

# Lenovo ThinkPad.Laptops PSREF Product Specifications Reference Version 549, October 2019

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# **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

### **October 9, 2019 - Version 549**

### Additions in this update

### ► New product(s)

ThinkPad E14 models announced October 2019

ThinkPad E15 models announced October 2019

ThinkPad T490 Secure Access / Healthcare Edition separated from ThinkPad T490

### **▶** Others

ThinkPad E490s - Spec updated

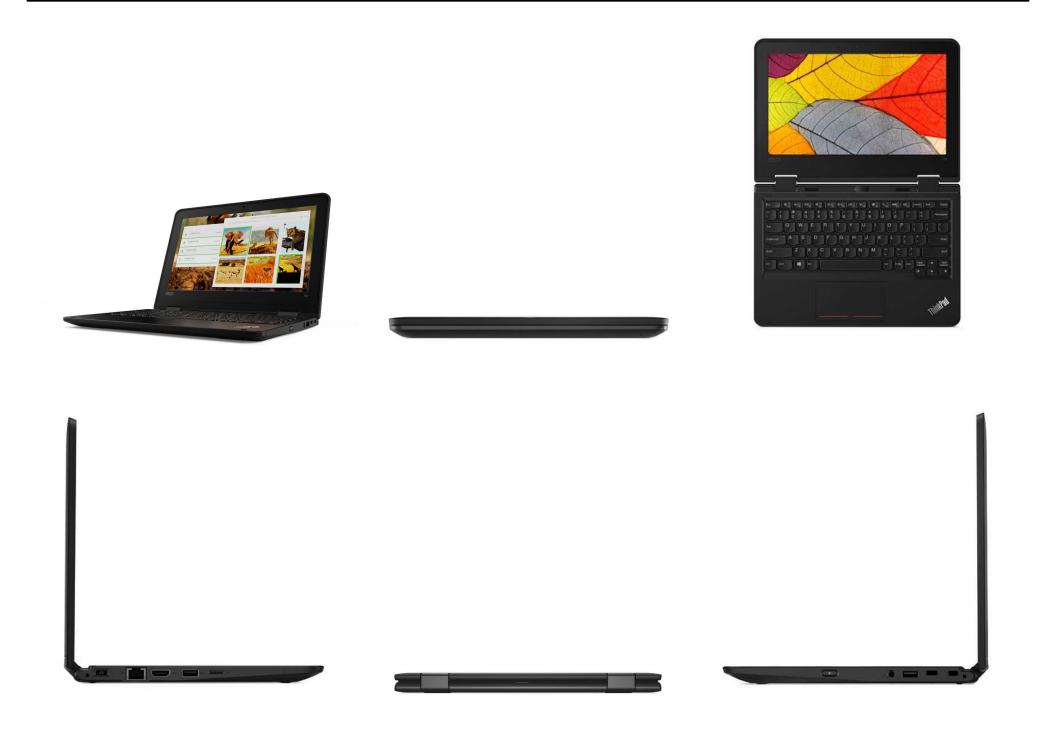
ThinkPad T490 - Spec updated

ThinkPad T495s - Spec updated

### Withdrawals in this update

### ► Withdrawn product(s)

None



# ThinkPad 11e (5<sup>th</sup> Gen) Platform Specifications

Processor	7th General Intel Pentiur				rocessor,	Intel Ce	eleron® proces	sor, or		Dimensions Weight	WxDxH: 11.81" x 8.27" x 0.86"; 300mm x 210mm x 21.9mm Starting at 2.99 lb / 1.36 kg
	Processor Number	# of Cores	# of Threads		Burst Frequency		Memory Types	Proce Grap	hics	Case color Case material	Black  Display cover: PC/ABS+GF;  Bottom: PC/ABS plastic
	m3-7Y30 i5-7Y54	2		1.0 GHz 1.2 GHz	2.6 GHz 3.2 GHz	4MB 4MB	LPDDR3-1866	Intel Graphic		Smart card reade Media reader	
	Celeron N4100		4	1.1 GHz	2.4 GHz	4MB	DDR4-2400	Intel I Graphic		Ports	Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45),
	Pentium Silver N5000	-		1.1 GHz	2.7 GHz	4MB	DD114-2400	Intel I Graphic			headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	supports ex	ternal o al inde	digital m penden	onitor via t display:	HDMI or U	JSB Typ				Camera Audio support	HD720p camera, fixed focus HD Audio, Realtek® ALC3287 codec, stereo speakers, 2W x 2, Dolby® Audio™, mono digital microphone, combo audio/microphone jack
Chipset		Max resolution: 3840x2160@60Hz (USB Type-C); 4096x2160@30Hz (HDMI ntel SoC (System on Chip) platform								Keyboard Touchpad	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Memory	4GB or 8GB / 1866MHz LPDDR3 or 2400MHz DDR4 / soldered to systemboard, no sockets									Security Security chip	Power-on password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Display	Size Resolu		7.			Aspect Ratio	Contrast Ratio	Gamut	Viewing Angle	System Mgt Fingerprint reade NFC	None rNone
	11.6" HD (13			Anti-glare Anti-glare	250 nits 250 nits	16:9 16:9	400:1 or 500:1 800:1	45% 45%	90° 170°	Battery	Integrated Li-ion 42Wh battery
Multi-touch (opt)							re (HD IPS onl		170	Max battery life	MobileMark® 2014: 13.9 hr * Battery life varies significantly with settings, usage, & other factors
Storage	eMMC flash									AC adapter	45W or 65W slim tip AC adapter, 45W or 65W USB Type-C AC adapter
Optical	M.2 SSD / F None	PCIe N	VMe, P	Cle 3.0 x 2	2, 16Gb/s					Operating system (optional)	on One of the following, configurable by model:  • Windows® 10 Home 64
Ethernet	Realtek RTI	_81110	GUS Gig	gabit Netw	ork Conne	ction					Windows 10 Pro 64     Windows 10 Pro in C roads
WLAN + Bluetooth™	One of the for Intel Wirel	ess-AC	9260, \	Wi-Fi 2x2	802.11ac +	⊦ Blueto	ooth 5.0, M.2 c	ard			Windows 10 Pro in S mode     No OS
	<ul> <li>Intel Wirel</li> </ul>	ess-AC	9560, \	Wi-Fi 2x2	802.11ac -	- Blueto	ooth 5.0, M.2 c	ard (US	only)	Limited warranty	One of the following, configurable by model:  • 1-year depot repair service
WWAN	None										3-year/1-yr battery depot repair service
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.



# ThinkPad A275 Platform Specifications

Processor	AMD PRO A-Se	eries A	PUs							er Optional: Smart card reader
	Processor	# of	_ # of	Base					Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (USB 3.0, one Always On),
	Number	Cores	Threads	Frequency	Frequency	0000	Types	Graphics AMD	I orts	USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	PRO A10-8730B			2.4 GHz	3.3 GHz			Radeon™		HDMI 1.4b, Ethernet (RJ-45)  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
		4	4			2MB	DDR4-1866	R5 Graphics	Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	PRO A12-8830B PRO A10-9700B	4	-	2.5 GHz 2.5 GHz	3.4 GHz 3.4 GHz	211110	DD114 1000	AMD Radeon	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter
	PRO A10-9700B	4		2.5 GHz 2.7 GHz	3.4 GHz			R7 Graphics	Company (ambigues)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	* Windows 7 is or		oorted by			D A12-8	830B	· · ·		)HD720p resolution, fixed focus HD Audio, Realtek ALC3268 codec / stereo speakers, 1.5W x 2 /
Graphics	AMD Radeon F									dual array microphone, combo audio/microphone jack
	supports extern supports three Max resolution:	indepe	endent di	splays;			160@30Hz	(HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Chipset	AMD SoC (Syster 16GB max / 186	tem or	n Chip) p	latform			100 @ 001 12	(FIDIVII)	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole dTPM 1.2: discrete TPM 1.2, TCG Certified dTPM 2.0: discrete TPM 2.0. TCG Certified
Memory Display	Some: 12.5" (3						acklight		  Fingerprint reade	
Display	220 nits	s, 16:9	aspect r	atio, 500:1	contrast ra	tio	•		NFČ '	None
		s, 16:9	aspect r	àtio, 700:1	contrast ra	tio, 170	° viewing a		Internal battery External battery	Optional: Integrated Li-ion or Li-Polymer 3-cell (23Wh) Li-ion 3-cell (23Wh) or 6-cell (48Wh)
Multi-touch (opt)	On-cell touch, s				•		ly)		Max battery life	Models No + 3-cell 3-cell + 3-cell + 6-cell 48Wh
Storage	System has one I Some: HDD / S						Oratastian C	voto m <sup>TM</sup>	(MobileMark® 2014)	Max battery life   5.05 fil   10.1 fil   15.6 fil
	Some: SSD/S Some: M.2 SS	SATA 6	3.0Gb/s,	2.5" wide, 7	'mm high (e	e.g. xxx		ystem	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W slim tip AC adapter or 45W USB Type-C AC adapter
Optical	None	<i>,</i> D / I C	JIC INVIVI	c, i Oic 0.0	X 2, 100b/	3			Operating system	One of the following, configurable by model:
Ethernet	Realtek® RTL8	111EP	V Gigab	it Ethernet	connection					<ul> <li>Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64</li> </ul>
WLAN Bluetooth™	Realtek RTL882 Bluetooth 4.1 w									Windows 10 Home 64     Windows 10 Pro 64
WWAN (optional)				by model:					Limited warranty	One of the following, configurable by model:
	<ul><li>Wireless WAN</li><li>Integrated Mo</li></ul>			1 1G ITE-A						<ul> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
	Qualcomm® S	Snapdr	agon™ )	X7 LTE-A (S	Sierra Wirel	ess EN	17455)			3-year/1-yr battery limited onsite service
SIM card (opt)	* For non-WWAN Micro-SIM card	<i>model,</i> slot, c	<i>it means</i> opt Verizo	the model is on LTE (US	<i>NOT WWAN</i> SIM card	l upgrad	able		Mil-Spec test	MIL-STD-810G military testing
Dimensions			8.21" x 0.80"; 305.5mm x 208.5mm x 20.3mm						Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Weight	Models		3-cell	_	3-cell + 3-cell 3 + 6-cell					
0		2.79 lb /	1.27 kg	2.98 lb	/ 1.36 kg	3.33	lb / 1.52 kg			
Case color Case material	Black Glass-Fiber Re	inforce	ed Plastic	<b>:</b>						
Note: The enecific:	ationa about mou	not ho	ملط ملئ ميره	in all region						Lenovo

Note: The specifications above may not be available in all regions.









# ThinkPad A285 Platform Specifications

Processor	AMD Ryzer	า™ PRC	) Mobile	Processors	s with Rade	eon™ Vega	Graphics			er Optional: Smart card reader
	Processor Number	# of	# of		Max Turbo	Cache	Memory	Processor Graphics	Media reader Ports	MicroSD card reader, in the combo slot with nano-SIM card One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2,
	Ryzen 3 PRO 2300U	Cores	4	2.0 GHz	Frequency 3.4 GHz		Types	Radeon Vega 6 Graphics		two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector,
	Ryzen 5 PRO 2500U	4	8	2.0 GHz	3.6 GHz	2MB L2 / 4MB L3	DDR4-2400	Dodoon Voca		combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole
	Ryzen 7 PRO 2700U		8	2.2 GHz	3.8 GHz			Radeon Vega 10 Graphics	Monitor cable	* Depending on many factors, actuál dafa transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	AMD Rades supports ex supports fo	cternal ur inde	digital me	onitor via F displavs;	HDMI or ÚS	B Type-C	;		Bundled Accy	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter OSB-C to DP: Lenovo USB-C to DisplayPort Adapter OSB-C to VGA: Lenovo USB-C to VGA Adapter OSB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to VGA: Lenovo USB-C to DisplayPort Adapter USB-C to VGA: Lenovo USB-C to DisplayPort Adapter USB-C to DisplayPort Adapter
	Max resolut			,		C); 4096x	2160@60H	z (HDMI)	Camera (optional)	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	AMD SoC ( 8GB or 160					stemboard	. no sockets	s	Audio support	IR camera and HD720p camera, fixed focus
Display	Some: 12.	5" (317	7.5mm) H	D (1366x7		are, LED			Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Multi touch (ant)	Some: 12.9 300 On-cell touc	) nits, 1	16:9 aśpe	ct ràtio, 80	0:1 contras	st ratio, 17	D backlight 0° viewing		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch (opt) Storage	One of the fo		•			orily)			Security	Power-on password, hard disk password, supervisor password, security keyhole
Storage	<ul> <li>M.2 SSD</li> </ul>	/ SATA	6.0Gb/s	-					Security chip System Mgt	Discrete TPM 2.0, TCG Certified DASH Management
Optical	• M.2 SSD None	/ PCle	NVMe, F	PCle 3.0 x	4, 32Gb/s					er Optional: Touch style match on chip fingerprint reader on the palm rest None
Ethernet	Gigabit Eth				ernet Exter	sion Adap	oter Gen 2		Battery	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
WLAN Bluetooth™	Realtek® R <sup>-</sup> Bluetooth 4								Max battery life MobileMark® 2014: 10.55 hr * Battery life varies significantly with settings, usage, & other factors	MobileMark® 2014: 10.55 hr * Battery life varies significantly with settings, usage, & other factors
WWAN (optional)									AC adapter	45W or 65W USB Type-C AC adapter
	Intel XMM™ * For non-WI	^ 7360 NAN m	(Fibocon	n L850-GL)	), M.2 card	WAN upara	dahle		Limited warranty	n Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
SIM card (opt)	Nano-SIM o	card sl	ot, in the	combo slo					Limited warranty	1-year depot repair service
Dimensions	optional Ve								-	3-year/1-yr battery depot repair service     3-year/1 yr bettery limited engite consider
Dimensions	WxDxH (HI 12.				mm x 209.8	3mm x 17.	4mm		Mil-Spec test	3-year/1-yr battery limited onsite service  MIL-STD-810G military testing
	WxDxH (FF			70": 207 7:	mm v 200 (	2mm v 17	9mm		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Weight	12.11" x 8.26" x 0.70"; 307.7mm x 209.8mm x 17.8mm FHD non-touch model: 2.49 lb / 1.13 kg; HD non-touch model: 2.78 lb / 1.26 kg;									2. 2.1. God (Go only), Enterior Other Got, North Compilant
Case color	FHD multi-t Black	touch r	nodel: 2.	79 lb / 1.27	7 kg					
Case material	Display cov				on-touch m					
	Bottom:	M	lagnesiur	n/Aluminur	n					
Note: The specific	ations above i	may no	t be availa	able in all re	egions.					Lenovo



# ThinkPad A475 Platform Specifications

Processor	AMD PRO A-Se	eries A	PUs						Dimensions	<i>WxDxH:</i> 13.25" x 9.15" x 0.79"; 336.6mm x 232.5mm x 19.95mm			
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	Weight	Models 3-cell or 3 + 3-cell 6-cell or 3 + 6-cell			
	Number	Cores	Threads	Frequency	Frequency	Oddile	Types	Graphics		Magnesium 3.49 lb / 1.58 kg 3.92 lb / 1.78 kg			
	PRO A10-8730B			2.4 GHz	3.3 GHz			AMD Radeon™	0	PPS 3.63 lb / 1.65 kg 4.35 lb / 1.85 kg			
	1 110 A10-0730D			2.4 0112	3.5 GHZ			R5 Graphics	Case color Case material	Black Display cover: Magnesium Hybrid or PPS (Magnesium Hybrid for US only);			
	PRO A12-8830B	4	4	2.5 GHz	3.4 GHz	2MB	DDR4-1866	AMD	Case material	Bottom: Glass-Fiber Reinforced Plastic			
	PRO A10-9700B	]		2.5 GHz	3.4 GHz			Radeon	Smart card reade	r Optional: Smart card reader			
	PRO A12-9800B			2.7 GHz	3.6 GHz			R7 Graphics	Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I			
	* Windows 7 is on	nly supp	orted by	PRO A10-87	30B and PRO	O A12-8	830B		Ports	Three USB 3.1 Gen 1 (USB 3.0, one Always On), USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),			
Graphics	AMD Radeon R					_				HDMI 1.4b, Ethernet (RJ-45), Dock connector			
		pports external digital monitor via HDMI or USB Type-C; pports three independent displays;								* Depending on many factors, actual data transfer speed may be lower than theoretical speed			
	Max resolution:				Type-C); 4	096x2	160@30Hz	(HDMI)	Monitor cable	Optional: Lenovo USB-C to VGA Adapter			
Chipset	AMD SoC (Syst	tem or	n Chip) p	latform	,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,			,	Camera (optional) Audio support	)HD720p resolution, fixed focus HD Audio, Realtek ALC3268 codec / stereo speakers, 2W x 2 /			
Memory	32GB max / 186	66MHz	DDR4,	dual-chann	el capable,	two DI	DR4 SO-DI	MM sockets	Audio Support	dual array microphone, combo audio/microphone jack			
Display	Some: 14.0" (3	355mm	n) HD (13	366x768), a	nti-glare, Ll	ED bac	klight,		Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight			
	220 nits Some: 14.0" (3			atio, 350:1			ooklight ID	ie.	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
				atio, 700:1					Security	Power-on password, hard disk password, supervisor password, security keyhole			
Multi-touch (opt)	On-cell touch, s								Security chip	dTPM 1.2: discrete TPM 1.2, TCG Certified			
Storage	System has one h								dTPM 2.0: discrete TPM 2.0, TCG Certified Fingerprint reader Optional: Touch style match on chip fingerprint reader on the keyboard b NFC None				
_	Some: HDD / S							ystem™					
	Some: SSD / S Some: M.2 SS						GB 55D)		Internal battery	Optional: Integrated Li-Polymer 3-cell (24Wh)			
	* Installed M.2 SS	SD is P	Cle 3.0 x 4	4 but run at P	Cle 3.0 x 2 d	due to M	.2 SSD adap	ter limitation	External battery	Li-Polymer 3-cell (24Wh) or Li-ion 6-cell (48Wh)			
Optical	None								Max battery life (MobileMark® 2014)	Models 3-cell 3 + 3-cell 6-cell 48Wh 3 + 6-cell 48Wh			
Ethernet	Realtek® RTL81	111EP	V Gigabi	it Ethernet o	connection				(WobileWark* 2014)	Max ballery life   5.13 III   10.26 III   15.4 III			
WLAN Bluetooth™	Realtek RTL882 Bluetooth 4.1 w								AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W slim tip AC adapter, 45W or 65W USB Type-C AC adapter			
WWAN (optional)			<u>,                                     </u>						Operating system	One of the following, configurable by model:			
WWW. Copularian	<ul> <li>Wireless WAN</li> </ul>	l upgra	adable	•						Windows® 7 Professional 64 preinstalled			
	Integrated Mo						\			through downgrade rights in Windows 10 Pro 64  • Windows 10 Home 64			
	Qualcomm® S * For non-WWAN									Windows 10 Pro 64			
SIM card (opt)	Micro-SIM card slot, opt Verizon LTE (US) SIM card								Limited warranty	One of the following, configurable by model:			
									1	1-year depot repair service			
										3-year/1-yr battery depot repair service     3-year/1 yr battery limited engits convice			
									Mil Coop toot	3-year/1-yr battery limited onsite service  MIL-STD-810G military testing			
									Mil-Spec test	,			
									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			









