ThinkPad X1 Carbon (7th Gen) Platform Specifications

Product Specifications Reference (PSREF)

Number Construction Frequency Graphics Intel UHD Comparison Comparison 61-1021001 4 1 8.0 H 2.0 H	Processor	8th Generation Intel [®] Core™ i5 / i7 Processor										Dimensions	WxDxH (Privacy Guard): 12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm
Bit Addition Bit Addition Bit Addition Bit Addition Bit Addition Bit Addition		Num	ber Cores		s Fre	quency F	requency		emory Types			Weight	Privacy Guard model: starting at 2.66 lb / 1.21 kg;
or 10th Generation Intel Core (5/17 Processor (NOT available in EMEA) Media reader None Processor & finade Requency Frequency Freque		i5-8365U i7-8565U 4 8		8	1.0 1.3	1.6 GHz 4.1 GHz 1.8 GHz 4.6 GHz		6MB 8MB			UHD (ohics _	Case material	Black paint or black weave Display cover: Carbon Fiber; Bottom: magnesium alloy
Number Construction Frequency Cale Marroy Types Graphics 5-102100 4 6 4.0 6.0 4.0												Media reader N	None
Is-102 000 4 8 1.0 cHr2 42 cHr2 0MB LPDDR3-213 Intel UHD (raphics) Graphics Intel UHD Graphics in processor: supports external digital monitor via HDMI or USB Type- C / Thunderbolt; supports external digital monitor via HDMI or USB Type- C / Thunderbolt; supports external digital monitor via HDMI or USB Type- C / Thunderbolt; supports external digital monitor via HDMI or USB Type- C / Thunderbolt; supports external digital monitor via HDMI or USB Type- C / Thunderbolt; supports the independent display; Matri resolution: 5K & 6Dhr (Thunderbolt; supports have independent display; Matri resolution: 5K & 6Dhr (Thunderbolt; supporth				-		equency F	lax Turbo requency Cache Mei		emory Types			Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, page-SIM card slot (WWAN models)
Graphics Intel Du Graphics Intel Soc (System of Chip) patterm Supports sturports Matrix resolution: 5K 96 OHz (Thunderbolt; 4K 924Hz (HDM)) Chipset Matrix resolution: 5K 96 OHZ (Thunderbolt; 4K 924Hz (HDM)) Memory Intel Soc (System of Chip) patterm Memory 86B or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets Display Size Resolution Type Surface Bigger (Chip) and (Chip) and (Chip) and (Chip) 14.0° FHD (1920x160) IPS (Anti- smugge) Anti- smugge Size Resolution Type Surface Bigger (Chip) and (Chip) 14.0° FHD (1920x160) IPS (Anti- smugge) Anti- smugge Size Resolution Size Resolution Size Resolution Size Resolution Size Resolution Size Size<		i7-10	i7-10510U 4 8		1.	8 GHz	4.9 GHz 8MB LPDDR3-2133						headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo HDMI to VGA Monitor Adapter
supports three independent displays: If the production, support functionation, support function, support func	Graphics	Intel UHD Graphics in processor;										,	
Chipset Intel Sof (System on Chip) platform Sold or 1668 / 133MH2. LPDDR3 / soldered to systemboard, no sockets Dolby* Atmos [™] speaker system, 2W x 2, 0.8 x 2 / four 30° far-field incrophone, charphone / microphone, microphone, charphone / microphone, charphone / microphone, charphone / microphone,		supports three independent displays;											 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Size Hesolution type Surface Brightness Ratio Gamut Angle UltraNav™ TrackPoint* pointing device and buttonless glass surface multi-touch duchpad 14.0° FHD (1920x1080) IPS Anti-glare 300 nits 16.9 700:1 72% 170° 14.0° FHD (1920x1080) IPS Anti-glare 400 nits 16.9 800:1 72% 170° 14.0° FHD (1920x1080) IPS Anti-glare 400 nits 16.9 800:1 72% 170° FHD (1920x1080) IPS Anti-glare 400 nits 16.9 100:1 72% 170° Natio FID (1920x1080) IPS Anti-glare 400 nits 16.9 100:1 72% 170° Natio FID (1920x1080) IPS Anti-glare 400 nits 16.9 100:1 72% 170° Nulti-touch (opt) Capacitive-type multi-touch, supports 10-finger gesture (FHD 0nly), anti-filese 100:1 90% 170° Batter // trace significantly with hardware configurations, settings, usage, & other fact Multi-touch (opt) One of the following, configurable by model: None 65W USB-C AC adapter<	Memory	Intel SoC (System on Chip) platform Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 /									Dolby [®] Atmos [™] speaker system, 2W x 2, 0.8 x 2 /		
