

ThinkPad X1 Carbon Gen 8 Platform Specifications

Product Specifications Reference (PSREF)

Processor		10th Generation Intel® Core™ i5 / i7 Processor										Dimensions		<i>WxDxH (Privacy Guard model):</i> 12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm <i>WxDxH (other model):</i> 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.9mm																																																																					
		<table border="1"> <thead> <tr> <th>Processor Number</th> <th># of Cores</th> <th># of Threads</th> <th>Base Frequency</th> <th>Max Turbo Frequency</th> <th>Cache</th> <th>Memory Types</th> <th>Processor Graphics</th> </tr> </thead> <tbody> <tr> <td>i5-10210U</td> <td rowspan="4">4</td> <td rowspan="4">8</td> <td>1.6 GHz</td> <td>4.2 GHz</td> <td>6MB</td> <td rowspan="4">LPDDR3-2133</td> <td rowspan="4">Intel UHD Graphics</td> </tr> <tr> <td>i5-10310U</td> <td>1.7 GHz</td> <td>4.4 GHz</td> <td>6MB</td> </tr> <tr> <td>i7-10510U</td> <td>1.8 GHz</td> <td>4.9 GHz</td> <td>8MB</td> </tr> <tr> <td>i7-10610U</td> <td>1.8 GHz</td> <td>4.9 GHz</td> <td>8MB</td> </tr> </tbody> </table>										Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	i5-10210U	4	8	1.6 GHz	4.2 GHz	6MB	LPDDR3-2133	Intel UHD Graphics	i5-10310U	1.7 GHz	4.4 GHz	6MB	i7-10510U	1.8 GHz	4.9 GHz	8MB	i7-10610U	1.8 GHz	4.9 GHz	8MB	Weight		<i>Privacy Guard model:</i> starting at 2.66 lb / 1.21 kg; <i>Other model:</i> starting at 2.4 lb / 1.09 kg																																									
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												Case color		Black paint or black weave																																																																					
												Case material		<i>Display cover:</i> Carbon Fiber; <i>Bottom:</i> magnesium alloy																																																																					
Graphics		Intel UHD Graphics in processor; supports up to 3 independent displays via native display and two external monitors; supports external monitors via HDMI (up to 4K@24Hz) or Thunderbolt (5K@60Hz)										Smart card reader		None																																																																					
Chipset		Intel SoC (System on Chip) platform										Media reader		None																																																																					
Memory		8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets										Ports		Two USB 3.2 Gen 1 (one Always On), two USB 3.2 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, side docking connector, security keyhole <i>* Depending on many factors, actual data transfer speed may be lower than theoretical speed</i>																																																																					
Display		<table border="1"> <thead> <tr> <th>Size</th> <th>Resolution</th> <th>Type</th> <th>Surface</th> <th>Touch</th> <th>Brightness</th> <th>Aspect Ratio</th> <th>Contrast Ratio</th> <th>Color Gamut</th> <th>Viewing Angle</th> </tr> </thead> <tbody> <tr> <td>14.0"</td> <td>FHD (1920x1080)</td> <td>WVA</td> <td>Anti-glare</td> <td>-</td> <td>400 nits</td> <td>16:9</td> <td>800:1</td> <td>72%</td> <td>170°</td> </tr> <tr> <td>14.0"</td> <td>FHD (1920x1080)</td> <td>WVA</td> <td>Anti-glare</td> <td>Multi-touch</td> <td>400 nits</td> <td>16:9</td> <td>700:1</td> <td>72%</td> <td>170°</td> </tr> <tr> <td>14.0"</td> <td>FHD (1920x1080) ThinkPad Privacy Guard</td> <td>WVA</td> <td>Anti-glare</td> <td>Multi-touch</td> <td>500 nits</td> <td>16:9</td> <td>1500:1</td> <td>72%</td> <td>170°</td> </tr> <tr> <td>14.0"</td> <td>WQHD (2560x1440)</td> <td>WVA</td> <td>Anti-glare</td> <td>-</td> <td>300 nits</td> <td>16:9</td> <td>1000:1</td> <td>72%</td> <td>170°</td> </tr> <tr> <td>14.0"</td> <td>UHD (3840x2160) HDR 400, Dolby Vision™</td> <td>WVA</td> <td>Glossy</td> <td>-</td> <td>500 nits</td> <td>16:9</td> <td>1500:1</td> <td>90% DCI-P3</td> <td>170°</td> </tr> </tbody> </table>										Size	Resolution	Type	Surface	Touch	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	14.0"	FHD (1920x1080)	WVA	Anti-glare	-	400 nits	16:9	800:1	72%	170°	14.0"	FHD (1920x1080)	WVA	Anti-glare	Multi-touch	400 nits	16:9	700:1	72%	170°	14.0"	FHD (1920x1080) ThinkPad Privacy Guard	WVA	Anti-glare	Multi-touch	500 nits	16:9	1500:1	72%	170°	14.0"	WQHD (2560x1440)	WVA	Anti-glare	-	300 nits	16:9	1000:1	72%	170°	14.0"	UHD (3840x2160) HDR 400, Dolby Vision™	WVA	Glossy	-	500 nits	16:9	1500:1	90% DCI-P3	170°	Monitor cable		Lenovo HDMI to VGA Monitor Adapter									