# ThinkPad A485 Platform Specifications

Processor	AMD Ryzer	າ™ PR0	) Mobile	Processors	s with Rade	eon™ Vega	Graphics		Smart card reade	r Optional: Smart card reader			
	Processor	# of	_ # of		Max Turbo	Cache	Memory	Processor	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2,			
	Number	Cores	Threads	Frequency	Frequency	Odono	Types	Graphics	1 0113	two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),			
	Ryzen 3 PRO 2300U		4	2.0 GHz	3.4 GHz			Radeon Vega 6 Graphics		HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,			
	Ryzen 5 PRO 2500U	4	8	2.0 GHz	3.6 GHz	2MB L2 / 4MB L3	DDR4-2400	R4-2400 Radeon Vega 8 Graphics		4-in-1 media reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole			
	Ryzen 7 PRO 2700U		8	2.2 GHz	3.8 GHz			Radeon Vega 10 Graphics	Monitor cable(opt	* Depending on many factors, actual data transfer speed may be lower than theoretical speed ) HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter			
Graphics	AMD Rader supports ex supports fo	ternaľ	digital m	onitor via F					Bundled Accy Camera (optional)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None  One of the following, configurable by model:			
	Max resolut				JSB Type-0	C); 4096x2	2160@60H	z (HDMI)		HD720p camera with ThinkShutter camera privacy, fixed focus			
Chipset Memory	AMD SoC ( 32GB max * Installed DI	/ 2400	MHz DDİ	Ŕ4, dual-ch	nannel capa			OIMM sockets	Audio support	<ul> <li>IR camera and HD720p camera, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack</li> </ul>			
Display		) nits, <sup>-</sup>	6:9 aspe	ct ratio, 40	0:1 contras	st ratio	<b>J</b>	D.C.	 Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	Some: 14.0	บ" (355 ) nits. 1	mm) FHI 16:9 aspe	D (1920X10 ect ratio, 70	080), anti-g 0:1 contras	lare, LED st ratio, 17	bаскііgnt, і 0° viewing а	PS, angle	Security	Power-on password, hard disk password, supervisor password, security keyhole			
Multi-touch (opt)	On-cell touc	ch, sup	ports 10	-finger ges	ture (FHD	only)		ag.o	Security chip System Mat	Discrete TPM 2.0, TCG Certified			
Storage	Some: HD	System has one HDD slot or one M.2 2280 slot exclusively for storage  Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™  Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high								DASH Management r Optional: Touch style match on chip fingerprint reader on the keyboard bezel None			
	Some: M.2 Some: 128	SSD SGB M	/ PCIe N' .2 SSD /	VMe, PCIe PCIe NVM	3.0 x 4 le, PCle 3.0	) x 2,			Battery	Integrated Li-ion 24Wh battery and external Li-ion 24Wh, 48Wh, or 72Wh battery			
	IN V * Installed M.	VWAN <i>2 SSD</i>	slot as 2 is PCle 3.0	nd Storage 0 x 4 but run	e, mutually 1 <i>at PCle 3.0</i>	exclusive v	with WWAN <i>M.2 SSD ada</i>	l apter limitation	Max battery life (MobileMark® 2014)	Models 24Wh 48Wh 72Wh 24Wh 24Wh 24Wh 48Wh 24Wh + 72Wh			
Optical	None									Max battery life   5.37 hr   10.76 hr   16.4 hr   10.76 hr   16.4 hr   22.15 hr * Battery life varies significantly with settings, usage, & other factors			
Ethernet	Realtek® R			•					AC adapter	45W or 65W USB Type-C AC adapter			
WLAN Bluetooth™	Realtek RT								Operating system	Windows® 10 Home 64 or Windows 10 Pro 64			
	Bluetooth 4 Integrated					elooth con	ibo adapter		Limited warranty	One of the following, configurable by model:			
WWAN (optional)	Intel XMM™ * For non-WI	7360 NAN m	(Fibocom	n L850-GL) ans the mod	), M.2 card lel is NOT W		dable			<ul> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>			
SIM card (opt) Dimensions	Nano-SIM o				• •		10 05		Mil-Spec test	MIL-STD-810G military testing			
Weight	Models						x 19.95mm Vh + 48Wh /		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			
3 1	Magnesium			/ 1.58 kg	1 400011, 72	3.92 lb /		724411					
	PPS			/ 1.65 kg		4.08 lb /							
Case color Case material	Black Display cov	or: M	nanosium	Lybrid or	DDC:			<del></del>					
Case material	Bottom:	Gl	agnesium ass-Fibe	r Reinforce	ed Plastic								
Note: The specifica	ations ahove	may no	t he avail	ahla in all re	agione				•	Lenovo			













# ThinkPad E14 Platform Specifications

Processor	10th Gene	eration	Intel® Co	re™ i3 / i5	/ i7 Proces	sor			Dimensions	Case Material	Dimensions (WxDxH)			
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	1	Aluminum	12.80" x 9.13" x 0.70"; 325mm x 232mm x 17.9mm			
	Number	Cores			Frequency		Types	Graphics		PC/ABS	12.80" x 9.13" x 0.81"; 325mm x 232mm x 20.5mm			
	i3-10110U i5-10210U i7-10510U	2	8	2.1 GHz 1.6 GHz 1.8 GHz	4.1 GHz 4.2 GHz 4.9 GHz	4MB 6MB 8MB	DDR4-2666	Intel UHD Graphics		Aluminum Display cover + PC/ABS Bottom	12.80" x 9.13" x 0.74"; 325mm x 232mm x 18.9mm			
	i7-10510U	6	12	1.6 GHz	4.9 GHz	12MB			Weight	Case Material	Weight			
Cropbics						, IZIVID	l .	<u> </u>	-	Aluminum	starting at 3.81 lb / 1.73 kg			
Graphics	Intel UHD	Graph	nics in pro	ocessor onlocessor and	y or 1					PC/ABS	starting at 3.90 lb / 1.77 kg			
	AMD Rad	eon Ri externa	X 640 Gra al digital r	aphics, 2GI nonitor via ent displays	3 GDDR5 HDMI or L				0	Aluminum Display cover + PC/ABS Bottom	starting at 3.74 lb / 1.69 kg			
	Max resol	ution:	3840x21	60@60Hz	, (USB Type	-C); 38	40x2160@	30Hz (HDMI)	Case color Case material	Black or silver  Display cover: Aluminum or PC/ABS plastic;				
Chipset Memory	Intel SoC 16GB max	(Syste x / 266	m on Chi 6MHz DI	ip) platform DR4, one D	DR4 SO-E	DIMM so	ocket		Smart card reade	Bottom: Aluminum	n or PC/ABS plastic			
Display	Size Beso	lution	Т	vne Surface	Brightne	Aspe	ct Contras		Media reader Ports	None	4 O a a 4 (a a a Al a a a O a )			
		Size         Resolution         Type         Surface         Brightness         Aspect Ratio         Contrast Ratio         Viewing Angle           14.0" FHD (1920x1080)         TN         Anti-glare         220 nits         16:9         400:1         90°           14.0" FHD (1920x1080)         IPS         Anti-glare         250 nits         16:9         700:1         170°           None									<ul><li>den 1 (one Always On),</li><li>1 (with the function of Power Delivery and DisplayPort).</li></ul>			
										HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack,				
Multi-touch										security keyhole  * Depending on many factors	s, actual data transfer speed may be lower than theoretical speed			
Storage		trives (c	ne M 2 S	SD and one I	-IDD)				Monitor cable	None	, actual data transfer opera may be tower than theoretical opera			
Otorage	• HDD/S	SATA 6	.0Gb/s, 2	.5" wide, 7r	nm high, A	Active Pr	otection Sy	stem™	Bundled Accy	None				
	• M.2 228	30 SSE	) / SATA (	6.0Gb/s √VMe, PCle	20,420	, DCIo 3	) O v 4		Camera HD720p camera with optional ThinkShutter camera privacy, fixed focus Audio support HD Audio, Synaptic® CX11880 codec /					
				VMe. PCI		role 3	0.U X 4		Audio support	stereo speakers 2W x 2	Dolby® Advanced Audio /			
	<ul> <li>Intel Op</li> </ul>	tane™	Memory	H10 with S	Solid State	Storage	9,				eadphone / microphone combo jack			
Optical	None		le NVMé						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
Ethernet				tion, Realte		US			Security	Power-on password, hard	d disk password, supervisor password, security keyhole			
WLAN + Bluetooth™				figurable by		Divotos	th 5.0, M.2	aard	Security chip	Integrated model: discrete TPM 2.0, TCG Certified				
Didelootii							111 5.0, M.2 ca		System Mgt	Discrete model: firmv	vare TPM 2.0 integrated in chipset			
WWAN SIM card	None None							· ·	Fingerprint reade	r <i>Optional:</i> Touch style fing None	gerprint reader on power button			
									Battery		attery, supports Rapid Charge (charge up to 80% in 1hr)			
									Max battery life	with 65W USB Type-C AC MobileMark® 2014: 12.8				
										* Battery life varies significal	ntly with settings, usage, & other factors			
									AC adapter	45W or 65W USB Type-C	·			
									Operating system	One of the following, configure  Windows® 10 Home 64				
									(optional)	Windows 10 Pro 64				
										Windows 10 Pro in S m	node			
									I to the death	• No OS				
									Limited warranty (optional)	<ul> <li>1-year mail-in repair ser</li> <li>1-year depot repair ser</li> </ul>				
									(Spilorial)	1-year depot repair serv     1-year depot with 2-year				
									Mil-Spec test	MIL-STD-810G military to	esting (by the end of Dec. 2019)			
									Environment	EPEAT™ Silver; ENERGY	Y STAR® 7.1; RoHS-compliant			
Note: The speci	diantinun ahaw		ant ha ave	ilabla in all	rogiono						Lenov			

















# ThinkPad E15 Platform Specifications

Processor	10th Generation Intel® Core™ i3 / i5 / i7 Processor	Dimensions WxDxH: 14.49" x 9.65" x 0.74"; 368mm x 245mm x 18.9mm
	Processor # of # of Base Number Cores Threads Frequency Frequency Cache Types Graphics	Weight Starting at 4.3 lb / 1.9 kg Case color Black or silver Case material Display cover: Aluminum;
	i3-10110U   2   4   2.1 GHz   4.1 GHz   4MB   15-10210U   4   8   1.6 GHz   4.2 GHz   6MB   1.8 GHz   4.9 GHz   8MB   17-10710U   6   12   1.1 GHz   4.7 GHz   12MB   12MB   1.8 GHz   1	Bottom: PC/ABS plastic
Graphics	Intel UHD Graphics in processor only or Intel UHD Graphics in processor and AMD Radeon RX 640 Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 3840x2160@60Hz (USB Type-C); 3840x2160@30Hz (HDMI)	one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None None
Chipset Memory	Intel SoC (System on Chip) platform 16GB max / 2666MHz DDR4, one DDR4 SO-DIMM socket	Camera HD720p camera with optional ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /
Display	Size         Resolution         Type         Surface         Brightness         Aspect Ratio         Contrast Ratio         Viewing Angle           15.6" FHD (1920x1080)         TN Anti-glare         220 nits         16:9         400:1         90°           15.6" FHD (1920x1080)         IPS Anti-glare         250 nits         16:9         700:1         170°	dual array microphone, headphone / microphone combo jack  Keyboard UltraNav™  device and buttonless Mylar surface multi-touch touchpad
Multi-touch	15.6" FHD (1920x1080)   IPS   Anti-glare   250 nits   16:9   700:1   170°   None	Security Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified
Storage	Up to two drives (one M.2 SSD and one HDD)  • HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™  • M.2 2280 SSD / SATA 6.0Gb/s  • M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 or PCIe 3.0 x 4	System Mgt None Fingerprint reader Optional: Touch style fingerprint reader on the palm rest NFC None
Optical	<ul> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> <li>Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 None</li> </ul>	Battery Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter  Max battery life MobileMark® 2014: 12.2 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet	Gigabit Ethernet Connection, Realtek R8111GUS	AC adapter 45W or 65W USB Type-C AC adapter
WLAN + Bluetooth™	One of the following, configurable by model:  • Realtek® RTL8822CE, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card  • Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card	Operating system One of the following, configurable by model:  (optional)  • Windows® 10 Home 64  • Windows 10 Pro 64  • Windows 10 Pro in S mode
WWAN SIM card	None None	No OS  Limited warranty (optional)      1-year mail-in repair service     1-year depot repair service     1-year depot with 2-year planar repair service
		Mil-Spec test MIL-STD-810G military testing (by the end of Jan. 2020)
		Environment EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.

Lenovo October 2019











# ThinkPad E480 Platform Specifications

Processor	7th Genera (i3-7130U i					r			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm			
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	y Cache Types Graphics		Weight Case color	Starting at 3.87 lb / 1.75kg Black or silver				
	i3-7020U	0	4	2.3 GHz 2.7 GHz	-	3MB 3MB	DDR4-2133	Intel HD Graphics	Case material	Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic			
	i3-7130U i5-7200U	2	4	2.7 GHZ 2.5 GHz	- 3.1 GHz	3MB	DDR4-2133	620	Smart card reade Media reader	rNone MicroSD card reader			
	8th Generation Intel Core i3 / i5 / i7 Processor								Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On),			
		# of Cores			Max Turbo Frequency	Cache	Memory Types	Processor Graphics		one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole			
	i3-8130U i5-8250U	2	8	2.2 GHz 1.6 GHz	3.4 GHz 3.4 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics 620	Camera	*Depending on many factors, actual data transfer speed may be lower than theoretical speed HD720p camera, fixed focus			
Graphics	Intel HD Gr	1.8 GHz   4.0 GHz   8MB   Intel HD Graphics 620 or Intel UHD Graphics 620 in processor only or								HD Audio, Synaptic® CX11852 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack			
	AMD Rade supports ex	ntel HD Graphics 620 or Intel UHD Graphics 620 in processor and MMD Radeon RX 550 Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports dual independent display;								6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	Max resolu	uai inc tion: 1	iepender 1920x108	nt dispiay; 80 (HDMI)	@60Hz				Security Power-on password, hard disk password, supervisor password, secur Security chip (opt)Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Cer				
Chipset Memory	32GB max	ntel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socke * System clocks down for processors with lower memory controller								None  **Representation of the palm rest			
Display	Some: 14.	) nits, 0" (35	16:9 asp 5mm) Fl	ect ratio, 4	00:1 contra 1080), anti-	st ratio glare, L	ED backlig		Battery  Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter MobileMark® 2014: 13.51 hr			
Multi-touch	None	) IIIIS,	10.9 asp	ect fallo, 4	OO. I COIIII	isi ralio			AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter			
Storage	Up to 2 drive Some: HD					ablo ur	aradabla		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
0	Act Some: M.2	ive Pro 2 SSD	otection S / PCIe N	System™ √VMe					Limited warranty	One of the following, configurable by model:  1-year mail-in repair service 1-year depot repair service			
Optane™ memor Optical	'y <i>Optional:</i> II None	ntel O	ptane me	emory, PCI	e NVMe, P	Cle 3.0	x 2		Mil-Spec test	MIL-STD-810G military testing			
Ethernet	Gigabit Eth	ernet	Connect	ion, Realte	k R8111G	JS			Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			
WLAN + Bluetooth™	One of the following, configurable by model:  Realtek® RTL8821CE, Wi-Fi 1x1 802.11ac + Bluetooth 4.1, M.2 card  Realtek RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card  Intel Dual Band Wireless-AC 3165, 1x1, Wi-Fi + Bluetooth 4.1, M.2 Card  Intel 3165ac card supports BT4.2 but is limited to BT4.1 by Windows OS									, , , , , , , , , , , , , , , , , , , ,			
WWAN SIM card	None None												

























# ThinkPad E490 Platform Specifications

Processor	8th Generation Intel®	Core™ i3 / i5 / i	7 Processor			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm		
	Processor # of # of Cores Three	eads Frequency	Max Turbo Frequency Cache	Memory Types	Processor Graphics	Weight Case color	PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75 kg Black or silver		
	i3-8145U 2 4 i5-8265U 4 8	1.6 GHz	3.9 GHz 4MB 3.9 GHz 6MB 4.6 GHz 8MB	DDR4-2400	Intel UHD Graphics 620	Case material	Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic		
Graphics	Intel UHD Graphics 6					Smart card readerNone Media reader MicroSD card reader			
Спартно	Intel UHD Graphics 6. AMD Radeon RX 550 supports external digi supports dual indeper Max resolution: 4096	320 in processor DX Graphics, 2G ital monitor via I ndent display;	and iB GDDR5 memo HDMI or USB Typ	e-C;	24Hz (HDMI)	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed None		
Chipset Memory	Intel SoC (System on 32GB max / 2400MH;	Chip) platform	hannal canable t	wo DDD4 9	O DIMM cockets	Monitor cable Bundled Accy	None		
wemory	* Installed memory is act	tually 2666MHz bu	ut run at 2400MHz	due to Intel li	mitation	Camera	HD720p camera, fixed focus		
Display	Size / Resolution		Ratio		Angle Multi-touch	Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack		
	14.0" HD (1366x768) 14.0" FHD (1920x1080)	Anti-glare IPS	220 nits 16:9 250 nits 16:9		90° Non-touch 170° Non-touch	Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight		
Multi-touch	None	TAITE-GIATE   II O	250 1113   10.9	000.1	170   Non-touch	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Storage	Up to two drives (one M. • HDD / SATA 6.0Gb/ • M.2 2280 SSD / SA • M.2 2280 SSD / PC • M.2 2242 SSD / PC	/s, 2.5" wide, 7m NTA 6.0Gb/s DIE NVME, PCIE DIE NVME, PCIE	nm high, Active P 3.0 x 2 3.0 x 2	ĺ	/stem™	Security Security chip System Mgt Fingerprint reade NFC	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified Discrete model: firmware TPM 2.0 integrated in chipset None r Optional: Touch style fingerprint reader on the palm rest None		
Optane™ memory Optical	y <i>Optional:</i> Intel Optan None	e memory, PCIe	e NVMe, PCIe 3.0	) x 2		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)		
Ethernet	Gigabit Ethernet Con	nection. Realtek	R8111GUS			Max battery life	with 65W USB Type-C AC adapter  MobileMark® 2014: 13 hr		
WLAN + Bluetooth™	One of the following, • Realtek® RTL8822B	configurable by	model:	th 4.2. M.2	card	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter		
	<ul> <li>Intel Wireless-AC 92</li> </ul>					Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN SIM card	None None					Limited warranty	One of the following, configurable by model:  1-year mail-in repair service  1-year depot repair service		
						Mil-Spec test	MIL-STD-810G military testing		
						Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

August 2019

























# ThinkPad E490s Platform Specifications

Processor	8th Generation	on Int	el® Core	e™ i5 / i7 P	rocessor					Dimensions	WxDxH: 12.96" x 9.13" x 0.70"; 329mm x 232mm x 17.9mm				
		# of ores 1	# of Threads		Max Turbo Frequency	Cache	Memory Types		Processor Graphics	Weight   Case color   Case material	Starting at 3.68 lb / 1.67 kg Black or silver Aluminum				
	i5-8265U i7-8565U	4	8	1.6 GHz 1.8 GHz	3.9 GHz 4.5 GHz	6MB 8MB	DDR4-240	00 Intel	UHD Graphics 620	Smart card reade					
Graphics	Intel UHD Gr Intel UHD Gr AMD Radeor supports exter supports three Max resolution	raphic n RX sernal ee ind on: 40	s 620 ir 540X G digital n epende 096x230	n processor raphics, 20 nonitor via l ent display; 04@60Hz (	r and 3B GDDR5 HDMI or U USB Type-	SB Typ	e-C;	@24Hz	(HDMI)	Ports One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and Display HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical None  Bundled Accy None					
Chipset Memory	32GB max / :	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM soc * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation								Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec /				
Display	Size / Resolut	tion	Su	rface Type	Brightness	Aspect Ratio	Contrast '	Viewing Angle	Multi-touch		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack				
	14.0" FHD (19				220 nits 250 nits	16:9 16:9	400:1	90° 170°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
Multi-touch	None	320X10	/60)   Allii	rgiale   IFS	230 1113	10.9	000.1	170	Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0. TCG Certified				
Storage Optical	One of the followard of	SSD/	SATĂ 6	.0Gb/s						System Mgt Fingerprint reader	Discrete model: firmware TPM 2.0 integrated in chipset None Touch style fingerprint reader on the palm rest				
Ethernet	None Gigabit Etha	rnot C	Connoct	ion Booltol	/ D0111CI	10				NFČ Battery	None Integrated Li-ion 42Wh battery, supports Rapid Charge (charge up to 80% in 1hr)				
WLAN + Bluetooth™	Gigabit Ethernet Connection, Realtek R8111GUS  One of the following, configurable by model:  Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card  Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card								I	Max battery life  AC adapter	with 65W USB Type-C AC adapter  **MobileMark** 2014: 11.5 hr  **Battery life varies significantly with settings, usage, & other factors  45W or 65W USB Type-C AC adapter				
WWAN	None										Optional: Windows® 10 Home 64 or Windows 10 Pro 64				
SIM card	None									<u> </u>	1-year depot repair service				
										Mil-Spec test	MIL-STD-810G military testing				
Note: The enecifi										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant				

Note: The specifications above may not be available in all regions.













