#### ProductSheet

## OMEN by HP Laptop 16-b1020nr (641K5UA)

# Lift Your Play Up. Way Up



Play your best from anywhere with the OMEN by HP 16.1" Gaming Laptop PC. Powered by a 12th Gen Intel® Core™ Processor[1] and NVIDIA® Graphics. Expand your gaming world with sharper and smoother visual experiences courtesy of a high-res, fast refresh rate display. Plus, OMEN Tempest Cooling Technology[2] prevents overheating even when your game heats up.



#### Stay cool under pressure

With OMEN Tempest Cooling technology[2] that prevents overheating, even when your game play heats up.

#### High-resolution, fast refresh rate display

Visually stunning featuring a 16.1" high-res, fast refresh rate display plus long battery life to play longer.

#### Customize your experience with OMEN Gaming Hub

Your one-stop shop to elevate gameplay, from controlling every little performance to lighting options and more.

#### **Featuring**

#### Get a fresh perspective

Windows 11 provides a calm and creative space where you can pursue your passions through a fresh experience. From a rejuvenated Start menu, to new ways to connect to your favorite people, news, games, and content—Windows 11 is the place to think, express, and create in a natural way. [3]

#### A dynamic processor that adapts to you for superior multi-tasking performance

12th Gen Intel® Core™ processors distributes performance where you need it the most — saving you time and increasing your ability to do the things you actually want. <sup>[4]</sup>

#### The Ultimate Play

The GeForce RTX™ 3070 is powered by Ampere—NVIDIA's 2nd gen RTX architecture. Built with enhanced RT Cores and Tensor Cores, new streaming multiprocessors, and high-speed G6 memory, it gives you the power you need to rip through the most demanding games. <sup>[5]</sup>

## NVIDIA® G-SYNC™

By synchronizing the refresh rates of your GPU and display, NVIDIA® G-SYNC™ technology delivers gameplay that's sharp, fluid, and stutter-free with minimal input lag.

#### QHD IPS antiglare display

Get lost in the captivating QHD resolution with IPS technology. Coupled with an antiglare screen to reduce light reflection, this display provides a remarkable entertainment experience.  $^{[6]}$ 