Ha.0* [H0] (1920x1080) IPS Infellection 300 nits 16:9 700:1 72% 170° Security they Fill work of the dispet of the password, password, security keynole IA.0* [HD] (1920x1080) IPS Anti-glare 400 nits 16:9 800:1 72% 170° Security they Security they Discrete TPM 2.0 integrated in chipset Discrete TPM 2.0 integrated in chipset IA.0* [HD] (1920x1080) IPS Anti-glare 400 nits 16:9 1000:1 72% 170° System Mgt (opt) Intel wire chipset Discrete TPM 2.0 winth LS Security Support (special bid only) IA.0* [HD] (1920x1080) IPS Anti-glare 400 nits 16:9 1000:1 72% 170° IA.0* [HD] (1920x1080) IPS Anti-glare 300 nits 16:9 1000:1 72% 170° IA.0* [HD] (1920x1080) IPS Anti-glare 300 nits 16:9 1000:1 72% 170° IUII-louch (opt) [Gaapative-type multi-touch, supports 10-finger gesture (FHD only), anti-tester (Gaapative-type multi-touch, supports 10-finger gesture (FHD only), anti-tester (Gaapative-type multi-touch, supports 10-finger gesture (FHD only), a	Display	Size	Resolution		Туре	Surface	Brightness						
It 4:0° [Fub / Box (1000) IPS Anti-glare 400 nits 16:9 800:1 72% 170° File (1920x1080) IPS Anti-glare 400 nits 16:9 1000:1 72% 170° System Mg (opt) Intel VPT octonology Figerprint reader Touch style match on chip fingerprint reader on the palm rest Multi-fuel VPT octonology It 4:0° [WuHd (2560x1440) IPS Anti-glare 300 nits 16:9 700:1 72% 170° Wulti-fouch (opt) UHD (3840x2160) IPS Anti-glare 300 nits 16:9 700:1 72% 170° Multi-fouch (opt) Capacitive-type multi-fouch, supports 10-finger gesture (FHD only), anti-reflection (AR) / anti-smudge (AS) coating Integrated Li-Polymer 51Wh battery, supports Rapid Charge up to 80% in 1hr) with 65W AC adapter Multi-fouch (opt) Capacitive-type multi-fouch, supports 10-finger gesture (FHD only), anti-reflection (AR) / anti-smudge (AS) coating Integrated Noile Mark 2014: 18.3 hr Storage One of the following, configurable by mode: M.2 2280 SD / SD / SATA 6.0Gb/s Integrated Noile State Storage, M.2 2280 SD / PCle NVMe 3.0 x 4 Optical None 1.year illimited onsite service 1.year depot repair service WLAN + Intel Wireless WAN Usported on Windows 10 version 2004 or abowe (limited to BT5.0 on eartier version)<		14.0"			IPS	reflection Anti-	300 nits	16:9	700:1	72%	170°	Security chip • F • D	Power-on password, hard disk password, supervisor password, security keyhole • Firmware TPM 2.0 integrated in chipset • Discrete TPM 2.0 TCG Certified • Discrete TPM 2.0 with L3 Security Support (special bid only) * May be disabled in some region
14.0 ⁺ ThinkPad Privacy (Buard 19.5 Anti-gtare 400 nits 16.9 1000:1 72% 170° 14.0 ⁺ TWARD PFNacy (Buard Anti-gtare 300 nits 16.9 1000:1 72% 170° 14.0 ⁺ TWARD PFNacy (Buard Anti-gtare 300 nits 16.9 700:1 72% 170° 14.0 ⁺ TWARD PFNacy (Buard Anti-gtare 300 nits 16.9 1400:1 90% 170° Multi-touch (<i>opt</i>) LPB (Augustion) PFS (Disson) 16.9 1400:1 90% 170° Multi-touch (<i>opt</i>) Capacitive-type multi-touch, supports 10-finger gesture (FHD only), anti-reflection (AR) / anti-smudge (AS) coating Battery Integrated Li-Polymer 51Wh battery, supports Rapid Charge up to 80% in 1hr) with 65W AC adapter Storage One of the following, configurable by model: • M.2 2280 SD / SATA 6.0Gb/s • M.2 2280 SD / PCIe NVMe 3.0 x 4 • Intel Optame Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 • Intel Optame Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 • Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetonth [™] 5.1 Optaution ThinkPad Ethernet Extension Adapter Gen 2 Optaution ThinkPad Ethernet Extension Adapter Gen 2 WUAN (cptional) Wireless WAN upgradable (special bid only) • Naris supported on Windows 10 Version 2004 or above (limited to BT		14.0"	FHD (1920x1080) 4.0" ThinkPad Privacy		IPS	Anti-glare	400 nits	16:9	800:1	72%	170°	Cystem Mat (ant)	