# ThinkPad E495 Platform Specifications

Processor	AMD Ryze	en™ Mo	obile Pro	ocessors wi	th Radeon	<sup>™</sup> Vega G	raphics			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
	Processor Number		# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Controller		rocessor Graphics	Weight	PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75 kg
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 / 4MB L3	, ,	Rade	eon Vega 3 Graphics	Case color Case material	Black  Display cover: Aluminum or PC/ABS plastic;  Bottom: PC/ABS plastic
	Ryzen 5 3500U			2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400		eon Vega 8 Graphics	Smart card reade	erNone
	Ryzen 7 3700U	4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Radeo	on RX Vega Graphics	Media reader Ports	MicroSD card reader One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	AMD Radeon Vega 3, Vega 8, or RX Vega 10 Graphics in processor; supports external digital monitor via HDMI or USB Type-C; supports dual independent display; Max resolution: 3840x2160@60Hz (USB Type-C); 3840x2160@30Hz (HDMI)  AMD SoC (System on Chip) platform								HDMI)	HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed by the bound of th	
Memory	32GB max	κ ່/ Ź40	OMHz [	DR4, dual- lly 2666MHz	channel ca					Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
Display	Size / Reso	olution	8	Surface Typ	e Brightnes	s Aspect Ratio	Contrast Vie	ewing ingle	Multi-touch		
	14.0" HD (1			nti-glare TN		16:9	400:1	90°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	None	(1920x	1080)   Ai	nti-glare IPS	250 nits	16:9	600:1 1	170°	Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	<ul> <li>HDD / S.</li> </ul>	ATA 6.	.0Gb/s,	SSD and one 2.5" wide, 7	mm high, a			stem™		Fingerprint reade NFC	r None None
Optical	• M.2 2242 None	2 550	) / PCIe	NVMe, PCI	e 3.0 x 2 o	r PCIe 3.	.0 X 4			Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Ethernet	Gigabit Et	hernet	t Conne	ction, Realt	ek R81110	SUS				Max battery life	MobileMark® 2014: 11 hr
WLAN + Bluetooth™	One of the following, configurable by model: • Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card									AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter  Optional: Windows® 10 Home 64 or Windows 10 Pro 64
1404/441	Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card									Operating system Limited warranty	
WWAN SIM card	None None									Mil-Spec test	None
<u> </u>										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.









# ThinkPad E580 Platform Specifications

Processor	7th Genera	ation In	itel® Core	e™ i3 / i5 P	rocessor o	r			WLAN +	One of the following, configurable by model:		
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Bluetooth™	<ul> <li>Realtek® RTL8821CE, Wi-Fi 1x1 802.11ac + Bluetooth 4.1, M.2 card</li> <li>Realtek RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card</li> <li>Intel Dual Band Wireless-AC 3165, 1x1, Wi-Fi + Bluetooth 4.1, M.2 Card</li> </ul>		
	i3-7020U i3-7130U	2	4	2.3 GHz 2.7 GHz	-	3MB 3MB	DDR4-2133	Intel HD Graphics		* Intel 3165ac card supports BT4.2 but is limited to BT4.1 by Windows OS		
	i5-71300 i5-7200U	2	4	2.7 GHz 2.5 GHz	3.1 GHz	3MB	DDN4-2133	620	WWAN SIM card	None None		
	8th Generation Intel Core i3 / i5 / i7 Processor								Dimensions	WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.95mm		
			# of Threads	Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 4.7 lb / 2.1kg Black or silver		
	i3-8130U i5-8250U	2	8	2.2 GHz 1.6 GHz	3.4 GHz 3.4 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics 620	Case material	Display cover: Aluminum; Bottom: PC/ABS plastic		
	i7-8550U * i3-7130U is	s NOT á	available ii	1.8 GHz	4.0 GHz 1FA	8MB			Smart card reader Media reader	MicroSD card reader		
·	* i3-7130U is NOT available in US and EMEA  Intel HD Graphics 620 or Intel UHD Graphics 620 in processor only or Intel HD Graphics 620 or Intel UHD Graphics 620 in processor and AMD Radeon RX 550 Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C;								-Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed		
	supports dual independent display; Max resolution: 1920x1080 (HDMI)@60Hz Intel SoC (System on Chip) platform								Camera HD720p camera, fixed focus Audio support HD Audio, Synaptic® CX11852 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /	HD Audio, Synaptic® CX11852 codec /		
Memory	32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socket System clocks down for processors with lower memory controller						wo DDR4 S	O-DIMM sockets		dual array microphone, headphone / microphone combo jack		
Display	Some: 15	.6" (39	6mm) H	D (1366x76	88), anti-gla	are, LE	D backlight,		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	220 nits, 16:9 aspect ratio, 400:1 contrast ratio  Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 600:1 contrast ratio							ht, IPS,	Security chip <i>(opt)</i> Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified			
	None	one							vPro Fingerprint reader	None r Optional: Touch style fingerprint reader on the palm rest		
				and one HD b/s, 2.5" wi		able. ur	ogradable.		NFČ .	None		
	Ac	tive Pro	otection S	System™	,	,	granaura,		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter		
Optane™ memory	Some: M.2 SSD / PCIe NVMe ™ memory <i>Optional:</i> Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2					Cle 3.0	) x 2		Max battery life	MobileMark® 2014: 12.23 hr *Battery life varies significantly with settings, usage, & other factors		
	None Gigabit Ethernet Connection, Realtek R8111GUS								AC adapter	45W or 65W USB Type-C AC adapter		
Etnernet	Gigabit Etr	iernet	Connect	ion, Realte	KHBIIIGU	JS			Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
										One of the following, configurable by model:  1-year mail-in repair service  1-year depot repair service		
									Mil-Spec test	MIL-STD-810G military testing		
									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant		

Note: The specifications above may not be available in all regions.

















# ThinkPad E590 Platform Specifications

Processor	8th Generation Intel	l® Core	e™ i3 / i5 / i7	7 Processo	r				Dimensions	<i>WxDxH:</i> 14.53" x 9.94" x 0.78"; 369mm x 252.5mm x 19.9mm			
		# of rreads		Max Turbo Frequency	Cache	Memory Types		Processor Graphics	Weight Case color Case material	Starting at 4.68 lb / 2.12 kg Black or silver Display cover: Aluminum; Bottom: PC/ABS plastic			
	i3-8145U 2 i5-8265U 4	8	2.1 GHz 1.6 GHz 1.8 GHz	3.9 GHz 3.9 GHz 4.6 GHz	4MB 6MB 8MB	DDR4-24	00 Intel	UHD Graphics 620	Smart card reade				
Graphics	Intel UHD Graphics 620 in processor only or Intel UHD Graphics 620 in processor and AMD Radeon RX 550X Graphics, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports dual independent display:								Media reader Ports  MicroSD card reader One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort) HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None  MicroSD card reader One USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort) HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader None IUSB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort) HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader None IUSB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort) HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed None None				
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation								Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec /			
Display	Size / Resolution	Su	ırface Type	Brightness	Aspect Ratio	Contrast Ratio	Viewing Angle	Multi-touch		stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack			
	15.6" HD (1366x768)		i-glare TN	220 nits	16:9	400:1	90°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
Multi-touch	15.6" FHD (1920x1080)   Anti-glare   IPS   250 nits   16:9   600:1   170°   Non-touch   None								Security Security chip	ity chip Integrated model: discrete TPM 2.0, TCG Certified			
Storage	Up to two drives (one i • HDD / SATA 6.0Gi • M.2 2280 SSD / S • M.2 2280 SSD / F	b/s, 2. SATA 6 PCIe N	.5" wide, 7m 3.0Gb/s IVMe, PCIe	m high, Ac 3.0 x 2	tive Pr	otection S	System™	М	System Mgt Fingerprint reader NFC	Discrete model: firmware TPM 2.0 integrated in chipset em Mgt None erprint reader Optional: Touch style fingerprint reader on the palm rest None			
Optane™ memor	M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2  bry Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2  None  None								Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter  MobileMark® 2014: 11 hr			
Ethernet	Gigabit Ethernet Co	onnect	tion, Realtek	R8111GU	IS				,	* Battery life varies significantly with settings, usage, & other factors			
WLAN + Bluetooth™	One of the following, c • Realtek® RTL8822 • Intel Wireless-AC	2BE, V	Vi-Fi 2x2 80	2.11ac + B				I	AC adapter Operating system Limited warranty	45W or 65W USB Type-C AC adapter  Optional: Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:			
WWAN SIM card	None None									<ul><li>1-year mail-in repair service</li><li>1-year depot repair service</li></ul>			
									Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Silver: ENERGY STAR® 7.1: RoHS-compliant			

Note: The specifications above may not be available in all regions.













# ThinkPad E595 Platform Specifications

Processor	AMD Ryz	en™ Mo	bile Pro	cessors wi	th Radeon	<sup>™</sup> Vega G	raphics		Dimensions	WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.9mm Starting at 4.7 lb / 2.1 kg Black					
	Processor Number		# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Controller	Processor Graphics	Weight Case color						
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 / 4MB L3		Radeon Vega 3 Graphics	Case material	Display cover: Aluminum; Bottom: PC/ABS plastic					
	Ryzen 5 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Vega 8 Graphics	Smart card reade Media reader	MicroSD card reader					
	Ryzen 7 3700U	4	0	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Radeon RX Vega 10 Graphics	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),					
Graphics	supports of supports of Max resol	externa dual in ution:	al digital depende 3840x2		t HDMI or I (USB Type	JSB Type	e-C;	or; s0Hz (HDMI)	HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical some None  Bundled Accy						
Chipset Memory	AMD SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * Installed memory is actually 2666MHz but run at 2400MHz due to AMD limitation								Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack					
Display		Size / Resolution			e Brightnes	S Ratio		ngle Wulti-touch	 Keyboard UltraNav™	G-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad					
	15.6" HD ( 15.6" FHD			nti-glare TN nti-glare IPS				Non-touch Non-touch	Security	Power-on password, hard disk password, supervisor password, security keyhole					
Multi-touch	None								Security chip Fingerprint reade						
Storage	• HDD / S	ATA 6.	0Gb/s, 2	SSD and one 2.5" wide, 7	mm high, A	Active Pro	otection Sys	tem™	NFČ Battery	None Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)					
Optical	None None	2 550	7 PCIE	NVMe, PCI	e 3.0 x 2 o	r PCIe 3.	U X 4		Max battery life	with 65W USB Type-C AC adapter  MobileMark® 2014: 10.3 hr					
Ethernet				ction, Realt		SUS			AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter					
WLAN + Bluetooth™	One of the following, configurable by model:  • Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card  • Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card								I	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64 One of the following, configurable by model:					
WWAN SIM card	None None	01033-7	10 0200	, **ITI 1 ZAZ	002.1180	Diactor	70.1 J.U, 1VI.Z	ourd	Limited warranty	<ul> <li>1-year mail-in repair service</li> <li>1-year depot repair service</li> </ul>					
									Mil-Spec test	None					
									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant					

Note: The specifications above may not be available in all regions.













# ThinkPad L380 Platform Specifications

Processor	Intel® Cele	ron® P	rocessor	r, 7th Gene	ration Intel	Core™	i3 / i5 Proc	essor or	Dimensions	<i>WxDxH:</i> 12.67" x 8.83" x 0.74"; 321.8mm x 224.2mm x 18.8mm
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 3.22 lb / 1.46 kg Black or Silver
	Cel 3965U	00100	2	2.2 GHz	-	2MB	Туроо	Intel HD Graphics 610	Case material	Display cover: Aluminum Bottom: GFRP
	i3-7020U i3-7130U i5-7200U	2	4	2.3 GHz 2.7 GHz 2.5 GHz	- - 3.1 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 620	Smart card reade Media reader Ports	erNone MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
		ation Ir	ntel Core	i5 / i7 Prod	essor					HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack,
	Processor Number i3-8130U	# of Cores			Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Monitor cable	microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	i5-8250U i5-8350U	4	8	2.2 GHz 1.6 GHz 1.7 GHz	3.4 GHz 3.4 GHz 3.6 GHz	4MB 6MB 6MB	DDR4-2400	Intel UHD Graphics 620	(optional) Bundled Accy	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
Graphics	Intel HD Graphics 610, 620 or Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays:								Camera Audio support	HD720p camera, fixed focus HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby <sup>®</sup> Audio <sup>™</sup> / dual array microphone, headphone / microphone combo jack
	Max resolu	ution: 4	4096x23	04@60Hź (	USB Type-	C); 40	96x2160@3	BOHz (HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Chipset Memory	Intel SoC (System on Chip) platform  32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets  * System clocks down for processors with lower memory controller								Security Security chip Security chip Security chip Security chip	
Display	Some: 13	50 nits, 3.3" (3:	, 16:9 ๊ası 38mm) F	pect ratio, 5 HD (1920x	500:1 contra 1080), anti-	ast rati -glare,	D backlight, o LED backlig o, 170° view	ıht, IPS,	vPro (optional) Intel vPro Technology Fingerprint reader Optional: Touch style fingerprint reader on the keyboard bezel, anti-spoofing technology NFC (optional) Near Field Communication	Intel vPro Technology r Optional: Touch style fingerprint reader on the keyboard bezel, anti-spoofing technology
Multi-touch (opt)	on-cell tou					201 1411	0, 170 11011	g a.i.g.o	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)  • M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe							M.2 PCle NVMe)	Max battery life	with 65W USB Type-C AC adapter  MobileMark® 2014: 16.1 hr  * Battery life varies significantly with settings, usage, & other factors
Optical	None		,		.,	(9		,	AC adapter	45W or 65W USB Type-C AC adapter
Ethernet				nection I21 ernet Exter			1219-LM (v	Pro)	Operating system Limited warranty	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS									<ul> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
WWAN SIM card	None								Mil-Spec test	MIL-STD-810G military testing
Silvi Calu	rd None								Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.





















## ThinkPad L390 Platform Specifications

Processor	8th Generation Intel® C	Core™ i3 /	i5 / i7 Proces	sor				Smart card reade	
	Processor # of # of Number Cores Threa				Memory Types		essor phics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i3-8145U 2 4 i5-8265U i5-8365U 4 8 i7-8565U	2.1 G 1.6 G 1.6 G 1.8 G	Hz 3.9 GHz Hz 3.9 GHz Hz 4.1 GHz	4MB 6MB 6MB	DDR4-2400	Intel UHD	O Graphics 20	Monitor cable	two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed USB-C to VGA Adapter:  Lenovo USB-C to VGA Adapter
Graphics	Intel UHD Graphics 62 supports external digit supports three indeper Max resolution: 4096x	al monitor ndent disp	via HDMI or lays;	•		30Hz (H[	OMI)	(optional) Bundled	USB-C to VGA (plus Power) Adapter: USB-C to HDMI Adapter: USB-C to HDMI (plus Power) Adapter: Lenovo USB-C to HDMI Adapter: USB-C to DisplayPort Adapter: USB-C to DisplayPort Adapter: USB-C to Ethernet Adapter: USB-C to Ethernet Adapter: USB-C to Ethernet Adapter
Chipset Memory	Intel SoC (System on 0 32GB max / 2400MHz * Installed memory is actu	DDŔ4, di	ual-channel c				sockets	Accessories (optional) Camera	USB-C to USB-A Adapter: USB-C to USB-C Cable 2m:  HD720p camera, fixed focus
Display	Size Resolution	Surface	Type Brightne	Aspec Ratio	Contras	st Ratio	Viewing Angle	Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
	13.3" HD (1366x768) 13.3" FHD (1920x1080)	Anti-glare Anti-glare	TN 250 nit		700:1 (no 800:1 (mu	on-touch)	90° 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Multi-touch (opt)	On-cell touch, supports	s 10-finge	r gesture (FH	D only)	1 000 (	<u> </u>		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Storage	One of the following, confi • M.2 2280 SSD / SAT • M.2 2242 SSD / PCI	Ä 6.0Gb/s e NVMe,	S PCIe 3.0 x 2					System Mgt (opt) Fingerprint reade	Intel vPro Technology r Optional: Touch style fingerprint reader on the palm rest Near Field Communication
Optical	<ul> <li>M.2 2280 SSD / PCI</li> <li>Intel Optane<sup>™</sup> Memor M.2 2280, PCIe NVN None</li> </ul>	ory H10 w	ith Solid State	Storage	9,			Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter  MobileMark® 2014: 14.61 hr  * Battery life varies significantly with settings, usage, & other factors
Ethernet	Native Intel Ethernet C via optional ThinkPad I	Connection	1219-V ( <i>Non</i>	-vPro) oi	1219-LM (ı	vPro)		AC adapter	45W or 65W USB Type-C AC adapter
	Lenovo USB-C to Ethe	ernet Adap	oter	ole Ol				<u> </u>	Optional: Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
WLAN Bluetooth™	Intel Wireless-AC 9560 Bluetooth 5.0 wireless,							Limited warranty	1-year depot repair service     1-year depot with 2-year planar repair service
WWAN SIM card	None None								3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service
Dimensions			"; 321.8mm x	224.2mi	n x 18.8mn	n		Mil-Spec test	MIL-STD-810G military testing
Weight Case color Case material	Starting at 3.22 lb / 1.4 Black or Silver Display cover: Alumin Bottom: GFRP	J						Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.