## **Specifications**

Product color Shadow black cover and base, shadow black aluminum keyboard frame 12th Generation Intel® Core® 17 1200 (by 10 4 7 GHz with Intel® Turbo Boost Technology, 24 MB L3 cache, 14 cores, 20 threads) (6x7)  Processor Intel® Core® 17 1200 (by 10 4 7 GHz with Intel® Turbo Boost Technology, 24 MB L3 cache, 14 cores, 20 threads) (6x7)  Intel® Intel® Intel® Intel® Core® 17 1200 (by 10 4 7 GHz with Intel® Turbo Boost Technology, 24 MB L3 cache, 14 cores, 20 threads) (6x7)  Intel® Core® 17 1200 (by 10 4 GHz	Operating system	Windows 11 Home	
Intel® Core™ 17-12700H (up to 4.7 GHz with Intel® Turbo Boost Technology, 24 MB L3 cache, 14 cores, 20 threads)  (6.7)  Chipset Intel® Integrated SoC  Memory 16 GB DDRS-4800 MHz RAM (2 x 6 GB)  Treduct design Paint finish cover and base, sandhlasted keyboard frame  Optical drive Optical drive optical drive not included  product design Paint finish cover and base, sandhlasted keyboard frame  Optical drive Optical drive Optical drive not included  product design Paint finish cover and base, sandhlasted keyboard frame  Optical drive Optical drive Optical drive not included  iraphics Integrated Intel®	Product color		
Inspect   Intel® Inte	Processor family	•	
Internal Storage  51 2 GB PCIE* NUME** TLC IM. 2 SSD  Product design  Paint finish cover and base, sandblasted keyboard frame  Optical drive  NVIDIA** GeForce RTX*** 3070 Laptop GPU (8 GB GDDR6 dedicated)  Graphics  Graphics  Integrated  Integrated  Intel** Iris* X** Graphics  Usplay  Upit, 300 ints. 100% SRG8  16.1** diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 ints. 100% SRG8  Usplay  16.1** diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 ints. 100% SRG8  Display size (diagonal)  40.9 cm (16.1*)  Usplay size (diagonal)  40.9 cm (16.1*)  Usplay size (diagonal)  40.9 cm (16.1*)  Sisplay size (diagonal)  40.9 cm (16.1*)  Sis	Processor	· · · · · · · · · · · · · · · · · · ·	
Internal Storage  512 GB PCIe® NVMe™ TLC M.2 SSD  Product design  Paint finish cover and base, sandblasted keyboard frame  Optical drive  Optical drive optical drive not included  Traphics  Discrete  Straphics (discrete)  NVIDIA® GeForce RTX™ 3070 Laptop GPU (8 GB GDDR6 dedicated)  Integrated  Traphics (integrated)  Tra	Chipset	Intel® Integrated SoC	
Product design Paint finish cover and base, sandblasted keyboard frame  'phtical drive  Discrete  Graphics  Discrete  Sraphics  Integrated  Integrated  Integrated  Object (17) diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 mits, 100% sR68  Display  16.1" diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 mits, 100% sR68  Display (16.1")  Display (16.1")  Audio by Bang & Olufsen; DTS;X* Ultra; Dual speakers; HP Audio Boost  Minimum dimensions (W x D x H)  Weight Starting at 2.3 leg  Comerations way by configuration)  Weight Starting at 5.091b  Ceyboard  Full-size, per key R6B backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device HP Imagepad with multi-touch gesture support; Precision Touchpad Support  Thundero Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 1 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Charge; 2 SuperSpeed USB Type-A S6bps signaling rate (USB Power Delivery, DisplayPort* 14, 1 HP Sleep and Char	Memory	16 GB DDR5-4800 MHz RAM (2 x 8 GB)	
Optical drive Optical drive not included Optical drive not included Optical drive not included Optical drive on tincluded Optical drive on tincluded Optical drive not included Optical drive not included Optical drive on the Optical drive not included Optical drive on the Optical dr	Internal Storage	512 GB PCIe® NVMe™ TLC M.2 SSD	
Graphics Discrete  Graphics (discrete) NVDIA® GeForce RTX™ 3070 Laptop GPU (8 GB GDDR6 dedicated)  Graphics (Integrated) Integrated Integrated (10 Integrated)  Graphics (Integrated) Integrated (10 Integrated) Integrated (10 Integrated)  Graphics (Integrated) Integrated (10 Integrated) (1	Product design	Paint finish cover and base, sandblasted keyboard frame	
Straphics (discrete)  NVIDIA® GeForce RTX™ 3070 Laptop GPU (8 GB GDDR6 dedicated)  Straphics Integrated  Intel® Iris® X® Graphics  (Ho.1" diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 nits, 100% sRGB  Display  16.1" diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 nits, 100% sRGB  Display intis, 100% sRGB  Display size (diagonal)  40.9 cm (16.1")  Multinum dimensions (W x D x H)  36.92 x 24.8 x 2.3 cm (Dimensions vary by configuration)  Minimum dimensions (W x D x H)  41.64 x 9.7 6 x 0.9 1 in  Weight  42.54 x 1.3 cm (Weight varies by configuration)  Weight  53.54 x 1.3 cm (Weight varies by configuration)  Weight  54.54 x 1.3 cm (Weight varies by configuration)  Weight  55.55 x 3.5 cm  45.75 x 2.5 cm  45.7	Optical drive	Optical drive not included	
Integrated   Int	Graphics	Discrete	