Identify UHD (3440x2160) (14.0° HDR 400, Dobby Vision™ IPS Glossy 500 nits 16:9 1400:1 90% 170° Multi-touch (opt) Capacitive-type multi-touch, supports 10-finger gesture (FHD only), anti-reflection (AR) / anti-smudge (AS) coating AC adapter AC adapter Storage One of the following, configurable by model: • M.2 2280 SSD / SATA 6.0Gb/s • M.2 2280 SSD / PCIe NVMe 3.0 x 4 • Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 • Intel Optane Memory H0 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 • Intel Wrieless-AC 9560, Wi-Fi 2x2 802.11 ac + Bluetooth™ 5.1 Operating system Optical • 1-year + 2-year depot repair service • 1-year + 2-year dipot repair service • 1-year + 2-year dimited onsite service • 3-year/1-yr battery depot repair service • 3-year/		14.0"			IPS	Anti-glare	400 nits	16:9	1000:1	72%	170°	Fingerprint reade	r Touch style match on chip fingerprint reader on the palm rest
Integrated Mobile Warks 2014: 18.3 m Max battery life MobileMarks 2014: 18.3 m Multi-touch (opt) Capacitive-type multi-touch, supports 10-finger gesture (FHD only), anti-reflection (AR) / anti-smudge (AS) coating AC adapter AC adapter AC adapter Storage One of the following, configurable by model: Multi-touch (opt) Capacitive-type multi-touch, supports 10-finger gesture (FHD only), anti-reflection (AR) / anti-smudge (AS) coating AC adapter AC adapter Storage One of the following, configurable by model: Multi-touch (NE) / SATA (o Gb/s) Image: Capacitive-type arg system Dotional: Windows® 10 Home 64 or Windows 10 Pro 64 Multi-touch None Mone Image: Capacitive-type arg system Dotional: Image: Capacitive-type arg system Dotional: Image: Capacitype		14.0"			IPS	PS Anti-glare	300 nits	16:9	700:1	72%	170°	Battery	
Multi-fouch (bb) Capacitive-type multi-fouch, supports 10-Inder gesture (FHD only), anti-reflection (AR) / anti-smudge (AS) coating Anti-reflection (AR) / anti-smudge (AS) coating Storage One of the following, configurable by model: M.2 2280 SSD / SSD / SATA 6.0Gb/s M.2 2280 SSD / PCle NVMe 3.0 x 4 Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCle NVMe 3.0 x 4 Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCle NVMe 3.0 x 4 Optical None Ethernet Native Intel Ethernet Connection I219-V (<i>Non-vPro</i>) or I219-LM (<i>vPro</i>) via optional ThinkPad Ethernet Extension Adapter Gen 2 WLAN + Bluetooth[™] Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth[™] 5.1 Bluetooth[™] Bluetooth[™] <i>BT5.1</i> is supported on Windows 10 version 2004 or above (limited to BT5.0 on earlier version) WWAN (optional) Wireless WAN upgradable (special bid only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card 'For non-WWAN model, it means the model is NOT WWAN upgradable SIM card (opt) Verizon LTE (US) SIM card · Gemalto eSIM SIM card (opt) Verizon LTE (US) SIM card <li< td=""><td>14.0"</td><td>HDR 400,</td><td>,</td><td>IPS</td><td>Glossy</td><td>500 nits</td><td>16:9</td><td>1400:1</td><td>90%</td><td>170°</td><td></td><td>NobileMark[®] 2014: 18.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors</td></li<>		14.0"	HDR 400,	,	IPS	Glossy	500 nits	16:9	1400:1	90%	170°		NobileMark [®] 2014: 18.3 hr * Battery life varies significantly with hardware configurations, settings, usage, & other factors
Storage One of the following, configurable by model: • M.2 2280 SSD / SATA 6.0Gb/s • M.2 2280 SSD / PCIe NVMe 3.0 x 4 • Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 • Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 • Optical None Ethernet Native Intel Ethernet Connection I219-V (<i>Non-vPro</i>) or I219-LM (<i>vPro</i>) via optional ThinkPad Ethernet Extension Adapter Gen 2 WLAN + Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth™ 5.1 Bluetooth™ Bluetooth™ * BT5.1 is supported on Windows 10 version 2004 or above (limited to BT5.0 on earlier version) WWAN (optional) • Wireless WAN upgradable (special bid only) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Verizon LTE (US) SIM card • Gemalto eSIM		anti-reflection (AR) / anti-smudge (AS) coating										AC adapter	 65W USB-C AC adapter