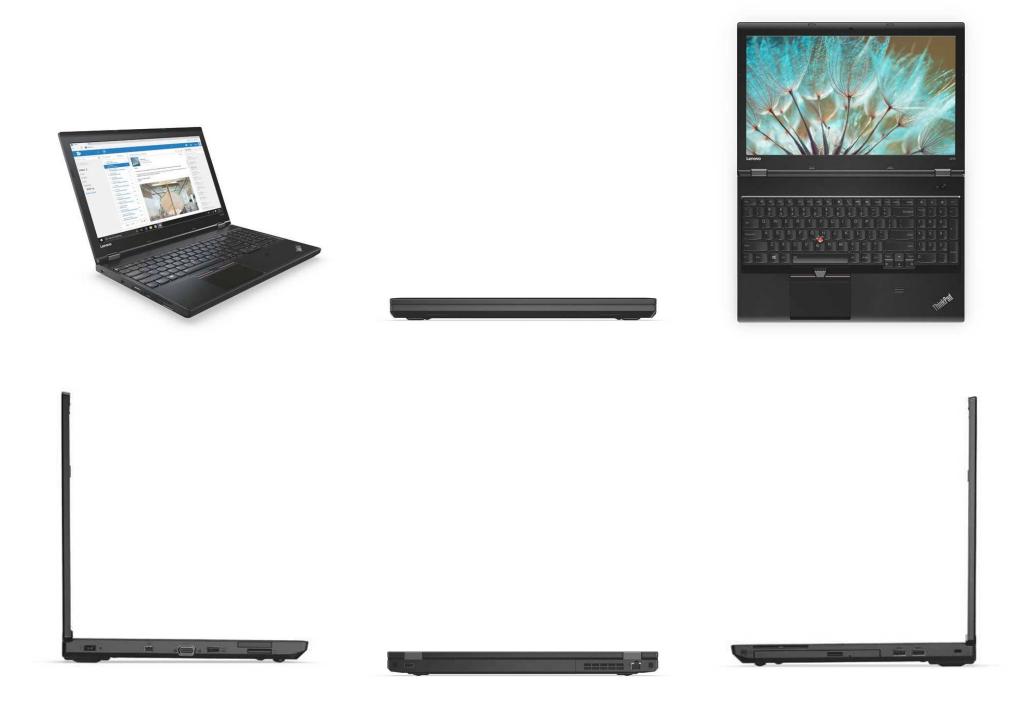
## ThinkPad L480 Platform Specifications

Processor	7th Gener	ation I	ntel® Cor	e™ i3 / i5 P	rocessor o	r			WWAN (optional)	One of the following, configurable by model:
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics		<ul> <li>Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)</li> <li>Integrated Mobile Broadband 4G LTE-A,</li> </ul>
	i3-7020U i3-7130U i5-7200U	2	4	2.3 GHz 2.7 GHz 2.5 GHz	- - 3.1 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 620	SIM card (opt)	Intel XMM™ 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card
	i5-7300U	l		2.6 GHz	3.5 GHz	ЗМВ			Dimensions	WxDxH: 13.19" x 9.25" x 0.89"; 335mm x 235mm x 22.5mm
	Processor		ntel Core	i3 / i5 / i7 l	1		Managani	D	Weight Case color	Starting at 3.71 lb / 1.68 kg Black
	Number	# of Cores		Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Case material	PC/ABS plastic
	i3-8130U i5-8250U i5-8350U i7-8550U	4	8	2.2 GHz 1.6 GHz 1.7 GHz 1.8 GHz	3.4 GHz 3.4 GHz 3.6 GHz 4.0 GHz	4MB 6MB 6MB 8MB	DDR4-2400	Intel UHD Graphics 620	Smart card reade Media reader Ports	r Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
		is NOT	 available i	n US and El		BINIB			1	HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
Graphics	Intel HD G Intel HD G AMD Rad (discrete r	araphic araphic eon 53 nodels	es 620 or es 620 or 60, 2GB ( are NOT	Intel UHD Intel UHD GDDR5 me available	Graphics 6. Graphics 6. mory in EMEA);	20 in p	rocessor on rocessor an		Monitor cable (optional)	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
	supports t	hree in	ndepende	ent displays	HDMI or Û ;; (USB Type-	• •		30Hz (HDMI)	Camera (optional, - Audio support	One of the following, configurable by model:  HD720p camera, fixed focus  IR camera and HD720p camera, fixed focus  HD Audio, Realtek ALC3287 codec /
Chipset Memory	32GB max	x / 240	OMHz DE	p) platform DR4, dual-cocessors with	channel cap o lower memo	able, to	wo DDR4 S roller	O-DIMM sockets		stereo speakers, 2W x 2, Dolby® Audio™ / dual array microphone, headphone / microphone combo jack
Display	22	20 nits,	16:9 asp	ect ratio, 5	00:1 contra	st ratio			Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint®pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch (opt)	25	50 nits,	16:9 asp	ect ratio, 8		ist ratio	LED backlig b, 170° view			Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Storage	Some: H	DD/S	ATA 6.00	3b/s, 2.5" w		nigh, Ad	ctive Protect	ion System™	Fingerprint reader	r <i>Optional:</i> Touch style match on chip fingerprint reader on the keyboard bezel, anti-spoofing technology  Near Field Communication
	Some: M Some: 12	1.2 SSE 28GB N	) / PCle I M.2 SSD	NVMe, PCI / PCIe NVI	e 3.0 x 2, 1 Me, PCle 3	6Gb/s .0 x 2,			Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Optical	in None	WWAI	N slot as	2nd Storag	ge, mutually	exclus	sive with WV	VAN	Max battery life	MobileMark® 2014: 12.2 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet		model	: Intel Eth	nernet Con	nection I21	9-V (Ja	cksonville)		AC adapter	45W or 65W USB Type-C AC adapter
	vPro mod	el:	Intel Eth	nernet Con	nection I21		Jacksonvilĺe	)		Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WLAN + Bluetooth™ (optional)	<ul> <li>Realtek®</li> <li>Intel Dua</li> </ul>	RTL8 al Banc	822BE, V Wireles	s-AC 8265,	02.11ac + E Wi-Fi 2x2	802.11	oth 4.1, M.2 ac + Blueto Windows OS	card (US only) oth 4.1, M.2 card		One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
									Mil-Spec test	MIL-STD-810G military testing
Note: The specifica									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant



## ThinkPad L490 Platform Specifications

Processor	Intel® Cele	eron® F	rocesso	r or 8th Ger	eration Int	el Core	e™ i3 / i5 / i7	7 Proce	ssor	Dimensions	WxDxH: 13.19" x 9.25" x 0.89"; 335mm x 235mm x 22.5mm
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types		ocessor raphics	Weight Case color Case material	Starting at 3.72 lb / 1.69 kg Black PC/ABS plastic
	Cel 4305U	2	2	2.2 GHz	-	2MB	DDR4-2133		HD Graphics 610	Smart card reade	r Optional: Smart card reader
	i3-8145U i5-8265U	2	8	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB				Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i5-8365U i7-8565U	4	8	1.6 GHz 1.8 GHz	4.1 GHz 4.6 GHz	6MB 8MB	DDR4-2400	1	ID Graphics 620	3	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models).
	i7-8665U	4	8	1.9 GHz	4.8 GHz	8MB					headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole
Graphics	Intel UHD (discrete r supports e supports t	Graph nodels externa hree ir	nics 620 in are NOT al digital r ndepende	available i nonitor via ent displays	and AMD n EMEA); HDMI or U	Raded SB Typ			•	Monitor cable (optional)  Bundled Accy	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA:  Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA:  Lenovo USB-C to VGA Adapter  USB-C to DP:  Lenovo USB-C to DisplayPort Adapter  None
Chipset Memory	Intel SoC	(Svste	m on Chi	p) platform			wo DDR4 S or 2400MHz o	,	,	1 ''	<ul> <li>One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek ALC3287 codec /</li> </ul>
Display	Size Reso	olution	Ту	pe Surface	Brightnes	s Aspe Rati		Color Gamu			stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	14.0" HD ( 14.0" FHD			N Anti-glare S Anti-glare		16:		45% 45%		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
			<u> </u>	0-finger ge	•					Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	<ul><li>SSD / S</li><li>M.2 228</li></ul>	ATA 6. 0 SSD	0Gb/s, 2. / PCle N	.5" wide, 7r 5" wide, 7n IVMe, PCIe IVMe. PCIe	nm high 3.0 x 4	ctive P	rotection Sy	stem™		System Mgt (opt)	Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Optane™ memory Optical	* Installed I	И.2 228	0 SSD is I	Cle 3x4 but	run at PCIe	<i>3x2 due</i> Cle 3.0	e to M.2 SSD ) x 2	adapter	limitation	Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter  MobileMark® 2014: 12 hr
Ethernet							cksonville) Jacksonville	·)		AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W, 65W, or 65W slim USB-C AC adapter
WLAN +			g, configu	rable by mod	el:	,		,			Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ (optional)	(NOT av	ailable eless- <i>l</i>	in EMÉ. AC 9260,	۸) Wi-Fi 2x2 8	302.11ac +	Blueto		card			One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
WWAN (optional)			,	Fi 2x2 802.		etooth	5.0			Mil-Spec test	MIL-STD-810G military testing
., ,	<ul><li>Wireless</li><li>Integrate</li><li>Integrate</li><li>* For non-V</li></ul>	WAN d Mob	upgradal ile Broad	ole Iband 4G L	ΓΕ, Fiboco	m L83( com L8 VWAN ເ	0-EB, M.2 ca 350-GL, M.2 ppgradable	ard (EM card	IEA only)	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
SIM card Note: The specifica	None	n may r	not bo ava	ilablo in all r	ogione						Lenov



## ThinkPad L570 Platform Specifications

Processor	6th Gener	ation Ir	ntel® Cor	e™ i3 / i5 /	i7 Processo	or or			WWAN (optional)	One of the following, configurable by model:
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor		Wireless WAN upgradable     Integrated Mobile Broadband 4G LTE-A,
	Number i3-6006U	Cores	Threads	Frequency 2.0 GHz	Frequency -	3MB	Types	Graphics		Qualcomm <sup>®</sup> Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card
	i3-6100U			2.3 GHz	-	3MB				<ul> <li>Integrated Mobile Broadband 4G LTE, Intel XMM™ 7160 (Fibocom L831-EAU), M.2 card (EMEA only)</li> </ul>
	i5-6200U			2.3 GHz	2.8 GHz	3MB	DDD4 0400	Intel HD Graphics	SIM card (opt)	Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card
	i5-6300U	2	4	2.4 GHz	3.0 GHz	3MB	DDR4-2133	520	Dimensions	WxDxH: 14.84" x 10.04" x 1.08-1.21"; 377mm x 255mm x 27.6-30.85mm
	i7-6500U			2.5 GHz	3.1 GHz	4MB			Weight	Starting at 5.25 lb / 2.38 kg
	i7-6600U			2.6 GHz	3.4 GHz	4MB			Case color Case material	Black PC/ABS plastic
						I Core	i3 / i5 / i7 P		l	t)One slot (ExpressCard/34)
	Processor Number	# of	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Smart card reade	er Optional: Smart card reader
		00163				21.15	Турез	Intel HD Graphics	Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC)
	Cel 3965U		2	2.2 GHz	-	2MB		610	Ports	Four USB 3.1 Gen 1 (USB 3.0, one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector
	i3-7100U			2.4 GHz	-	3MB				* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i5-7200U	2	4	2.5 GHz	3.1 GHz	3MB 3MB	DDR4-2133	Intel HD Graphics	Monitor cable	Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable (MiniDP to DP)
	i5-7300U i7-7500U		4	2.6 GHz 2.7 GHz	3.5 GHz 3.5 GHz	4MB		620		/)HD720p resolution, fixed focus
	i7-7600U			2.8 GHz	3.9 GHz	4MB			Audio support	HD Audio, Realtek® ALC3245 codec / stereo speakers, 1.5W x 2 / dual array microphone, combo audio/microphone jack
	* i7 process	or is NO	OT availab	le in EMEA				<u> </u>	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad
Graphics	Intel HD G	iraphic	s 520, 61	10, or 620 i	n processo	r only;			UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	supports t					digital r	nonitor via	Mini DisplayPort;	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
						P cable	e); 1920x12	200@60Hz (VGA)	vPro (optional)	Intel vPro Technology
Chipset	Intel SoC	(Syster	m on Chi	p) platform	<u> </u>		,,	,	Fingerprint reade	r Optional: Swipe style fingerprint reader on the palm rest
Memory					hannel cap			O-DIMM sockets	NFČ '	None
Display							D backlight,		Battery Max battery life	Li-ion 6-cell (48Wh) MobileMark® 2014: 14.8 hr
Display					50:1 contra			,	1	* Battery life varies significantly with settings, usage, & other factors
	Some: 15	.6" (39	6mm) Fi	HD (1920x1	1080), anti-	glare, L	ED backlig	jht,	AC adapter	45W slim tip AC adapter
	Some: 15	'U nits, 5 6" <i>(</i> 39	16:9 asp 6mm) Fl	ect ratio, 4 HD (1920x1	00:1 or 500 (080) anti-	):1 con glare l	trast ratio _ED backlig	tht IPS	Operating system	one of the following, configurable by model:  • Windows® 7 Professional 64 preinstalled
	25	0 nits,	16:9 asp	ect ratio, 6	00:1 contra	st ratio	, 160° view	ring angle		through downgrade rights in Windows 10 Pro 64
Multi-touch	None									Windows 10 Home 64
Storage	Some: HI	DD / S	ATA 6.0G	ib/s, 2.5" w	ide, 7mm h	igh, Ac	tive Protect	tion System™		• Windows 10 Pro 64
	Some: M	של / של 2 SSE.	) / PCle N	NVMe. PCI	e 3.0 x 2, 1	igii (e.( 6Gb/s	g. xxxGB S	5D)	Limited warranty	One of the following, configurable by model:  • 1-year depot repair service
	Some: 12	28GB N	1.2 SSD	/ SATA 6.0	Gb/s, in WV	VAN sl	ot as 2nd S	Storage,		3-year/1-yr battery depot repair service
Optical (optional)	DVD-BOV	utually Lor DV	exclusive	e with WWA	AN n fixed not	romov	able trav-ir	,		3-year/1-yr battery limited onsite service
Ethernet					nection I21				Mil-Spec test	MIL-STD-810G military testing
Lincinot	vPro mode						Jacksonville	e)	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
WLAN	One of the	following	g, configui	able by mod	lel:					
	Realtek®	RTL8	822BE, V	Vi-Fi 2x2 80	02.11ac + E	3T4.1, I	M.2 card (U	IS only)		
							ac + BT4.1, ac + BT4.1,			
Bluetooth™	Bluetooth	4.1 wir	eless, int	tegrated in	Wi-Fi + Blu	etooth	combo ada	opter		
N . TI						ed to B1	74.1 by Windo	ows US		<u> </u>
Note: The specific	ations above	may n	ot be ava	ııable ın all ı	regions.					Lenovo



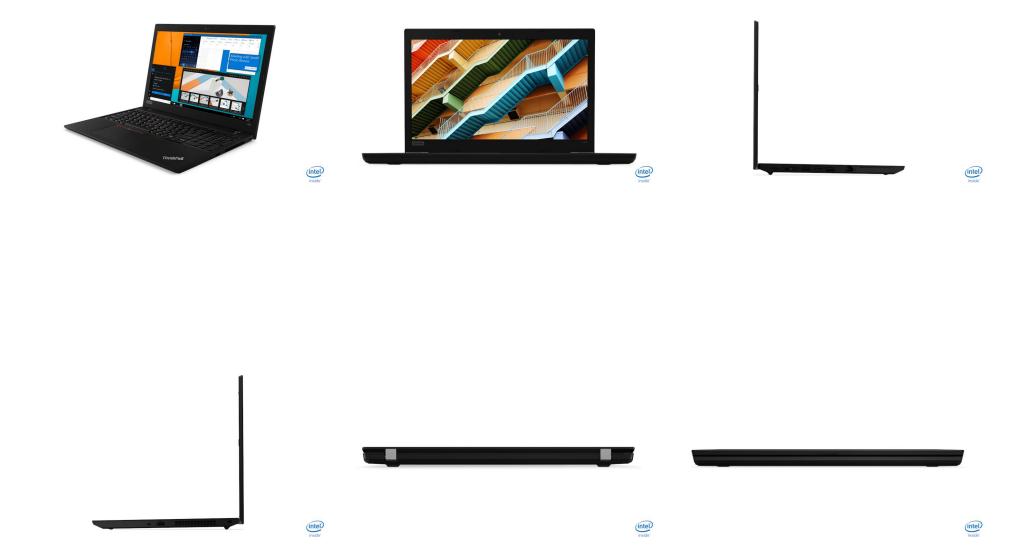






## ThinkPad L580 Platform Specifications

Processor	Intel® Cele	ron® P	rocessor	r, 7th Gene	ration Intel	Core™	i3 / i5 Proc	essor or	WWAN (optional)	One of the following, configurable by model:
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)
	Cel 3965U		2	2.2 GHz	-	2MB		Intel HD Graphics 610		<ul> <li>Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card</li> <li>* For non-WWAN model, it means the model is NOT WWAN upgradable</li> </ul>
	i3-7020U i3-7130U	2		2.3 GHz 2.7 GHz	-	3MB 3MB	DDR4-2133	Intel HD Graphics	SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card
	i5-7200U		4	2.5 GHz	3.1 GHz	3MB		620	Dimensions Weight	<i>WxDxH</i> : 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm Starting at 4.46 lb / 2.0 kg
	i5-7300U	ation I	etal Cara	2.6 GHz	3.5 GHz	3MB			Case color Case material	Black PC/ABS plastic
	8th Genera Processor	# of	# of	Base	Max Turbo		Memory	Processor	ExpressCard	None
	Number	-	_	Frequency	Frequency	Cache	Types	Graphics	Smart card reade Media reader	r <i>Optional:</i> Smart card reader MicroSD card reader
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB			Ports	Two USB 3.1 Gen 1 (one Always On),
	i5-8250U i5-8350U	4	8	1.6 GHz 1.7 GHz	3.4 GHz 3.6 GHz	6MB 6MB	DDR4-2400	Intel UHD Graphics 620		two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),
	i7-8550U			1.8 GHz	4.0 GHz	8MB				headphone / microphone combo jack, optional smart card reader,
				n US and EN						microSD card reader, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics		raphic	s 620 or	Intel UHD	Graphics 6		in process ocessor an		Monitor cable (optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
	AMD Rade (discrete m									HD720p camera, fixed focus
	supports e	externa	ıl digital n	nonitor via	HDMI or Ú	SB Typ	e-C;		Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ /
						-C); 40	96x2160@3	30Hz (HDMI)	-	dual array microphone, headphone / microphone combo jack
Chipset	Intel SoC (					.   .	DDD40	0.0000	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Memory	* System cla	ocks do	own for pro	cessors with	nannei cap <i>lower mem</i>	oable, iv	vo DDR4 S oller	O-DIMM sockets	Security	Power-on password, hard disk password, supervisor password, security keyhole
Display	Some: 15	.6" (39	6mm) HI	D (1366x76	88), anti-gla	are, LE	backlight,		Security chip vPro (optional)	Discrete TPM 2.0, TCG Certified Intel vPro Technology
	Some: 15	.6" (39	96mm) FH	ect ratio, 5 HD (1920x	1080), anti-	glare, L	ED backlig	ht, IPS,		r Optional: Touch style match on chip fingerprint reader on the palm rest,
Multi-touch	25 None	0 nits,	16:9 asp	ect ratio, 8	00:1 contra	ast ratio	, 170° view	ing angle	NFC (optional)	anti-spoofing technology Near Field Communication
Storage	System has	one HI	DD slot or	one M.2 228	30 slot exclus	sively for	storage		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
- · · · · · · · · · · · · · · · · · · ·								ion System™	Max battery life	with 65W USB Type-C AC adapter  MobileMark® 2014: 12 hr
	Some: SS						J. XXXGB SS	SD)	,	* Battery life varies significantly with settings, usage, & other factors
	Some: 12	28GB N	M.2 SSD	/ PCIe NVI	Me, PCIe 3	.0 x 2,	I6Gb/s, ive with WV	WANI	AC adapter	45W or 65W USB Type-C AC adapter  Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Optical	None	V V V V \	N SIOT as	Ziid Storag	je, mutuan	CACIUS	IVE WILLI VVV	VAIN	Limited warranty	One of the following, configurable by model:
Ethernet	Non-vPro							`		1-year depot repair service
WLAN +	vPro mode	_				9-LM (	lacksonville	)		<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
Bluetooth™	<ul> <li>Realtek®</li> </ul>	RTL8	822BE, V	Vi-Fi Źx2 80	02.11ac + E			card (US only)	Mil-Spec test	MIL-STD-810G military testing
(optional)	<ul> <li>Intel Dua</li> <li>* Intel 8265</li> </ul>							oth 4.1, M.2 card	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Note: The specific	vatione abovo	may n	ot he ava	ilahla in all	ragione					Lenovo