Intel® tris® X® Graphics   Intel® tris® X® Graphics   40.9 cm (16.1") diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 mist, 100% sRGB   16.1" diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 mist, 100% sRGB   16.1" diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 mist, 100% sRGB   16.1"	Graphics (discrete)	NVIDIA® GeForce RTX™ 3070 Laptop GPU (8 GB GDDR6 dedicated)	
A0.9 cm (16.1") diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 nits, 100% sR6B	Graphics	Integrated	
Light, 300 nits, 100% sRGB  16.1" diagonal, QHD (2560 x 1440), 165 Hz, 3 ms response time, IPS, micro-edge, anti-glare, Low Blue Light, 300 nits, 100% sRGB  Display size (diagonal) 40.9 cm (16.1")  Display size (diagonal) 16.1"  Audio Audio Bub Bang & Olufsen; DTS:X® Ultra; Dual speakers; HP Audio Boost  Minimum dimensions (W x D x H) 36.92 x 24.8 x 2.3 cm (Dimensions vary by configuration)  Minimum dimensions (W x D x H) 14.54 x 9.76 x 0.91 in  Starting at 2.3 kg (Weight varies by configuration)  Meight Starting at 5.09 lb  Keyboard Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device HP Imagepad with multi-touch gesture support; Precision Touchpad Support  Poput devices IR Thermal sensor  Camera HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  Thoughest Charge; 1 Super-Speed USB Type-C* 40Gbps signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling rate (HP Sleep and Charge); 2 Super-Speed USB Type-A 56pbs signaling	Graphics (integrated)	Intel® Iris® Xe Graphics	
nits, 100% sRGB  Display size (diagonal)  4.9 cm (16.1")  Audio  Audio by Bang & Olufsen; DTS:X® Ultra; Dual speakers; HP Audio Boost  Minimum dimensions (W x D x H)  (Dimensions vary by configuration)  Minimum dimensions (W x D x H)  (Dimensions vary by configuration)  Meight  Starting at 2.3 kg (Weight varies by configuration)  Meight  Starting at 5.09 lb  (Sepboard  Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device  HP Imagepad with multi-touch gesture support; Precision Touchpad Support  nput devices  IR Thermal sensor  Camera  HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  1 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A SGbbs signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbbs signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbbs signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbbs signaling rate (HP Sleep and Charge); 5 SuperSpeed USB Type-A SGbbs signaling rate (HP Sleep and Charge); 5 SuperSpeed USB Type-A SGbbs signaling rate; 1 HDMI 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots  1 multi-format SD media card reader  Package dimensions (W x D x H) Seakey weight  4.01 kg  Vetwork interface  Integrated 10/100/1000 GbE LAN  Wireless  Intel® Wi-Fi EE AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  20 wer supply type  230 W AC power adapter  Sattery type  3attery type  4-cell, 83 Wh Li-ion polymer  3attery type  3attery recharge time  Supports battery fast charge: approximately 50% in 30 minutes [5]  3attery recharge time  Sattery weight  5 SEPEAT® registered	Display		
Display size (diagonal) Audio by Bang & Olufsen; DTS:X® Ultra; Dual speakers; HP Audio Boost  Minimum dimensions (W x D x H)  Meight  Starting at 2.3 kg (Weight Varies by configuration)  Weight  Starting at 5.09 lb  Keyboard  Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device  HP Imagepad with multi-touch gesture support; Precision Touchpad Support  nput devices  IR Thermal sensor  Camera  HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  Ports  Charge; 1 SuperSpeed USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 RP J-45; 1 AC smart pin; 1 headphone/microphone combo <sup>(19,20,42)</sup> Expansion slots  Intel® W D R Sleep Sl	Display		
Audio by Bang & Olufsen; DTS:X® Ultra; Dual speakers; HP Audio Boost  Minimum dimensions (W x D x H)  36.92 x 24.8 x 2.3 cm (Olmensions vary by configuration)  Meight  Starting at 2.3 kg (Weight varies by configuration)  Meight  Starting at 5.09 lb  Keyboard  Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device  HP Imagepad with multi-touch gesture support; Precision Touchpad Support  Thermal sensor  Thermal sensor  Thunderbolt™ 4 with USB4™ Type-C° 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; H DML 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots  1 multi-format SD media card reader  Package dimensions (W x D x H) 6.9 x 55.2 x 34.5 cm  Package weight 4.01 kg  Network interface Integrated 10/100/1000 GbE LAN  Wireless Intel® Wi-Fi 6E AX211 (2 x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Sattery type 6-cell, 83 Wh Li-ion polymer  Sattery type 6-tolly 30 Wh Li-ion polymer  Sattery weight 0.69 lb  Sattery weight 15 Spentrery weight 16 Spentrery sets and 15 minutes (3)  Sattery weight 15 Spentrery weight 16 Spentrery sets and 15 minutes (3)  Sattery weight 17 Spentrery sets and 15 minutes (3)  Sattery weight 18 Spentrery weight 19 Spentrery sets and 15 minutes (3)  Sattery weight 19 Spentrery sets and 15 minutes (3)  Sattery weight 19 Spentrery sets and 15 minutes (3)  Spentrery weight 19 Spentrery sets and 15 minutes (3)  Spentrery weight 19 Spentrery sets and 15 minutes (3)	Display size (diagonal)	40.9 cm (16.1")	