 M.2 2280 SSD / PCle NVMe 3.0 x 4 Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCle NVMe 3.0 x 4 Optical None Ethernet Native Intel Ethernet Connection I219-V (<i>Non-vPro</i>) or I219-LM (<i>vPro</i>) via optional ThinkPad Ethernet Extension Adapter Gen 2 WLAN + Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth[™] 5.1 *Bf5.1 is supported on Windows 10 version 2004 or above (limited to BT5.0 on earlier version) WWAN (optional) Wireless WAN upgradable (special bid only) integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card + Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card + Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card + Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card + Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card + Semantor of the model is NOT WWAN upgradable SIM card (opt) Verizon LTE (US) SIM card • Gemalto eSIM 	Storage						:					Operating system	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Ethernet Native Intel Ethernet Connection I219-V (<i>Non-vPro</i>) or I219-LM (<i>vPro</i>) via optional ThinkPad Ethernet Extension Adapter Gen 2 • 1-ýear + 2-ýear limited onsite service · 3-year/1-yr battery depot repair service · 3-year/1-yr battery limited onsite service · 3-year/1-yr battery limited onsite service WLAN + Bluetooth™ Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth™ 5.1 · <i>BT5.1 is supported on Windows 10 version 2004 or above (limited to BT5.0 on earlier version)</i> Mil-Spec test Mil-STD-810G military testing WWAN (optional) • Wireless WAN upgradable (special bid only) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • For non-WWAN model, it means the model is NOT WWAN upgradable Mil-Spec test Mil-STD-810G military testing SIM card (opt) • Verizon LTE (US) SIM card • Gemalto e SIM • Verizon LTE (US) SIM card • Verizon LTE (US) SIM card	Ontical	 M.2 2280 SSD / PCIe NVMe 3.0 x 4 Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 										 1-year depot with 2-year system board repair service 1-year limited onsite service 	
WLAN + Bluetooth™ Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth™ 5.1 * <i>BT5.1 is supported on Windows 10 version 2004 or above (limited to BT5.0 on earlier version)</i> Mil-STD-810G military testing WWAN (optional) • Wireless WAN upgradable (special bid only) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card * <i>For non-WWAN model, it means the model is NOT WWAN upgradable</i> Mil-STD-810G military testing SIM card (opt) • Verizon LTE (US) SIM card • Gemalto e SIM • Verizon LTE (US) SIM card		Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)										-	 1-year + 2-year limited onsite service 3-year/1-yr battery depot repair service
WWAN (optional) • Wireless WAN upgradable (special bid only) • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable SIM card (opt) • Verizon LTE (US) SIM card • Gemalto eSIM		Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth™ 5.1 * BT5 1 is supported on Windows 10 version 2004 or above (limited to BT5 0 on earlier version)									r version	Mil-Spec test	
Gemaito eSIM	WWAN (optional)	• Wir • Inte • Inte * For	reless WAN egrated Mob egrated Mob non-WWAN m	upgrad ile Broa ile Broa nodel. it	lable adbai adbai <i>mean</i>	(special b nd 4G LTI nd 4G LTI s the mode	id only) E-A, Fiboco E-A, Fiboco	m L850 m L860)-GL, M.2 ca)-GL, MIMO	ard	,		EPEAT™ Gold; ENERGY STAR [®] 8.0; TCO Certified; RoHS-compliant
	,	• Ge	malto eSIM										Lenov