## ThinkPad L590 Platform Specifications

Processor	Intel® Cele	eron® F	rocesso	r or 8th Ger	eration Int	el Core	e™ i3 / i5 / i7	7 Process	sor	Dimensions	WxDxH: 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types		cessor phics	Weight Case color Case material	Starting at 4.48 lb / 2.0 kg Black PC/ABS plastic
	Cel 4305U	2	2	2.2 GHz	-	2MB	DDR4-2133		O Graphics 310	Smart card reade	r Optional: Smart card reader
	i3-8145U i5-8265U	2	8	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB				Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i5-8265U	4	8	1.6 GHz	4.1 GHz	6MB	DDR4-2400	1	O Graphics	5	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),
	i7-8565U i7-8665U	4	8	1.8 GHz 1.9 GHz	4.6 GHz 4.8 GHz	8MB 8MB		6	620		HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
Graphics	Intel UHD Intel UHD (discrete r supports e supports t	Graph nodels externa hree in	nics 620 in are NOT al digital r ndepende	or 620 in pron processor available in monitor via ent displays	ocessor on and AMD n EMEA); HDMI or U	Raded SB Typ			·	Monitor cable (optional)  Bundled Accy	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None
Chipset Memory	Intel SoC	(Svste	m on Chi	p) platform			wo DDR4 S or 2400MHz o	•		''	<ul> <li>One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek ALC3287 codec /</li> </ul>
Display	Size Reso	olution	Ту	pe Surface	Brightnes	s Aspe Rati		Color Gamut	Viewing Angle		stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	15.6" HD ( 15.6" FHD			N Anti-glare S Anti-glare		16:		45% 45%	90° 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	None									Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Ü	<ul><li>SSD / S</li><li>M.2 228</li></ul>	ATA 6. 0 SSD	0Gb/s, 2. / PCle N	.5" wide, 7r 5" wide, 7n IVMe, PCIe IVMe. PCIe	nm high 3.0 x 4	ctive P	rotection Sy	stem™		System Mgt (opt) Fingerprint reader	Intel vPro Technology r <i>Optional:</i> Touch style fingerprint reader on the palm rest Near Field Communication
Optane™ memory	* Installed N	1.2 228	0 SSD is I	Cle 3x4 but	run at PCIe	3x2 due	to M.2 SSD	adapter li	mitation	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Optical	None		plane m			010 0.0	, , <u>, , , , , , , , , , , , , , , , , </u>			Max battery life	MobileMark® 2014: 12 hr
Ethernet	Non-vPro			nernet Conr			cksonville) Jacksonville	.)		AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W, 65W, or 65W slim USB-C AC adapter
WLAN +				rable by mod		O LIVI (	Jacksonville	·)			Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ (optional)	(NOT av	ailable eless- <i>l</i>	in EMÉ. AC 9260,	۸) Wi-Fi 2x2 8	302.11ac +	Blueto		card			One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
			,	Fi 2x2 802.		etooth	5.0			Mil-Spec test	MIL-STD-810G military testing
	<ul><li>Wireless</li><li>Integrate</li><li>* For non-W</li></ul>	WAN d Mob	upgradal ile Broad	ole Iband 4G L	ΓΕ, Fiboco	m L83( com L8 VWAN ເ	0-EB, M.2 ca 850-GL, M.2 pgradable	ard (EME card	EA only)	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
SIM card Note: The specifica	None	. may r	ot be ave	ilable in all :	ogiono						Lenov









## ThinkPad P1 Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor or Intel Xeon® E Processor	Smart card reader Optional: Smart card reader
	Processor # of # of Base Max Turbo Cache Types Processor Types Graphics	ExpressCard None Media reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Ports Two USB 3.1 Gen 1 (one Always On).
	i5-8400H     4     8     2.5 GHz     4.2 GHz     8MB       i7-8750H     2.2 GHz     4.1 GHz     9MB       i7-8850H     6     12     2.6 GHz     4.3 GHz     9MB       DDR4-2666   Intel UHD Graphics	
	E-2176M 2.7 GHz 4.4 GHz 12MB Intel UHD Graphics P630	
Graphics	Intel UHD Graphics 630 or P630 in processor and NVIDIA® Quadro® P1000 or P2000, 4GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt®:	(optional) USB-C to DP: Lenovo USB-C to DisplayPort Adapter Bundled Accy Optional: ThinkPad Ethernet Extension Cable
	supports external digital monitor via HDMI of Thuriderbolt , supports four independent displays;  Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI)	Camera (optional) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus  • IR camera and HD720p camera, fixed focus
Chipset Memory	Mobile Intel CM246 Chipset 64GB max / 2666MHz DDR4, ECC or non-ECC (ECC function supported only on Xeon processor), dual-channel capable, two DDR4 SO-DIMM sockets	Audio support  HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio,	Keyboard 6-row, spill-resistant, multimedia Fn keys, LED backlight UltraNav™ TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	72% gamut, 170° viewing angle  Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, IPS,  400 nits, 16:9 aspect ratio, 1200:1 contrast ratio, 100% gamut, 170° viewing angle, multi-touch, anti-reflection (AR)	Security Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt) Pen	Capacitive-type multi-touch, supports 10-finger gesture (4K only) Supports pen accessory, please see the accessory compatibility for details	Fingerprint reader Touch style match on chip fingerprint reader on the keyboard bezel  Color calibration None  NFC None
Storage RAID (optional) Optical	Up to 2 drives (two M.2 SSD) M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s RAID 0/1 support None	Battery Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) Max battery life Discrete mode: 7.36 hr; Hybrid mode: 13.87 hr (MobileMark 2014) * Battery life varies significantly with settings, usage, & other factors AC adapter 135W slim tip AC adapter
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> )) via bundled or optional ThinkPad Ethernet Extension Cable	Operating system One of the following, configurable by model:  • Windows® 10 Home 64
WLAN Bluetooth™	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations
WWAN SIM card	None None	Limited warranty One of the following, configurable by model:  • 1-year depot repair service
Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm	<ul> <li>1-year depot with 2-year planar repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
Weight	Non-touch model: starting at 3.76 lb / 1.7 kg; Multi-touch model: starting at 4.06 lb / 1.8 kg	Mil-Spec test MIL-STD-810G military testing
Case color Case material	Black Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy	Environment EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.













## ThinkPad P1 (2nd Gen) Platform Specifications

Processor	9th Ge	eneral	ion In		re™ i5 /			r or In	tel Xe	on® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Proces Number		# of Cores	# of Threads	Bas Frequ	se Ma ency Fre	ax Turbo equency	Cache		mory pes	Proces Graph		Weight	WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.75 lb / 1.7 kg;
	i5-9400	OH	4	8	2.5 0	Hz 4	.3 GHz	8MB					Case color	Multi-touch model: starting at 4.0 lb / 1.81 kg Black paint (FHD model) or black weave (UHD model)
	i7-9750		6	12	2.6 0		.5 GHz	12MB		Ir	itel UHD		Case material	Display cover: CFRP/GFRP hybrid;
	i7-9850		6	12	2.6 0		.6 GHz	12MB	DDR4	1-2666	630	)		Bottom: Aluminum alloy
	i9-9880	OH	8	16	2.3 0	iHz   4	.8 GHz	16MB	┨	-	4-11110	0		er Optional: Smart card reader
	E-2276	6M	6	12	2.8 G	GHz 4	.7 GHz	12MB		ır	ntel UHD ( P63		Media reader Ports	SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3
Graphics	Intel U NVIDI suppo suppo	IHD G A® Qu rts ex rts fou	araphi adro ternal ur ind	® T1000 I digital ependei	or P630 or T20 monito nt displ	) in prod 00, 4GE r via HD ays;	nly or cessor a 3 GDDR 0MI or Th	5 men nunder	rboĺt™;				Monitor cable (optional)	(with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
Chipset	Mobile	Intel	CM2	46 Chip	set				`	,				USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Memory	64GB	max /	2666	6MHz Ďl	DR4, E						ported o	nly on	Bundled Accy	Optional: ThinkPad Ethernet Extension Cable
	Xeon	proce	ssor),	, dual-ch	nannel	capable	, two DE		_				Camera (optional	I) One of the following, configurable by model:
Display	Size F	Resolu	tion		Туре	Surface	Brightr		spect Ratio	Contrast Ratio	Gamut	Viewing Angle	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus     HD Audio, Synaptic® CX11880 codec /
	15.6" F	•		,	IPS A	Anti-glare	300 r	its	16:9	700:1	72% NTSC	170°	, radio sapport	stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack,
	15.6		/ision <sup>™</sup>	™ HĎR	IPS A	Anti-glare	500 r	its	16:9	1200:1	72% NTSC	170°		Dolby Atmos® sound system
	15.6	JHD (3 Dolby \	ision	HDŔ	IPS A	Anti-glare			16:9	1200:1	100% Adobe	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	15.6"	JHD (3 Dolby \ Multi-to	ision		OLED	AR, AS	SDR 40 HDR 50 (pea	00niť	16:9	100000:1	100% DCI-P3	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt) Pen	anti-re	flection	on (AF	R), anti-	smudge	e (AS) c		•	•		D only), r details		Fingerprint reade	orTouch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)  None
Storage	Up to to				piodoc		- 40000	, o. y o.	Jpat				Battery	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
ŭ				PCIe N\	/Me 3.0	) x 4							Max battery life	MobileMark® 2014: 13.8 hr
RAID (optional) Optical	RAID None	0/1 St	ipport	t									AC adapter	* Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native	Intel	Ether	rnet Cor	nection	1219-\	/ ( <i>Non-v</i>	Pro) o	r l219 Cable	-LM ( <i>vF</i>	Pro))			n One of the following, configurable by model:  • Windows® 10 Home 64
WLAN Bluetooth™	Intel W	/i-Fi 6	AX20	00, Wi-F	i 2x2 8	02.11ax	k + Bluet -Fi + Blu	ooth 5	5.0		ter		1	Windows 10 Pro 64     Windows 10 Pro 64 for Workstations
WWAN SIM card	None None	-Jul J	74111		grate	M III VVI	. 1 - Diu		. 001111	σ ασαρ			Limited warranty	One of the following, configurable by model:  1-year depot repair service 1-year depot with 2-year planar repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
													Mil-Spec test	MIL-STD-810G military testing
													Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



# ThinkPad P43s Platform Specifications

Processor	8th G	eneration	Intel® C	ore™	i7 Proce	ssor					Dimensions	WxDxH:	12.95" x 8.94" x 0.	70"; 329mm x 227		
	Proce					Max Turbo C	ache	Memory	Proces		Weight	Models	FHD	FHD Low Power	WQHD	
	Numb		es Threac	_		requericy		Types	Graph			Weight	3.43 lb / 1.55 kg	3.28 lb / 1.49 kg	3.24 lb / 1.47 kg	
	i7-856		8	_	.8 GHz .9 GHz		BMB D	DR4-2400 In	itel UHD ( 620		Case color Case material	Black Display co Bottom:	over: PPS / 50% GF PA / 50% GF	₹;		
	NVID suppo	IA Quadr orts exter orts three	o® P520, nal digita indepen	2GB I moi dent	displays:	and memory; IDMI or USE JSB-C); 384	,,	,	IDMI)		Smart card reade Media reader Ports	er Optional: MicroSD o Two USB one USB	Smart card reader card reader 3.1 Gen 1 (one Alwa 3.1 Type-C Gen 1 (w	ith the function of Po	ower Delivery and DisplayPort he function of PD and DP),	
Memory	48GE 8GB	or 16GB	100MHz [ memory s	DĎŔ solde	4, dual-ch	nannel capal stemboard, it run at 2400/	one DE	DR4 SO-DINe to Intel limite	MM sock ation	et		HDMI 1.4 headphor	b, Ethernet (RJ-45), le / microphone com	nano-SIM card slot (bo jack, optional sm	(WWAN models),	
Display	Size	Resolution	ı	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Monitor cable (optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to HDMI: Lenovo USB-C to HDMI Adapter				
	14.0"	FHD (192	0x1080)	IPS	Anti-glare	250 nits (non-touch) 300 nits (multi-touch)	16:9	700:1	45%	170°	Bundled Accy	USB-C to None		-C to DisplayPort Ad	apter	
	14.0"	FHD (192) Low Powe		IPS	Anti-glare	400 nits	16:9	800:1	72%	170°	Camera (optional	<ul> <li>HD720p</li> </ul>	camera with ThinkS	Shutter camera priva	cy, fixed focus er camera privacy, fixed focus	
	14.0"	FHD (1926 ThinkPad Guard	0x1080) Privacy	IPS	Anti-glare	400 nits	16:9	1000:1	72%	170°	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack				
	14.0	WQHD (2: Dolby Visi	on™ HDR <sup>′</sup>	IP5		500 nits	16:9	1500:1	100% Adobe	170°	 Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpar				
	On-co None		supports	10-f	inger ges	ture (FHD o	nly)				Security Security chip	Power-on	· · ·	password, supervis	or password, security keyhole	
Ü	• M.2	2242 SS	SD / PCle SD / PCle	NVI NVI	Me, PCIe Me, PCIe	3.0 x 2					System Mat (opt)	Intel vPro r Optional:	Technology		ader on the palm rest	
Optical	M.2 None	2280, P	Cle NVM	e 3.0	) x 4	olid State Sto	orage,				Battery Max battery life	MobileMa	<i>rk® 2014:</i> 14.7 hr <sup>1</sup>	y, supports Rapid Ch	earge (charge up to 80% in 1hi	
Ethernet	Non-	vPro mod	<i>lel:</i> Intel E	Ether	net Conn	ection I219-	V (Jack	(sonville)			AC adapter		5W slim USB Type-C		irier lactors	
		model:	Intel E	Ether	net Conn	ection I219-	LM (Ja	cksonvilĺe)					10 Home 64 or Wir	· ·		
WLAN Bluetooth™						2.11ac + Blu Vi-Fi + Bluet			er		Limited warranty	One of the	following, configurable lepot repair service			
(-7/	• Wir	eless WA	N upgrad	able	le by mode							<ul> <li>3-year/1</li> </ul>	<ul> <li>-yr battery depot report -yr battery limited on</li> </ul>	oair service nsite service		
	<ul><li>Inte</li></ul>	grated M	obile Bro	adba adba	and 4G LT	E, Fibocom E-A, Fiboco	L830-E	B, M.2 card	d (EMEA ard	only)	Mil-Spec test		810G military testing			
	* For I	non-WWAI	N model, it	meai	ns the mod	lel is NOT WM LTE (US) SI	/AN upg	ıradable	uiu		Environment	EPEAT™	Silver; ENERGY STA	AR® 7.1; RoHS-comp	bliant	