Minimum dimensions (W x D x H)  36.92 x 24.8 x 2.3 cm (Dimensions vary by configuration)  Minimum dimensions (W x D x H)  14.54 x 9.76 x 0.91 in  Weight  Starting at 2.3 kg (Weight varies by configuration)  Weight  Starting at 2.3 vg (Weight varies by configuration)  Weight  Starting at 2.3 vg (Weight varies by configuration)  Weight  Starting at 5.09 lb  Ceyboard  Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device  HP Imagepad with multi-touch gesture support; Precision Touchpad Support  put devices  IR Thermal sensor  Lamera  HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  1 Thunderbolt™ 4 with USB4™ Type-C° 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 HDMI 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>(19,20,42)</sup> Expansionslots  1 multi-format SD media card reader  Package weight  4.01 kg  Network interface  Integrated 10/100/1000 GbE LAN  Wireless  Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type  30 W AC power adapter  Sattery type  3attery type  3attery type  3attery type  3attery type  3attery type  3attery recharge time  Supports battery fast charge: approximately 50% in 30 minutes <sup>(5)</sup> 3attery weight  315 g  36debels  EPEAT® egistered	Display size (diagonal)	16.1"	
Minimum dimensions (W x D x H)  Minimum dimensions (W x D x H)  Meight  Meigh	Audio	Audio by Bang & Olufsen; DTS:X® Ultra; Dual speakers; HP Audio Boost	
Starting at 2.3 kg (Weight varies by configuration)	Minimum dimensions (W x D x H)	(Dimensions vary by configuration)	
Weight Starting at 5.09 lb  Keyboard Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device HP Imagepad with multi-touch gesture support; Precision Touchpad Support  Input devices IR Thermal sensor  Camera HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  1 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 HDMI 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots 1 multi-format SD media card reader  Package dimensions (W x D x H) 6.9 x 55.2 x 34.5 cm  Package weight 4.01 kg  Network interface Integrated 10/100/1000 GbE LAN  Wireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Battery type 6-cell, 83 Wh Li-ion polymer  Battery type 5-cell Bull-ion polymer	Minimum dimensions (W x D x H)		
Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology  Pointing device HP Imagepad with multi-touch gesture support; Precision Touchpad Support  Input devices IR Thermal sensor  Tamera HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  1 Thunderbolt <sup>™</sup> 4 with USB4 <sup>™</sup> Type-C <sup>®</sup> 40Gbps signaling rate (USB Power Delivery, DisplayPort <sup>™</sup> 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 HDMI 2.1; 1 mini DisplayPort <sup>™</sup> ; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots 1 multi-format SD media card reader  Package dimensions (W x D x H) 6.9 x 55.2 x 34.5 cm  Package weight 4.01 kg  Network interface Integrated 10/100/1000 GbE LAN  Wireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Battery type 6-cell, 83 Wh Li-ion polymer  Battery type Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb  Battery weight 315 g  EColabels EPEAT® registered	Weight		
Pointing device HP Imagepad with multi-touch gesture support; Precision Touchpad Support  Input devices IR Thermal sensor  Camera HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  1 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A SGbps signaling rate (HP Sleep an	Weight	Starting at 5.09 lb	
IR Thermal sensor  HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  1 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 HDMI 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots  1 multi-format SD media card reader  Package dimensions (W x D x H)  6.9 x 55.2 x 34.5 cm  Package weight  4.01 kg  Nireless  Integrated 10/100/1000 GbE LAN  Wireless  Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type  230 W AC power adapter  Battery type  6-cell, 83 Wh Li-ion polymer  Battery type  6-cell, 83 Wh Li-ion polymer  Battery life  Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time  Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight  0.69 lb  Battery weight  315 g  ECOlabels  EPEAT® registered	Keyboard	Full-size, per key RGB backlit, shadow black keyboard and 26-Key Rollover Anti-Ghosting Key technology	
HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones  1 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 HDMI 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots  1 multi-format SD media card reader  Package dimensions (W x D x H) 6.9 x 55.2 x 34.5 cm  Package weight 4.01 kg  Network interface Integrated 10/100/1000 GbE LAN  Wireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Battery type 6-cell, 83 Wh Li-ion polymer  Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb Battery weight 315 g EPEAT® registered	Pointing device	HP Imagepad with multi-touch gesture support; Precision Touchpad Support	
1 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 HDMI 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots 1 multi-format SD media card reader  Package dimensions (W x D x H) 6.9 x 55.2 x 34.5 cm  Package weight 4.01 kg  Nireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Battery life Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb  Battery weight 315 g  EPEAT® registered	Input devices	IR Thermal sensor	
Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps signaling rate; 1 HDMI 2.1; 1 mini DisplayPort™; 1 RJ-45; 1 AC smart pin; 1 headphone/microphone combo <sup>[19,20,42]</sup> Expansion slots 1 multi-format SD media card reader  Package dimensions (W x D x H) 6.9 x 55.2 x 34.5 cm  Package weight 4.01 kg  Network interface Integrated 10/100/1000 GbE LAN  Wireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Battery life Up to 6 hours and 15 minutes [3]  Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes [5]  Battery weight 0.69 lb  Battery weight 315 g  EPEAT® registered	Camera	HP Wide Vision 720p HD camera with temporal noise reduction and integrated dual array digital microphones	
Package dimensions (W x D x H) Package weight A.01 kg Network interface Integrated 10/100/1000 GbE LAN Wireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate) Power supply type Sattery type G-cell, 83 Wh Li-ion polymer Sattery life Up to 6 hours and 15 minutes <sup>[3]</sup> Sattery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Sattery weight Gattery weight Sattery weight Settory weight Settory life Settory weight Settory weight Settory weight Settory weight Settory registered	Ports	Charge); 1 SuperSpeed USB Type-A 5Gbps signaling rate (HP Sleep and Charge); 2 SuperSpeed USB Type-A 5Gbps	
Package weight  At the street state of the street state of the street st	Expansion slots		
Network interface Integrated 10/100/1000 GbE LAN  Nireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Battery life Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb  Battery weight 315 g  ECOLABELS EPEAT® registered	Package dimensions (W x D x H)	6.9 x 55.2 x 34.5 cm	
Nireless Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)  Power supply type 230 W AC power adapter  Battery type 6-cell, 83 Wh Li-ion polymer  Battery life Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb  Battery weight 315 g  EPEAT® registered	Package weight	4.01 kg	
Power supply type  230 W AC power adapter  Battery type  6-cell, 83 Wh Li-ion polymer  Battery life  Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time  Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight  0.69 lb  Battery weight  315 g  EPEAT® registered	Network interface	Integrated 10/100/1000 GbE LAN	
Battery type 6-cell, 83 Wh Li-ion polymer  Battery life Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb  Battery weight 315 g  EPEAT® registered	Wireless	Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.2 combo (Supporting Gigabit data rate)	
Battery life Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb Battery weight 315 g Ecolabels EPEAT® registered	Power supply type	230 W AC power adapter	
Battery life Up to 6 hours and 15 minutes <sup>[3]</sup> Battery recharge time Supports battery fast charge: approximately 50% in 30 minutes <sup>[5]</sup> Battery weight 0.69 lb Battery weight 315 g Ecolabels EPEAT® registered	Battery type		
Battery weight 0.69 lb Battery weight 315 g Ecolabels EPEAT® registered	Battery life	Up to 6 hours and 15 minutes <sup>[3]</sup>	
Battery weight 315 g  Ecolabels EPEAT® registered	Battery recharge time		
Ecolabels EPEAT® registered	Battery weight		
-	Battery weight	315 g	
	Ecolabels	EPEAT® registered	
energy star certined ENERGY STAR® certified	Energy star certified	ENERGY STAR® certified	
Special features NVIDIA G-SYNC™ technology	Special features	NVIDIA G-SYNC™ technology	
Ocean-bound plastic in speaker enclosure(s); Recycled metal in keyboard frame and hinge cap(s); Keyboard keycaps made with post-consumer recycled plastic	Sustainable impact specifications		
Security management Trusted Platform Module (Firmware TPM) support	Security management	Trusted Platform Module (Firmware TPM) support	