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												Bundled Accy		<i>Optional:</i> ThinkPad Ethernet Extension Adapter Gen 2																																																																					
												Camera (optional)		<ul style="list-style-type: none"> • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus 																																																																					
												Audio support		HD Audio, USI 4551-513711-00 codec / Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 / four 360° far-field microphones, headphone / microphone combo jack																																																																					
												Keyboard		6-row, spill-resistant, multimedia Fn keys with Unified Communications controls, LED backlight																																																																					
												UltraNav™		TrackPoint® pointing device and buttonless glass surface multi-touch touchpad																																																																					
												Security		Power-on password, hard disk password, supervisor password, security keyhole																																																																					
												Security chip		<ul style="list-style-type: none"> • Firmware TPM 2.0 integrated in chipset • Discrete TPM 2.0 TCG Certified 																																																																					
Multi-touch (opt)		Capacitive-type multi-touch, supports 10-finger gesture, anti-reflection (AR) / anti-smudge (AS) coating										System Mgt (opt)		Intel vPro Technology																																																																					
												Fingerprint reader		Touch style match on chip fingerprint reader on the palm rest																																																																					
												NFC (optional)		Near Field Communication																																																																					
Storage		<ul style="list-style-type: none"> • 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 										Battery		Integrated Li-Polymer 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter																																																																					
Optical		None										Max battery life		<i>MobileMark® 2014:</i> 19.5 hr <i>MobileMark 2018:</i> 13.8 hr <i>* Battery life varies significantly with hardware configurations, settings, usage, & other factors</i>																																																																					
Ethernet		Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro) via optional ThinkPad Ethernet Extension Adapter Gen 2										AC adapter		<ul style="list-style-type: none"> • 45W USB-C AC adapter • 65W USB-C AC adapter • 65W USB-C slim AC adapter 																																																																					
WLAN + Bluetooth™		Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 <i>* Intel AX201 card supports BT5.1 but is limited to BT5.0 by Windows OS</i>										Operating system		<ul style="list-style-type: none"> • Windows® 10 Home 64 • Windows 10 Pro 64 																																																																					
WWAN (optional)		<ul style="list-style-type: none"> • Wireless WAN upgradable • 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> 										Limited warranty (optional)		<ul style="list-style-type: none"> • 1-year depot repair service • 1-year depot with 2-year system board repair service • 1-year limited onsite service • 1-year + 2-year depot repair service • 1-year + 2-year limited onsite service • 3-year/1-yr battery depot repair service • 3-year/1-yr battery limited onsite service 																																																																					
SIM card (opt)		<ul style="list-style-type: none"> • Gemalto eSIM • Nano-SIM card, Lenovo Connect 4 month, 4G LTE 										Mil-Spec test		MIL-STD-810G military testing																																																																					
												Environment		EPEAT™ Gold; ENERGY STAR® 8.0; TCO Certified; RoHS-compliant																																																																					

Note: The specifications above may not be available in all regions and might change by regions.

Lenovo
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