## ThinkPad P51 Platform Specifications

Processor	6th or 7th G							Dimensions				252.3mm x 24.5-29.4mm 252.3mm x 25.8-30.7mm	
	Processor	# of	# of	Base	Max Turbo	Cache Memory	/ Processor	Weight	Models	4-cell	6-cell		
	Number	Cores	Threads	Frequency	Frequency	Types	<del></del>	1	Non-touch	5.6 lb / 2.55kg	5.9 lb / 2.67kg		
	i7-6820HQ			2.7 GHz	3.6 GHz		Intel HD Graphics 530	Case color	Multi-touch	6.2 lb / 2.82kg	6.4 lb / 2.90kg		
	E3-1505M v5			2.8 GHz	3.7 GHz	8MB DDR4-21	Intel HD Graphics P530	Case material		ass-Fiber Reinforced	Plastic;		
	i7-7700HQ	4	8	2.8 GHz	3.8 GHz	6MB	Intel HD Graphics	Smart card reade	er Optional: Smart	<u> </u>			
	i7-7820HQ	ļ		2.9 GHz	3.9 GHz	DDR4-24	00 630	ExpressCard	One slot (Expres				
	E3-1505M v6 E3-1535M v6	4		3.0 GHz 3.1 GHz	4.0 GHz 4.2 GHz	8MB	Intel HD Graphics P630	Media reader Ports		MC, SD, SDHC, SDX( n 1 (USB 3.0, one Al			
<u> </u>							1 000	1 0110	Mini DisplayPort	1.2a. HDMI 1.4b. Eth	ernet (RJ-45), Dock	connector	
Graphics	Intel HD Gra					essor and					ansfer speed may be lo	wer than theoretical speed	
	supports ext	ernal d ir indep	ligital mo endent o	nitor via HE lisplays;	MI, Mini Ďi	splayPort, or ī a Mini Display	Thunderbolt™;	Camera (optional) HD720p resolution, fixed focus Audio support HD Audio, Realtek® ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack  Keyboard 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LEI				'x2/	
	Max resoluti	38	40x2160 40x2160	@60Hz (Th	iunderbolt);	4096x2160@	24Hz (HDMI)	Keyboard				optional LED backlight	
Chipset	Mobile Intel							UltraNav™		int® pointing device ar ırface multi-touch tou			
Memory						CC function s 4 SO-DIMM s	upported only on	Security			<u> </u>	vord security keyhole	
	* System cloc						ockeis	Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology Fingerprint reader Touch style match on chip fingerprint reader on the palm rest					
Display							ght, IPS, 250 nits,						
						viewing angl	e nt, IPS, 300 nits,	Color calibration	Optional: Panton	ne® color calibrator by	X-Rite® color calibra	tion sensor in palm rest	
							0° viewing angle	NFC	None				
Multi-touch (opt)	Capacitive-ty	ype mu	ılti-touch,	supports 1	0-finger ges	sture, 220 nits	(FHD only)	Battery		4-cell <i>(66Wh)</i> or 6-ce	ll (90Wh)		
Pen (optional)	ThinkPad Pe				touch displa	ay		Max battery life <sup>10</sup> (MobileMark® 2014)	Model	4-cell	6-cell		
Storage	Up to 3 drives				7mm high	Active Protec	tion System™	(WODIIEWAIK 2014)	Discrete drapines	4.5 hr	6.1 hr		
	Some: M.2						dion System		Hybrid Graphics	6.5 hr	8.9 hr	70	
RAID (optional)	RAID 0/1 su	pport		•	•			AC adapter	170W slim tip AC		js, usaye, & olilei laciol	5	
Optical	None	1 - 1 - 1 - 1 - 1	4-1 = 4		1040 V	/	<u> </u>	Operating system	One of the following	g, configurable by model	:		
Ethernet	Non-vPro m vPro model:	<i>odel:</i> Ir Ir	itel Ethei Itel Ethei	net Connec	tion 1219-V	(Jacksonville M (Jacksonvill	)  e)		<ul> <li>Windows® 7 Pro</li> </ul>	ofessional 64		0.4	
WLAN	One of the foli				DIIOII IZ IO Z	ivi (odokoorivii	<u> </u>	-	Windows® 10 H	ough downgrade right	s in Windows 10 Pro	64	
* * L/\  \	<ul> <li>Intel Dual I</li> </ul>	Band W	/ireless-/	AC 8260, W		2.11ac + BT4.1			<ul> <li>Windows 10 Pro</li> </ul>	o 64			
Divists at hTM						2.11ac + BT4.				o 64 for Workstations			
Bluetooth™	* Intel 8260ac	ı wirele :/ <i>8265a</i>	ess, integ ac card su	grated in Wi oport BT4.2 b	-rı + Biueto out is limited t	oth combo ad to BT4.1 by Wind	apter dows OS	Limited warranty		g, configurable by model	:		
WWAN (optional)						.,		1	<ul><li>1-year depot re</li><li>3-year/1-yr batt</li></ul>	pair service ery depot repair serv	ice		
(-)	<ul> <li>Wireless V</li> </ul>	VAN up	gradable	<b>;</b>						tery limited onsite ser			
	Integrated     Ouglcomm					eless EM745	5) M 2 card	Mil-Spec test	MIL-STD-810G n	nilitary testing			
SIM card (opt)							EMEA) SIM card	Environment	EPEAT™ Gold (U	IS only); ENERGY ST	TAR® 6.1; RoHS-com	pliant	
Note: The specification			<u> </u>	`		vo Connect (	LIVILA) SIIVI CATO	Livilolillelit	LI LAI ··· Gold (U	o omy), ENERGT 3	IAIT 0.1, NOTIS-COIII	pliarit	

September 2018



## ThinkPad P52 Platform Specifications

Processor	8th Gener	ation I	ntel® Cor	e™ i7 / i9 Pr	ocessor or	Intel X	eon® E Pro	ocessor	Dimensions	<i>WxDxH:</i> 14.86" x 9.93" x 0.96-1.16"; 377.4mm x 252.3mm x 24.5-29.4mm
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight	WxDxH(Touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm Non-touch model: starting at 5.4 lb / 2.45kg; Multi-touch model: starting at 6.4 lb / 2.9kg
	i7-8750H i7-8850H i9-8950HK	6	12	2.2 GHz 2.6 GHz 2.9 GHz	4.1 GHz 4.3 GHz 4.8 GHz	9MB 9MB 12MB	DDR4-2400		Case color Case material	Black Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
	E-2176M			2.7 GHz	4.4 GHz	12MB		Intel UHD Graphics P630	ExpressCard	r <i>Optional:</i> Smart card reader None
	NVIDIA Q P3200 (60 supports 6 supports f	uadro® GB merexterna our incution:	P1000 (4 mory, VR al digital n dependen 3840X21 5120X28	monitor via it displays; 60@60Hz 80@30Hz	ry), P2000 HDMI, Min (DisplayPo	(4GB   i Displa rt via M	ayPort, or T Iini Display	or hunderbolt <sup>™</sup> ; Port cable); 60Hz (HDMI)	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Three USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Memory	128GB no only on Xe * Installed I	on-ECC eon pro	or 64GE ocessor), are actuall	B ECC max	nel capable out run at 24	e, four D	DDR4 SO-I	ction supported DIMM sockets limitation	Camera (optional) - Audio support	One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  R camera and HD720p camera, fixed focus  HD Audio, Realtek® ALC3286 codec /
Display	30	00 nits,	16:9 asp	HD (1920x1 bect ratio, 7 viewing an	00:1 contra	glare, I ast ratio	_ED backli o,	ght, IPS,	- Addio Support	stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
	Some: 15 40	5.6" (39 00 nits,	96mm) 4k 16:9 asp	Viewing and K (3840x21 pect ratio, 1 of viewing a	60), anti-gl 000:1 cont	rast rat	D backligh	t, IPS,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Pen	Capacitive Supports	e-type i pen ac	multi-toud cessory,	ch, support please see	s 10-finger the acces	gestur			Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
	Some: Some:	HDD / M.2 S	SATA 6.0 SD / PCIe	e NVMe, Po	wide, 7mn Cle 3.0 x 4	, 32Gb	/s	ection System™	Color calibration	Intel vPro Technology Touch style match on chip fingerprint reader on the palm rest None Near Field Communication
Optane™ memory RAID <i>(optional)</i> Optical	RAID 0/1 None	suppor	ptane me rt	emory, PCI	e invivie, P	Cle 3.0	) X 2		Battery Max battery life	Swappable Li-ion 90Wh battery  Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr
Ethernet	Non-vPro vPro mod			nernet Coni nernet Coni					AC adapter	* Battery life varies significantly with settings, usage, & other factors 170W slim tip AC adapter
WLAN Bluetooth™				Vi-Fi 2x2 80 tegrated in					Operating system	One of the following, configurable by model:  Windows® 10 Home 64  Windows 10 Pro 64
WWAN (optional)	Integrated Intel XMM	l Mobile	e Broadb	and 4G LTI m L850-GL	E-A, .). M.2 card	H				Windows 10 Pro 64 for Workstations
SIM card (opt)	Nano-SIM	card s	slot, optio	nal Verizon	LTE (US)	SIM ca	ırd		Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
									Mil-Spec test	MIL-STD-810G military testing
									Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant

Note: The specifications above may not be available in all regions.









## ThinkPad P52s Platform Specifications

Processor	8th Generation	Intel® Cor	e™ i5 / i7 F	rocessor				Dimensions	<i>WxDxH:</i> 14.40" x 9.95" x 0.79-0.80": 365.8mm x 252.8mm x 19.95-20.2mm
	Processor # of	# of	Base Frequency 1.7 GHz 1.8 GHz	Max Turbo Frequency 3.6 GHz 4.0 GHz	6MB	Memory Types	Processor Graphics	Weight Case color Case material	starting at 4.39 lb / 1.99 kg Black Display cover: Glass-Fiber Reinforced Plastic (PPS); Bottom: Glass-Fiber Reinforced Plastic
Graphics	i7-8650U  Intel UHD Graph NVIDIA Quadro supports externs supports three in	P500, 2 al digital i ndepende	GB GDDR: monitor via ent displays	5 memory; HDMI or U s;	8MB JSB Typ	*	620	Smart card reade Media reader Ports	er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45),
Chipset Memory	* System clocks de	em on Ch 00MHz DI own for pro	ip) platform DR4, dual-ocessors with	channel ca lower mem	pable, tv	wo DDR4 S roller	SO-DIMM sockets	Monitor cable	nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Display  Multi-touch (opt)	Some: 15.6" (39	, 16:9 asp 96mm) U pect ratio,	ect ratio, 7 HD (3840x) 1000:1 coi	00:1 contra 2160), anti- ntrast ratio,	ast ratio -glare, L , 72% ga	, 170° view ED backlio	int, IPS, ing angle ght, IPS, 300 nits, viewing angle		USB-C to DP: Lenovo USB-C to DisplayPort Adapter  I) One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera, fixed focus
Pen Storage	System has one H	dDD slot or	one M.2 22	80 slot exclu	sively for		tion System™	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
	Some: SSD / S Some: M.2 SSI Some: 128GB	SATA 6.00 D / PCle   M.2 SSD	ab/s, 2.5" w NVMe, PCI	ride, 7mm l le 3.0 x 2, Me, PCle 3	niğh (e.g 16Gb/s 3.0 x 2,	g. xxxGB S 16Gb/s,	SD) ´	Keyboard UltraNav™ Security Security chip	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad  Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Optane™ memory Optical Ethernet		Optane m	emory, PC	le NVMe, F	Cle 3.0	x 2	WAN	vPro <i>(optional)</i> Fingerprint reade	Intel vPro Technology er <i>Optional</i> : Touch style match on chip fingerprint reader on the palm rest anti-spoofing technology
	vPro model:	Intel Et	nernet Con	nection I21	19-LM (J	lacksonville	<u>′</u>	NFC (optional) Battery	Near Field Communication Optional integrated Li-ion 32Wh battery and
WLAN + Bluetooth™	Intel Dual Band * Intel 8265ac care	d supports	BT4.2 buť is	limited to B	02.11ac <i>T4.1 by V</i>	+ Bluetoo Vindows OS	th 4.1, M.2 card	Max battery life	swappable Li-ion 24Wh, 48Wh, or 72Wh battery    Models
WWAN (optional)	<ul><li>One of the following</li><li>Wireless WAN</li><li>Integrated Mol</li></ul>	upgrada	ble					(MobileMark® 2014)	* Max battery life 12.2 hr 18.5 hr 13.5 hr 20.1 hr 26.3 hr * Battery life varies significantly with settings, usage, & other factors
	Intel XMM™ 72	262 (Fibo	com L830-l	EB), M.2 ca	ard (EM	EA only)		AC adapter	65W USB Type-C AC adapter  n Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	Integrated Mol Intel XMM™ 73     * For non-WWAN Nano-SIM card	360 (Fibo	com L850-0 neans the mo	GL), M.2 ca odel is NOT l	WWAN u			Limited warranty	One of the following, configurable by model:  1-year depot repair service 1-year depot with 2-year planar repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 3-year (including battery) limited onsite service
								Mil-Spec test	MIL-STD-810G military testing
Note: The enecifier	ations above may	not he ava	ilahla in all	regions				Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant  Lenove













# ThinkPad P53 Platform Specifications

Processor	9th Gener	ation I	ntel® Co	re™ i5 / i7 .	i9 Proce	ssor or I	ntel Xe	on® E P	rocessoi	r	Dimensions	
	Processor Number	# of Cores	# of Threads	Base Frequence	Max Tu y Freque		A I	mory pes	Proces Graph			377.4mm x 252.3mm x 24.5-29.4mm WxDxH (multi-touch): 14.86" x 9.93" x 1.02-1.21"; 377.4mm x 252.3mm x 25.8-30.7mm
	i5-9400H i7-9750H	6	8 12	2.5 GHz			_			0	Weight	Non-touch model: starting at 5.51 lb / 2.5 kg;
	i7-9750H	6	12	2.6 GHz			╗	i	tel UHD ( 630		Case color	Multi-touch model: starting at 6.4 lb / 2.9 kg Black
	i9-9880H	8	16	2.3 GHz			IIIIIK4	1-2666			Case material	Display cover: Glass-Fiber Reinforced Plastic;
	E-2276M	6	12	2.8 GHz	4.7 GH	z 12ME	3	In	tel UHD ( P63			Bottom: Magnesium/Aluminum r Optional: Smart card reader
Graphics	Intel UHD Graphics 630 or P630 in processor and NVIDIA® Quadro® T1000 (4GB GDDR5), T2000 (4GB GDDR5), RTX 3000 (6GB GDDR6, VR ready), RTX 4000 (8GB GDDR6, VR ready), or RTX 5000 (16GB GDDR6, VR ready); supports external digital monitor via HDMI, Mini DisplayPort, or Thunderbolt™; supports five independent displays; Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (USB-C or HDMI)										ExpressCard Media reader Ports	ixpressCard fledia reader orts  None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPo two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
Chipset Memory	Mobile Intel CM246 Chipset 128GB max / 2666MHz DDR4 (ECC function supported only on Xeon processor), dual-channel capable, four DDR4 SO-DIMM sockets								on proce	essor),	Monitor cable	4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals * USB-C Dock is not supported in right-side USB-C port * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Display	Size Reso	lution		Type Su	face Br	ghtness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	15.6" FHD	(1920x	1080)	IPS Ant	-glare 3	00 nits	16:9	700:1	72%	160°	Bundled Accy	None
		(1920x		IPS Ant	-glare 5	00 nits	16:9	1200:1	72%	160°	Camera (optional)	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" UHD Dolby	(3840x Vision	2160) HDR	IPS Ant		00 nits	16:9	1200:1	100%	170°	Audio support	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus     HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 /
	15.6" Dolby	(3840x Vision touch	2160) HDR,	OLED AF	, AS HD	R 400nit, R 500nit peak)	16:9	100000:1	100% DCI-P3	170°		dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
Multi-touch (opt) Pen	Capacitive anti-reflec Supports	tion (A	R), anti-	smudge (	AS) coatir	ig	`	,	-		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Storage  Optane™ memory RAID (optional)	Up to 3 driv • HDD / S • M.2 228 / Optional: RAID 0/1/	<i>es</i> SATA 6. SO SSD Intel C	0Gb/s, 2 / PCle i	.' 2.5" wide, NVMe, PC	7mm high le 3.0 x 4	, Active	Protect					Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology r Touch style match on chip fingerprint reader on the palm rest Optional: X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
Optical Ethernet	None Non-vPro vPro mod		: Intel Et Intel Et	hernet Co	nnection nnection	219-V ( 219-LM	Jackso (Jacks	nville)			Battery Max battery life	Integrated Li-ion 90Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 8 hr; Hybrid mode: 13 hr  * Battery life varies significantly with settings, usage, & other factors
	Intel Wi-Fi										AC adapter	170W or 230W slim tip AC adapter
	(opt) Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter onal) One of the following, configurable by model:  • Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card											<ul> <li>One of the following, configurable by model:</li> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>
SIM card (opt)	* For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card										Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
											Mil-Spec test	MIL-STD-810G military testing
											Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



## ThinkPad P53s Platform Specifications

Processor 8th Generation Intel® Core™ i7 Processor												Dimensions	<i>WxDxH</i> : 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
	Proce	er C	of ores 7	# of Threads	Fre	quency F	requency	Cache	Memory Types	Proce Grap	hics	Weight Case color Case material	starting at 3.87 lb / 1.75 kg Black Display cover: PPS / 50% GF;
	i7-856		4	8	_			8MB 8MB	DDR4-2400	Intel UHD 62		S	Bottom: PA / 50% GF rOptional: Smart card reader
Graphics	Intel UHD Graphics 620 in processor and NVIDIA Quadro® P520, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 3840x2160@60Hz (USB-C); 3840x2160@30Hz (HDMI)											Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),
Chipset Memory	Intel SoC (System on Chip) platform 48GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socket * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation										ĸet	Monitor cable	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA. Lenovo HDMI to VGA Monitor Adapter USB-C to VGA. Lenovo USB-C to VGA Adapter
Display	Size	Resoluti	on	1	Туре	Surface	Brightness	Aspec Ratio	t Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None
	15.6"	FHD (19	20x10	080)	IPS	Anti-glare	250 nits	16:9	700:1	45%	170°	Camera (optional)	One of the following, configurable by model:
	15.6"	UHD (38 Dolby V	340x2⁻ sion™	160) ' HDR	IPS	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°	Audio support	<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec /</li> </ul>
Multi-touch (opt) Pen	On-ce None		ı, sup	ports '	10-fir	nger gest	ure (FHD c	nly)					stereo speakers, 2W x 2, Dolby <sup>®</sup> Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack
	• M.2		SSD/	PCIe I	NVM	le, PCIe 3						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Optical	• Inte	Optan 2280,	е™ М	1emory	/ H10		id State St	orage,				Security Security chip System Mgt (opt)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Ethernet							ection I219-					NFČ (optional)	r Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication
WLAN Bluetooth™	vPro model: Intel Ethernet Connection I219-LM (Jacksonville) Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter											Battery Max battery life AC adapter	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 15 hr (FHD model) / 10 hr (UHD model) * Battery life varies significantly with settings, usage, & other factors 65W USB Type-C AC adapter
WWAN (optional)		tne tolle eless W				by model	:						Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> <li>* For non-WWAN model, it means the model is NOT WWAN upgradable</li> </ul>									rd (EME <i>l</i> card	A only)	I	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
												Mil-Spec test	MIL-STD-810G military testing
Note: The enecifies												Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

Note: The specifications above may not be available in all regions.