### ProductSheet | OMEN by HP Laptop 16-b1020nr (641K5UA)

Software included	McAfee LiveSafe™	
Software - Productivity & finance	1 month trial for new Microsoft 365 customers <sup>[24]</sup>	
Cloud service	25 GB Dropbox storage for 12 months <sup>[1]</sup>	
UPC number	196548056385	

# **Top Recommended Displays, Accessories and Services**

OMEN by HP Displays		
OMEN 27u 4K Gaming Monitor	3G6W0AA	
OMEN 27u 4K Gaming Monitor	3G6W1AA	
OMEN 27c QHD Curved 240Hz Gaming Monitor	35D67AA 35D73AA	
OMEN 27c QHD Curved 240Hz Gaming Monitor		
OMEN 25i Gaming FHD Monitor	22J05AA	
Port Replicators		
HP Universal USB-C Multiport Hub	50H55AA	
HP Universal USB-C Multiport Hub	50H98AA	
Mice		
OMEN Vector Wireless Mouse	2B349AA	
OMEN by HP Hard Mouse Pad 200	2VP01AA	
OMEN by HP Mouse Pad 300	1MY15AA	
OMEN by HP Reactor Mouse	2VP02AA	
OMEN Vector Mouse	8BC53AA	
OMEN by HP Mouse Pad 100	1MY14AA	
Keyboards		
OMEN by HP Sequencer Keyboard	2VN99AA	
OMEN by HP Encoder Keyboard	6YW76AA	
Speakers		
HP Gaming Speakers X1000	8PB07AA	
Headsets		
OMEN Blast Headset	1A858AA	
Headphones		
OMEN Dyad Earbuds	8JE67AA	
•		

#### **Messaging Footnotes**

- [1] Multi-core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance.
- [2] Thermal solution varies by configuration.
- [3] 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 is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com.
- [4] 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.
- [5] ©2022 NVIDIA Corporation. NVIDIA, the NVIDIA logo, GeForce, and GeForce RTX are registered trademarks and/or trademarks of NVIDIA Corporation in the United States and other countries. All other trademarks and copyrights are the property of their respective owners.
- [6] Quad high-definition (QHD) content is required to view QHD images.

#### **Technical Specifications Footnotes**

- [1] 25 GB of free Dropbox storage for 12 months from date of registration. For complete details and terms of use, including cancellation policies, visit the Dropbox website at https://www.dropbox.com/help/space/hp-promotion. Internet service required and not included.
- [3] Windows MobileMark 18 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 https://bapco.com/products/mobilemark-2018/ for additional details.
- [5] 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. Available on select HP products. See http://store.hp.com for a full list of product features.
- [6] 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, branding and/or naming is not a measurement of higher performance.
- [7] Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See http://www.intel.com/technology/turboboost/for more information.
- [19] For best results with HP Sleep and Charge, use a USB charging protocol standard cable or cable adapter with an external device.
- [20] SuperSpeed USB 20Gbps is not available.
- [24] Must activate within 180 days of Windows activation.
- [42] For optimal performance and battery chargeability while gaming and rendering, use the power adapter that ships with the PC. You can use the 100W/20V Type-C adapter or power bank when running light loading tasks. System-off charging is only supported on 20V Type-C adapter or power bank.

© Copyright 2022 HP 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 herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel, Core, Optane, Celeron, Pentium, Iris, XMM, and Thunderbolt are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. AMD, Ryzen, Athlon, and Radeon are trademarks of Advanced Micro Devices, Inc. Bluetooth is a trademark owned by its proprietor and used by HP Inc. under license. NVIDIA and GeForce are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum. DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. McAfee and McAfee LiveSafe are trademarks or registered trademarks of McAfee LLC in the United States and other countries. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency. All other trademarks are the property of their respective owners.

