connecting to HP Support. <sup>(61)</sup> External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen. <sup>(62)</sup> ENERGY STAR and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency. <sup>(63)</sup> Designation based on actions to reduce transportation-related emissions. <sup>(67)</sup> Performance and boost clock frequency will vary depending on application workload and your hardware and software configurations. <sup>(70)</sup> 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 <http://www.bapco.com> for additional details. <sup>(72)</sup> Recharges your battery up to 50% within 30 minutes when the system is off (using "shut down" command). Recommended for use with the HP adapter provided with the notebook, not recommended with a smaller capacity battery charger. After charging has reached 50% capacity, charging speed will return to normal speed. Charging time may vary +/-10% due to System tolerance. <sup>(75)</sup> Tested by HP using continuous video playback, 150 nits brightness, system audio level at 50%, player audio level at 100%, played using a Full HD 1080p video stored locally, headphone attached, wireless off, auto dimming off. Actual battery life will vary depending on configuration and maximum capacity will naturally decrease with time and usage. <sup>(78)</sup> Weight and system dimensions may fluctuate due to configuration and manufacturing variances. <sup>(83)</sup> Service levels and response times for Care Packs may vary depending on your geographic location. Restrictions and limitations apply. Service starts at date of hardware purchase. HP Care Packs are sold separately. For details, visit [www.hp.com/go/carepack-services](http://www.hp.com/go/carepack-services). <sup>(85a)</sup> Requires an Internet connection, not included, to an HP web-enabled printer and HP ePrint account registration. For complete details, see [www.hp.com/go/mobileprinting](http://www.hp.com/go/mobileprinting) <sup>(89)</sup> Features may require software or other 3rd party applications to provide the described functionality. Internet service required and not included. <sup>(95)</sup> HP SmartFriend will support any major brand of computer and tablet running Microsoft Windows, OSX, iOS, Android, and Chrome OS. 24x7 support is available in English and in the US & Canada (excluding the Province of Quebec) only. Service availability varies by country/region. Internet connection required for remote support. Remote support not available for tablets. Not all service plans cover support for tablets. HP SmartFriend sold separately or as an add-on feature. Actual product may vary from image shown. ©2017 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing shall be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. All other trademarks are property of their respective owners. 12f6\_r7 tc

Software

HP help and support	• <b>HP Support Assistant:</b> Included with your computer, this free self-help tool makes it easier than ever to get help with your HP PC and printers. <sup>(56)(57)</sup> • <b>HP ePrint:</b> Wirelessly print from anywhere, anytime, on any HP ePrint-enabled printer. <sup>(85a)</sup> • <b>HP Jumpstart:</b> When you boot up your PC for the first time, get a personal walkthrough during the setup and get an informative overview of your PC's features.
Books, music, photos and videos	• <b>Netflix:</b> Watch movies and TV online with subscription. <sup>(88)</sup>
Productivity and tools	• <b>Dropbox:</b> Keep your files safe, synced, and easy to share with Dropbox. If you don't have it today, sign up to get 25 GB of Dropbox space free for 12 months to save and access your photos, docs, and videos across all your devices. <sup>(22)</sup> • <b>HP ePrint:</b> Wirelessly print from anywhere, anytime, on any HP ePrint-enabled printer. <sup>(85a)</sup> • <b>HP Audio Switch:</b> Easily switch between speaker and microphone sources with intuitive controls and a consistent app experience. • <b>OMEN Command Center:</b> Puts you in control of custom settings for an elite gaming experience. With just a few clicks, you can safely overclock CPU and RAM, customize keyboard and chassis lighting, and optimize connectivity with Network Booster and Dual Force functionality. <sup>(17)</sup> • <b>HP Connection Optimizer:</b> Get consistent and reliable Wi-Fi performance with software that automatically switches between the most efficient wireless access points. <sup>(6)</sup>
Security and protection	• <b>HP 3D DriveGuard:</b> Your PC's data stays safe from accidental bumps and bruises with HP 3D DriveGuard. It senses motion and locks your spinning hard drive, so a single bump won't delete your entire digital life. • <b>HP CoolSense:</b> Your PC auto adjusts its temperature based on usage and conditions. • <b>McAfee LiveSafe™:</b> Protect your operating system with a free 30-day McAfee LiveSafe™ trial. <sup>(8)</sup>

Additional Information

Product number	• 2LV60UA#ABA
Ad embargo date	• 01/14/2018
UPC Code	• 192018001305
Country of origin	• China
Tariff number	• 8471300000
Pallet information	• <b>Dimensions:</b> 47.24 in (L) x 39.37 in (W) x 96.10 in (H) • <b>Total weight:</b> 532.10 lb • <b>Layers per Pallet:</b> 4 • <b>Products per Layer:</b> 14
Battery regulatory data	• <b>Transportation or storage regulations:</b> Y • <b>UN# and proper shipping name:</b> UN3481 - Lithium ion batteries packed with equipment • <b>Number of batteries:</b> 1 • <b>Primary battery regulated material:</b> 440g • <b>Primary battery watt hours:</b> 99 • <b>Applicable CPSC regulations:</b> N