## ThinkPad P72 Platform Specifications

Processor	8th Generation	Intel® Cor	e™ i7 Proces	ssor or Int	el Xeor	® E Proces	ssor	Dimensions	<i>WxDxH</i> : 16.38" x 11.06" x 0.96-1.16"; 416mm x 281mm x 24.5-29.4mm		
	Processor # of Number Cores i7-8750H i7-8850H	# of Threads		Max Turbo Frequency 4.1 GHz 4.3 GHz	Cache 9MB 9MB	Memory Types	Processor Graphics Intel UHD Graphics 630	Weight Case color Case material	Starting at 7.5 lb / 3.4kg Black Display cover: GFRP + PPS; Bottom: Magnesium/Aluminum		
	E-2176M E-2186M	12	2.6 GHz 2.7 GHz 2.9 GHz	4.4 GHz 4.8 GHz	12MB 12MB	DDR4-2400	Intel UHD Graphics P630	ExpressCard Media reader Ports	r Optional: Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card		
Graphics	Intel UHD Grap NVIDIA Quadro P3200 (6GB me supports extern supports four in Max resolution:	P600 (4)	GB memory 4200 (8GB i monitor via I nt displays; 60@60Hz ( 80@30Hz (	y), P2000 memory), HDMI, Mir (DisplayPo	(4GB m or P520 ni Displa ort via N	00 (16GB r ayPort, or T Mini Display	hunderbolt™;		Four USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole *Power Delivery only supports power-out for charging peripherals *Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable		
Chipset Memory	only on Xeon pr * Installed DIMMs	C or 64ĠE ocessor), are actuall	B ECC max dual-chann <i>y 2666MHz b</i>	nel capable out run at 2	e, four [ 400MHz	DDR4 SO-I due to Intel	limitation	Audio support	IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone		
Display	16:9 asp Some: 17.3" (4	pect ratio, 39mm) 4k	800:1 contr	rast ratio, 30), anti-q	72% ga lare. LE	mut, 170° i D backligh	ght, IPS, 300 nits, viewing angle t, IPS, 400 nits,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad		
Multi-touch Pen Storage	None Supports pen a  Up to 3 drives (tw. Some: HDD / Some: M.2 S	ewing angl ccessory, o M.2 SSD SATA 6.0	e please see and one HDD Gb/s, 2.5" v	the acces	ssory co	ompatibility Active Prote	for details	Fingerprint reader Color calibration	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Touch style match on chip fingerprint reader on the palm rest None Near Field Communication		
Optane™ memor RAID <i>(optional)</i> Optical		Optane me						Battery Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Max battery life   * Battery life varies significantly with settings, usage, & other factors			
Ethernet	Non-vPro mode vPro model:		nernet Conr nernet Conr					AC adapter Operating system	230W slim tip AC adapter  One of the following, configurable by model:		
WLAN Bluetooth™	Intel Wireless-A Bluetooth 5.0 w	C 9560, V	Vi-Fi 2x2 80	2.11ac + I	Bluetoo	th 5.0, M.2	card		<ul> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>		
WWAN SIM card									One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service		
								Mil-Spec test	MIL-STD-810G military testing		
								Environment	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant		











## ThinkPad P73 Platform Specifications

Processor	9th Generation	on Intel® C	ore™ i5 / i7	/ i9 Proc	essor or	Intel Xed	on® E P	rocessor		Dimensions	WxDxH: 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm
		of # of			urbo Cach	ne Men		Proces		Weight Case color	Starting at 7.5 lb (3.4kg) Black
		res Threa		<del></del>	ency	Typ	oes	Graph	ics	Case material	Display cover: GFRP + PPS;
		4 8 6 12	2.5 GH 2.6 GH			_		ntel UHD Graphics		Bottom: Magnesium/Aluminum	
		6 12	2.6 GF			ID	i	ntei UHD 6 630		Smart card reade	or Optional: Smart card reader
		8 16	2.3 GH			—II JI JIK4	-2666	000	<b>,</b>	ExpressCard	None
		6 12	2.8 GH			_	Ir	ntel UHD 0 P630		Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Three USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	Intel UHD Gr NVIDIA Quad RTX 3000 (6 or RTX 5000 supports exte supports five Max resolution	Iro® P620 GB GDDF Max-Q (1 ernal digita independ	(4GB GDI 36, VR read 6GB GDD al monitor ent display	DR5), T20 dy), RTX / R6, VR re via HDMI vs;	00 (4GB 4000 Max ady); or Thund	x-Q (8GI lerbolt™;	Ė GDD		eady),	Monitor cable (optional)	two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 2.0, Ethernet (RJ-45), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole  * Power Delivery only supports power-out for charging peripherals  * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter
Chipset	Mobile Intel 0 128GB max	CM246 Ch	ipset	CC functi	on ounne	rtod onl	ly on V	oon proof	20001)	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None
Memory	dual-channel	capable,	four DDR4	SO-DIMI	VI sockets	S	-		25501 <i>)</i> ,		() One of the following, configurable by model:
	* Installed DIM	Ms are actu	ıally 2666M	Hz but run	at 2400MF	Hz due to	Intel lim	nitation		Joannera (optional	HD720p camera with ThinkShutter camera privacy, fixed focus
Display	Size Resolution		71		rightness	Aspect Ratio	Contrast Ratio	Gamut	Viewing Angle	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 /
	17.3" FHD (19			i-glare 3	300 nits	16:9	700:1	72%	160°		dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
	17.3" UHD (38 Dolby Vi	40x2160) sion™ HDR	IPS An	i-glare 4	100 nits	16:9	1000:1	100%	170°	Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight
Multi-touch Pen	None None										3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Storage Ontane™ memory	Up to 3 drives  • HDD / SATA  • M.2 2280 S	À 6.0Gb/s SSD / PCIe	, 2.5" wide e NVMe, P	, 7mm hig Cle 3.0 x	4		ion Sys	tem™		Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest
Optane™ memory RAID <i>(optional)</i> Optical	y <i>Optional:</i> Int RAID 0/1 sup None		memory,	PCIE INVI	ile, PCIe	3.0 X 2				Color calibration NFC (optional)	Optional: X-Rite Pantone factory color calibration (UHD model only)  Near Field Communication
Ethernet	Non-vPro mo vPro model:		Ethernet C Ethernet C							Battery Max battery life	Integrated Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 17.2 hr * Battery life varies significantly with settings, usage, & other factors
WLAN Bluetooth™	Intel Wi-Fi 6 / Bluetooth 5.0						oo adap	oter		AC adapter	170W or 230W slim tip AC adapter
WWAN SIM card	None None	,	<u> </u>							Operating system	<ul> <li>One of the following, configurable by model:</li> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> <li>Windows 10 Pro 64 for Workstations</li> </ul>
										Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant









## ThinkPad T470 Platform Specifications

Processor	6th General	tion In	tel® Core	-™ i5 / i7 F	rocessor or				WWAN (optional)	One of the following, configurable by model (WWAN can coexist with WiGig):			
	Processor	# of	# of	Base Frequency 2.3 GHz	May Turbo	Cache 3MB	Memory Types	Processor Graphics	(00000000000000000000000000000000000000	<ul> <li>Wireless WAN upgradable</li> <li>Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card</li> <li>Integrated Mobile Broadband 4G LTE,</li> </ul>			
	i5-6300U i7-6500U i7-6600U	2	4	2.4 GHz 2.5 GHz 2.6 GHz	3.0 GHz 3.1 GHz 3.4 GHz	3MB 4MB	DDR4-2133	Intel HD Graphics 520	SIM card (opt)	Intel XMM™ 7160 (Fibocom L831-EAÚ), M.2 card (EMEA only) Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card			
	7th General	tion In	tel Core			4IVID			Dimensions Weight	WxDxH: 13.25" x 9.15" x 0.79"; 336.6mm x 232.5mm x 19.95mm  Models 3-cell or 3 + 3-cell 6-cell or 3 + 6-cell			
		# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		Magnesium         3.49 lb / 1.58 kg         3.92 lb / 1.78 kg           PPS         3.63 lb / 1.65 kg         4.35 lb / 1.85 kg			
	i3-7100U i5-7200U i5-7300U	2	4	2.4 GHz 2.5 GHz 2.6 GHz	3.1 GHz 3.5 GHz	3MB 3MB	DDR4-2133	Intel HD Graphics 620	Case color Case material	Black Display cover: Magnesium Hybrid or PPS; Bottom: Glass-Fiber Reinforced Plastic			
	i7-7500U i7-7600U			2.7 GHz 2.8 GHz	3.5 GHz 3.9 GHz	4MB 4MB		020	Media reader	er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I			
	* i7-6500U is								Ports	Three USB 3.1 Gen 1 (USB 3.0, one Always On), USB 3.1 Type-C Gen 2 / Thunderbolt 3 (w/ the function of Power Delivery and DP),			
Graphics	Intel HD Gra	aphics Iz GDI cternal	620 in p DR5 mei digital n	processor mory (disc nonitor via	rete models HDMI or US	GeFord are NO	T available	Κ, e in EMEA);	WiGig dock (opt) Monitor cable	HDMI 1.4b, Ethernet (RJ-45), Dock connector  * Depending on many factors, actual data transfer speed may be lower than theoretical sp  Gig dock (opt) ThinkPad WiGig dock  Optional: Lenovo USB-C to VGA Adapter			
	Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)							24Hz (HDMI)	Camera (optional	I) 720p: HD720p resolution, fixed focus IR & 720p: IR camera and HD720p camera (mutually exclusive with WiGig)			
Chipset Memory	Intel SoC (S 32GB max / * System close	/ 2400	MHz DD	Ŕ4, dual-d	i channel capa n lower memor	able, tw	o DDR4 S	O-DIMM sockets		HD Audio, Realtek ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack			
Display	Some: 14.0	0" (355	5mm) HI	D (1366x76	68), anti-glar	re, LED			- Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	Some: 14.0 220 Some: 14.0 250	0" (355) ) nits, 7 0" (355) ) nits, 7	5mm) Fh 16:9 asp 5mm) Fh 16:9 asp	HD (1920x) ect ratio, 4 HD (1920x) ect ratio, 7	1080), anti-g 00:1 or 500: 1080), anti-g 00:1 contras	glare, LE :1 contra glare, LE st ratio,	ast ratio ED backlig 170° view	ht, IPS, ing angle		Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology or Optional: Touch style match on chip fingerprint reader on the keyboard bezel			
Multi-touch (opt)					sture (FHD 30 slot exclusi			PS cover only)	NFC (optional) Internal battery	Near Field Communication  Optional: Integrated Li-Polymer 3-cell (24Wh)			
Storage	Some: HD	D/SA	TA 6.0G	ib/s, 2.5" w	ide, 7mm hi	igh, Acti	ive Protect	tion System™	External battery	Li-Polymer 3-cell (24Wh) or Li-ion 6-cell (48Wh or 72Wh)			
	Some: M.2	2 SSD	/ PCIe N	NVMe, PCI	ide, 7mm hi e 3.0 x 2, 16	6Gb/s		,	Max battery life (MobileMark® 2014	Models   3-cell   3 + 3-cell   6-cell 48Wh   6-cell 72Wh   3 + 6-cell 48Wh   3 + 6-cell 72Wh   11.0   11.			
					Gb/s, in WW AN and WiG		t as 2nd S	torage,		<i>Discrete</i> 6.9 hr 13.9 hr 14.3 hr 21.6 hr 21.2 hr 28.6 hr			
Optical	None								AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W slim tip AC adapter, 45W or 65W USB Type-C AC adapter			
Ethernet	Non-vPro n vPro model				nection I219 nection I219			e)	Operating system	One of the following, configurable by model:  Windows® 7 Professional 64 preinstalled			
WLAN	<ul> <li>One of the following, configurable by model (WiGig can coexist with WWAN):</li> <li>Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card</li> <li>Intel Dual Band Wireless-AC 8260, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card</li> <li>Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + BT4.1, M.2 card</li> </ul>									through downgrade rights in Windows 10 Pro 64  • Windows 10 Home 64  • Windows 10 Pro 64			
	<ul> <li>Intel Tri-Ba</li> </ul>							, M.2 card 302.11ac + BT4.1,	Limited warranty	One of the following, configurable by model:  • 1-vear depot repair service			
Bluetooth™					Wi-Fi + Blue					3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service			
							,		Mil-Spec test	MIL-STD-810G military testing			
									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			
Note: The specific	ations above r	may no	ot be ava	ilable in all	regions.					Lenovo			



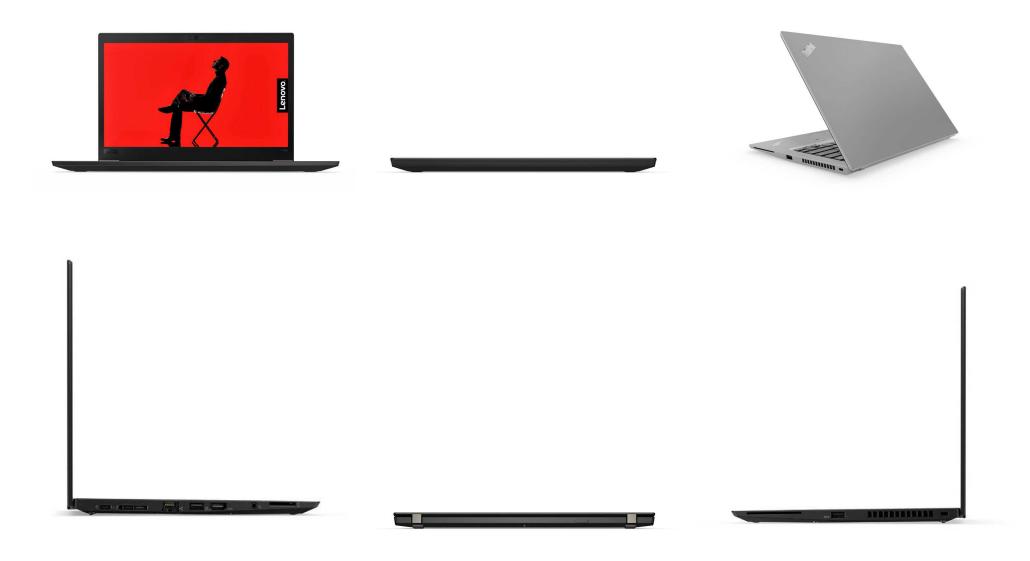
## ThinkPad T470s Platform Specifications

Processor	6th Generation Intel®	® Core™ i5 / i7	Processor		Dimensions	WxDxH: 13.03" x 8.93" x 0.67-0.74"; 331mm x 226.8mm x 16.9-18.8mm				
	Number Cores Threads Frequency Frequency Types Graphics  i5-6200U  i5-6200U  i5-6300U  2.3 GHz  2.8 GHz  3MB  DDR4-2133  Intel HD Graphics  Case color Case material  Display cover Bottom:						Starting at 2.9 lb / 1.32 kg Black or Silver Display cover: CFRP Hybrid; Bottom: Magnesium			
	i7-6600U	2.6 GHz	3.4 GHz 4MB	JDD114-2100	520	Media reader	er <i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)			
	or 7th Generation Int	1		M	Duranan	Ports	Three USB 3.1 Gen 1 (USB 3.0, one Always On), USB 3.1 Type-C Gen 2 / Thunderbolt 3 (w/ the function of Power Delivery and DP),			
	Number Cores Thr	<del></del>	<del> </del>	Memory Types	Processor Graphics		HDMI 1.4b, Ethernet (RJ-45), Dock connector  * Depending on many factors, actual data transfer speed may be lower than theoretical speed			
	i5-7200U i5-7300U i7-7500U i7-7600U	2.5 GHz 2.6 GHz 2.7 GHz 2.8 GHz	3.5 GHz 3MB 3.5 GHz 4MB	DDR4-2133	Intel HD Graphics 620	Monitor cable (optional)	ThinkPad WiGig dock, mutually exclusive with WWAN  HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter			
Out of his						Camera (optional	I)HD720p resolution, fixed focus     (models without camera are NOT available in EMEA)			
Graphics	Intel HD Graphics 52 supports external dig supports three indep	gital monitor vi pendent displa	a HDMI or USB Typ vs:	•		Audio support  HD Audio, Realtek® ALC3268 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack				
Chipset	Max resolution: 409			96x2160@	24Hz (HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
Memory	20GB or 24GB max <sup>7</sup> 4GB or 8GB memory * System clocks down f	<sup>7</sup> / 2400MHz D y soldered to s	DR4, dual-channel systemboard, one D	DR4 SÓ-DI	IMM socket	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology			
Display		:9 aspect ratio,	700:1 contrast ratio	o, 160° view	ing angle	Fingerprint reade NFC (optional)	er <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest Near Field Communication			
Multi-touch (opt)	Some: 14.0" (355mi 300 nits, 16:9 On-cell touch, suppo	9 aspect ratio,	700:1 contrast ratio	o, 160° view	klight, IPS, ring angle	Internal battery Max battery life Front Li-Polymer 3-cell (23Wh) and rear Li-ion 3-cell (26Wh), both Integrated MobileMark® 2014: up to 10.5 hr * Battery life varies significantly with settings, usage, & other factors				
Storage	One of the following, co			•		AC adapter	45W slim tip AC adapter, 45W or 65W USB Type-C AC adapter			
	<ul> <li>M.2 SSD / SATA 6.</li> <li>M.2 SSD / PCIe N</li> </ul>	.0Gb/s (e.g. xx VMe, PCle 3.0	x 4, 32Gb/s (e.g. x	xxGB SSD	M.2 PCIe NVMe)	Operating system	n One of the following, configurable by model:  • Windows® 7 Professional 64 preinstalled			
Optical	None Non-vPro model: Inte	al Etharnat Ca	nnaction 1010 V / Is	ا مالنه معربانام		_	through downgrade rights in Windows 10 Pro 64  • Windows 10 Home 64			
Ethernet			nnection I219-V (38)		e)		Windows 10 Pro 64			
	One of the following, co Intel Dual Band Will Intel Dual Band Will Intel Tri-Band Wirel	ireless-AC 826 ireless-AC 826	0, Wi-Fi 2x2 802.11 5, Wi-Fi 2x2 802.11	ac + BT4.1, ac + BT4.1,	M.2 card M.2 card	Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service			
Bluetooth™	M.2 card						MIL-STD-810G military testing			
	* Intel 8265ac / 18265a	ac card support l	BT4.2 but is limited to E	BT4.1 by Wind	dows OS	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant			
(	One of the following, co • Wireless WAN upg • Integrated Mobile E Qualcomm® Snapo • Micro-SIM card slo	gradable Broadband 4G dragon™ X7 L	LTE-A, ΓΕ-Α (Sierra Wirele	ss EM7455)	), M.2 card					
SIM card (opt)	- IVIICIO-CIIVI CAIU SIO	or, opt venzon	LIL (OO) OI LEHOV	, Johnsell	(LIVILA) Olivi calu		Lenovo			



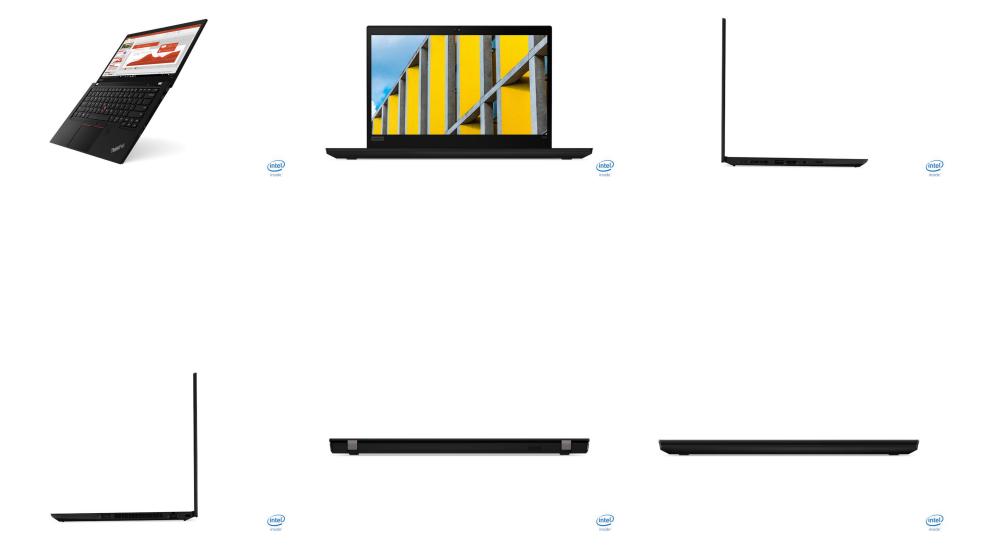
#### ThinkPad T480 Platform Specifications

Processor	7th Gene	ration I	ntel® Cor	e™ i5 Proc	essor				Dimensions	WxDxH:	13.25" x 9	).15" x 0.79'	"; 336.6m	m x 232.5r	mm x 19.95mr	n
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	Weight	Models			4Wh + 24Wh		2Wh, or 24Wh +	
	Number	Cores	Threads	<del></del>	Frequency		Types	Graphics		Integrated N		1	/ 1.58 kg		3.92 lb / 1.78	
	i5-7200U	2	4	2.5 GHz	3.1 GHz	змв	DDR4-2133	Intel HD Graphics		Integrated F			/ 1.65 kg		4.08 lb / 1.85	
	i5-7300U		·	2.6 GHz	3.5 GHz	змв	222.00	620		Discrete Ma			/ 1.60 kg		3.97 lb / 1.80	
	or 8th Ge	neratio	n Intel Co	ore i3 / i5 /	i7 Process	or			]	Discrete PP	S	3.68 lb	/ 1.67 kg		4.12 lb / 1.87	kg
	Processor Number i3-8130U	# of Cores	# of Threads	Base Frequency 2.2 GHz	Max Turbo Frequency 3.4 GHz	Cache 4MB	Memory Types	Processor Graphics	Case color Case material	Black Display con Bottom:		esium Hybri -Fiber Reinf		ic		
	i5-8250U i5-8250U i5-8350U i7-8550U	4	8	1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz 3.6 GHz 4.0 GHz 4.2 GHz	6MB 6MB 8MB 8MB	DDR4-2400	Intel UHD Graphics 620	Smart card reade Media reader Ports	4-in-1 read Two USB 3 one USB 3	er (MMC, 8 8.1 Gen 1 ( 8.1 Type-C (	SD, SDHC, one Always Gen 1 (with	On), the functio	n of Power	Delivery and unction of PD a	DisplayPort),
Graphics	Intel HD ( NVIDIA® ( discrete supports supports	Graphic GeFord graphic externa three ir	es 620 or ee® MX15 es is avai al digital r ndepende	Intel UHD 60, 2GB GD lable only o monitor via ent displays	Graphics 6 DR5 mem <i>n i7 model</i> HDMI or U ;	20 in p ory <i>s in EN</i> ISB Typ	e-Ć;		Monitor cable (optional)	HDMI 1.4b headphone 4-in-1 med side dockin * Depending HDMI to Vo	, Ethernet ( e / micropho ia reader (la ng connecto on many fac GA: Lenov	(RJ-45), nai one combo MMC, SD, S or, security	no-SIM car jack, optior SDHC, SDX keyhole data transfer VGA Monit	d slot (WW nal smart o C), speed may or Adapter	/AN models), card reader, be lower than th	
Chipset Memory	Intel SoC 32GB ma	(Syste x / 240	m on Chi 0MHz DI	p) platform	hannel ca	oable, t	wo DDR4 S	O-DIMM sockets	Camera <i>(optional,</i> - Audio support	• HD720p	camera wit a and HD7	h ThinkShu 20p camera	tter camera a, fixed focu		xed focus	
Display		220 nì	ts, 16:9 a	spect ratio	, 400:1 cor	itrast ra		•	Addio Support	stereo spea	akers, 2W	x 2, Dolby® e, headphor	Audio™ Pre		oo iack	
		250 ni	ts, 16:9 a	spect ratio	, 700:1 cor	ntrast ra	, LED backli itio, 170° vie re, LED bac	wing angle	Keyboard UltraNav™	6-row, spill-	resistant, ı	multimedia	Fn keys, or	tional LEC		touchpad
Multi-touch (opt)		170° vi	ewing an				io, 72% gar	nut,	Security Security chip vPro (optional)		PM 2.0, TC	G Certified	assword, su	pervisor p	assword, secu	rity keyhole
Storage	System ha	s one H	DD slot or	one M.2 228 3b/s, 2.5" w	30 slot exclusion	sively for		ion System™	Fingerprint reader	r Optional: 🛚	Touch style anti-spoofir	match on o		rint reader	on the keyboa	ard bezel,
	Some: N Some: 1	1.2 SSE 28GB 1	D / PCIe I M.2 SSD	NVMe, PCI / PCIe NVI	e 3.0 x 4 Me, PCIe 3	3.0 x 2,	-	,	Battery	Optional in	tegrated Li	-ion 24Wh k 48Wh, or 7		У		
Optane™ memory	* Installed Intel Opta	M.2 SSL	D is PCIe :	3.0 x 4 but ru	n at PCIe 3.	0 x 2 du	sive with WV e to M.2 SSD	VAN adapter limitation	Max battery life (MobileMark® 2014)	Models Integrated n		th 48Wh nr 14.4 hr nr 13.2 hr	21.8 hr	Wh + 24Wh 14.4 hr 13.6 hr	24Wh + 48Wh 21.8 hr 19.8 hr	24Wh + 72Wh 29.0 hr 26.4 hr
Optical Ethernet	None  Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)								AC adapter	* Battery life	varies signi	ificantly with soe-C AC ada	settings, usa			20.4 111
WLAN +	Intel Dual Band Wireless-AC 8265. Wi-Fi 2x2 802.11ac + Bluetooth 4.1. M.2								Operating system	Optional: \	Windows® -	10 Home 64	or Windov	s 10 Pro 6	64	
Bluetooth™	The Dual Band Wifeless-AC 6205, WI-F1 2X2 602.11ac + Bluetooth 4.1, W.2 t * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS								Limited warranty			nfigurable by i				
WWAN (optional)	One of the • Wireless • Integrate	followin s WAN ed Mob	g, configu upgrada oile Broad	rable by mod	lel (mutually TE,	exclusiv	e with Intel O	ptane memory):		<ul><li>1-year de</li><li>1-year de</li><li>3-year/1-</li></ul>	epot repair epot with 2- yr battery o		r repair serv	rice		
	<ul> <li>Integrate</li> </ul>	ed Mob	oile Broad	dband 4G L	TÉ-A,	•	• • • • • • • • • • • • • • • • • • • •		Mil-Spec test	MIL-STD-8	10G milita	ry testing				
SIM card (opt)	* For non-V	VWAN r	nodèl, it m	com L850-0 leans the mo lonal Verizor	del is NOT l	NWAN ι			Environment	EPEAT™ G	old (US or	nly); ENERG	GY STAR® 6	i.1; RoHS-	compliant	



#### ThinkPad T480s Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Dimensions	WxDxH: 13.03" x 8.93" x 0.73"; 331mm x 226.8mm x 18.45mm
	Processor # of # of Base Max Turbo Cache Memory Processor Number Cores Threads Frequency Frequency Types Graphics	Weight Case color	Starting at 2.9 lb / 1.32 kg Black or Silver
	i5-7200U   2   4   2.5 GHz   3.1 GHz   3MB   DDR4-2133   Intel HD Graphics   620   620	Case material	Display cover: CFRP Hybrid; Bottom: Magnesium
	or 8th Generation Intel Core i5 / i7 Processor	Smart card readei Media reader	r <i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)
	Processor Number         # of Cores         # of Threads         Base Frequency         Max Turbo Frequency         Cache         Memory Types         Processor Graphics	Ports	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	1.6 GHz   3.4 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.8 GHz   4.0 GHz   8MB   1.9 GHz   4.2 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz		one USB 3.1 Type-C Gen 2. Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor only or Intel UHD Graphics 620 in processor and NVIDIA® GeForce® MX150, 2GB GDDR5 memory (discrete models are NOT available in EMEA);	Monitor cable (optional)	* Depending on many factors, actual data transfer speed may be lower than theoretical speed USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	supports external digitàl monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Camera Audio support	One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus  • IR camera and HD720p camera, fixed focus
Chipset Memory	Intel SoC (System on Chip) platform 20GB or 24GB max / 2400MHz DDR4, dual-channel capable, 4GB or 8GB memory soldered to systemboard, one DDR4 SO-DIMM socket		HD Audio, Realtek® ALC3287 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Display	* System clocks down for processors with lower memory controller  Some: 14.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, IPS,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
, ,	250 nits, 16:9 aspect ratio, 700:1 contrast ratio, 170° viewing angle, supports ThinkPad Privacy Guard on some models  Some: 14.0" (355mm) WQHD (2560x1440), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle	Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology
Multi-touch (opt)	On-cell touch, supports 10-finger gesture, 250 nits (FHD only)		Near Field Communication
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s	Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (0-80% in 60 mins) with 65W USB Type-C AC adapter
Optical	M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s None	Max battery life	MobileMark® 2014: 15.6 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)	AC adapter	45W or 65W USB Type-C AC adapter
\A/I ANI	vPro model: Intel Ethernet Connection I219-LM (Jacksonville)		
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS	Limited warranty	One of the following, configurable by model:  1-year depot repair service
WWAN (optional)	One of the following, configurable by model:  • Wireless WAN upgradable  • Integrated Mobile Broadband 4G LTE,		<ul> <li>1-year depot with 2-year planar repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
	Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)	Mil-Spec test	MIL-STD-810G military testing
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card</li> <li>Nano-SIM card slot, optional Verizon LTE (US) SIM card</li> </ul>	Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant
	ations above may not be available in all regions		Langua



#### ThinkPad T490 Platform Specifications

Process Numbe i5-1021 i7-1051  Graphics Intel UI Intel UI NVIDIA suppor suppor Max re  Chipset Intel So Memory 48GB r 8GB or * Installa  Display Size R 14.0" H 14.0" F 14.0" F 14.0" T G 14.0" M  Multi-touch (opt) On-cel Storage • M.2.2 • M.2.2 • M.2.2 • Intel M.2.2 Optical None  Ethernet Non-viv	nber 265U 365U 365U 365U 365U 365U 365U 365U 3	4 Graphic Graphic Forces  4 Graphic Forces Graphic Forces Graphic Forces Graphic Forces Graphic Graphi	8 In Intel Co	requency 1.6 GHz 1.6 GHz 1.8 GHz 1.9 GHz re i5 / i7 F Base requency 1.6 GHz 1.8 GHz 1.9 GHz re i5 / i7 F Base requency 1.6 GHz 1.8 GHz 1.8 GHz Intel UHD 2 GB GD ponitor via I t displays; 2 60Hz ( platform 4 dual-cl ered to sy 2666MHz bu e Surface	3.9 GHz 6.4.1 GHz 6.4.8 GHz 8.7 GHz 6.7 GHz 6.	ache sache procesy; inderb	Memory Types DDR4-2400 essor only of essor and oolt; d6x2160@2	Proce Grap Intel UHD or	Graphics  Ssor  hics  Graphics	Media reader Ports  Monitor cable (optional)  Bundled Accy	Bottom:  or Optional:  MicroSD Two USB one USB HDMI 1.4 headphor microSD * Dependii HDMI to USB-C to USB-C to	HD FHD FHD Low Power / WQHD Privacy Guard 3.37 lb / 1.53 kg 3.41 lb / 1.55 kg 3.23 lb / 1.46 kg 3.56 lb / 1.61 kg cover: PPS / 50% GF; PA / 50% GF  I: Smart card reader card reader 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), 4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), one / microphone combo jack, optional smart card reader, of card reader, side docking connector, security keyhole ling on many factors, actual data transfer speed may be lower than theoretical spee b VGA: Lenovo HDMI to VGA Monitor Adapter to VGA: Lenovo USB-C to VGA Adapter to DP: Lenovo USB-C to DisplayPort Adapter				
i5-8265   i5-8365   i7-8565   i7-8565   i7-8565   i7-8665   or 10th   Process   Number   i5-1021   i7-1051     i	265U 365U 365U 565U 565U 665U 0th Geressor ober 0210U 0510U UHD ( 010HB ( 020orts the resolution of th	4 Graphic Graphic Forces  4 Graphic Forces Graphic Forces Graphic Forces Graphic Forces Graphic Graphi	8 In Intel Co	1.6 GHz 1.6 GHz 1.6 GHz 1.8 GHz 1.9 GHz re i5 / i7 F Base frequency 1.6 GHz 1.8 GHz 1.	3.9 GHz 6.4.1 GHz 6.4.8 GHz 8.7 GHz 6.7 GHz 6.	omb omb omb omb omb omb omb omb omb omb	vailable in E Memory Types DDR4-2400 essor only of the control of	Intel UHD 62 EMEA) Proce Grap Intel UHD or	Graphics 0 ssor hics Graphics	Case material Smart card reade Media reader Ports  Monitor cable (optional)  Bundled Accy	Black Display of Bottom:  Proptional: MicroSD Two USB one USB one USB HDMI 1.4 headphon microSD * Dependin HDMI to USB-C to USB-C to USB-C to	cover: PPS / 50% GF; PA / 50% GF  I: Smart card reader 0 card reader 0 3.1 Gen 1 (one Always On), 0 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) 0 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), 14b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), 15c one / microphone combo jack, optional smart card reader, 15c ocard reader, side docking connector, security keyhole 15d on many factors, actual data transfer speed may be lower than theoretical speed 15d VGA: Lenovo HDMI to VGA Monitor Adapter 15d VGA: Lenovo USB-C to VGA Adapter 15d HDMI: Lenovo USB-C to HDMI Adapter				
i5-8365   i7-8565   i7-8565   i7-8565   i7-8665   i7-8665   or 10th   Process   Numbe   i5-1021   i7-1051   i7-105	365U 565U 665U 00th Geressor ober 0210U 0510U UHD ( 00th Geressor ober 0210U 0510U UHD ( 0510U UHD ( 0610U Social ober 0610U Social ober 0710U Social ober 0	meration # of Cores   4   Graphic Graphic eForce ternal ree inction: 4   System / 2400   GB meremory is	n Intel Cc # of Fhreads If 8 ss 620 or ss 620 or ss 620 or ss 620 or se 620 or or many sold many sold many sold sactually 2  Typ	1.6 GHz 1.8 GHz 1.9 GHz re i5 / i7 F Base requency 1.6 GHz 1.8 GHz Intel UHD Intel UHD 2 GB GD Intel UHD 2 GB GD Intel UHD 3 GB GD Intel UHD 4 GB GD Intel UHD 5 GB GD Intel UHD 6 GB GD Intel UHD 6 GB GD Intel UHD 7 GB GD Intel UHD 8 GB GB GB Intel UHD 8 G	4.1 GHz 6 4.6 GHz 8 4.8 GHz 8 Processor (N Max Turbo Frequency 4.2 GHz 6 4.9 GHz 8 Graphics in Graphics in DR5 memory HDMI or Thu Thunderbolt) Thunderbolt	GMB ISMB ISMB ISMB ISMB ISMB ISMB ISMB IS	vailable in E Memory Types DDR4-2400 essor only of the control of	62 EMEA) Proce Grap Intel UHD or	ssor hics Graphics	Case material Smart card reade Media reader Ports  Monitor cable (optional)  Bundled Accy	Display of Bottom:  or Optional:  MicroSD Two USB one USB one USB HDMI 1.4 headphon microSD * Dependin HDMI to USB-C to USB-C to USB-C to	PA / 50% GF  I: Smart card reader 0 card reader 8 3.1 Gen 1 (one Always On), 8 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) 8 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), 4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), one / microphone combo jack, optional smart card reader, 0 card reader, side docking connector, security keyhole ling on many factors, actual data transfer speed may be lower than theoretical spee by VGA: Lenovo HDMI to VGA Monitor Adapter to VGA: Lenovo USB-C to VGA Adapter to HDMI: Lenovo USB-C to HDMI Adapter				
17-8565   17-8665   17-8665   17-8665   17-8665   17-8665   17-8665   17-8665   17-8665   17-8665   18-1021   17-1051   17-1051   17-1051   17-1051   17-1051   17-1051   18-1	0665U 0665U 0665U 00th Georgesor her D210U 0510U	meration # of Cores   4   Graphic Graphic eForce ternal ree inction: 4   System / 2400   GB meremory is	n Intel Cc # of Fhreads If 8 ss 620 or ss 620 or ss 620 or ss 620 or se 620 or or many sold many sold many sold sactually 2  Typ	1.8 GHz 1.9 GHz 1.9 GHz re i5 / i7 F Base requency 1.6 GHz 1.8 GHz Intel UHD 2GB GD onitor via F 4 @ 60Hz ( platform R4, dual-cleered to sy 2666MHz be e Surface	4.6 GHz & 4.8 GHz & 4.8 GHz & 6 Processor (N Max Turbo Frequency 4.2 GHz & 4.9 GHz & 6 Graphics in Graphics in DR5 memory HDMI or Thurbunderbolt)  Thunderbolty  Thunderbolty  Thunder capal externo at 24000 at run at 24000 at 1.8 GHz	ache simb proce proce y; anderb ble, one D	vailable in E Memory Types DDR4-2400 essor only of the control of	62 EMEA) Proce Grap Intel UHD or	ssor hics Graphics	Smart card reade Media reader Ports  Monitor cable (optional)  Bundled Accy	Bottom:  Proposition of the prop	PA / 50% GF  I: Smart card reader 0 card reader 8 3.1 Gen 1 (one Always On), 8 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) 8 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), 4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), one / microphone combo jack, optional smart card reader, 0 card reader, side docking connector, security keyhole ling on many factors, actual data transfer speed may be lower than theoretical spee by VGA: Lenovo HDMI to VGA Monitor Adapter to VGA: Lenovo USB-C to VGA Adapter to HDMI: Lenovo USB-C to HDMI Adapter				
17-8665	Oth General Description of the Control of the Contr	# of Cores 4 Graphic Graphic Force ternal ree incition: 4 System / 2400 GB meremory is	# of Threads   f   8	ne i5 / i7 F Base Frequency 1.6 GHz 1.8 GHz Intel UHD 2GB GD Donitor via F displays; @ 60Hz (i) platform R4, dual-clered to sy 2666MHz bu e Surface	4.8 GHz & Processor (N Max Turbo Frequency 4.2 GHz & 4.9 GHz & Graphics in Graphics in DR5 memory HDMI or Thur Thunderbolt)  Thunderbolt in annel capal stemboard, strun at 24001	ache cache proces y; inderb cone D	Memory Types DDR4-2400 essor only of essor and oolt; d6x2160@2	Proce Grap Intel UHD or	hics Graphics	Media reader Ports  Monitor cable (optional)  Bundled Accy	MicroSD Two USB one USB one USB HDMI 1.4 headphoi microSD * Dependii HDMI to USB-C to USB-C to	O card reader B 3.1 Gen 1 (one Always On), B 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP)				
Process Numbe i5-1021 i7-1051  Graphics Intel UI Intel UI NVIDIA suppor suppor Max re  Chipset Intel So Memory 48GB r 8GB or * Installa  Display Size R 14.0" H 14.0" F 14.0" F 14.0" T G 14.0" M  Multi-touch (opt) On-cell  Storage • M.2.2 • M.2.2 • M.2.2 • Intel M.2.2 Optical None  Ethernet Non-viv	DIA GOOTS OF THE CONTROL OF THE CONT	# of Cores 4 Graphic Graphic Force ternal ree incition: 4 System / 2400 GB meremory is	# of Threads   f   8	Base Grequency 1.6 GHz 1.8 GHz Intel UHD 1.2 GB GD 1.5 GD 1.5 GD 1.6 GHz 1.8 G	Max Turbo Frequency 4.2 GHz 4.9 GHz  Graphics in Graphics in DR5 memor HDMI or Thu Thunderbolt) mannel capal stemboard, turun at 24001	proce proce y; inderb ble, one D	Memory Types DDR4-2400 essor only of essor and oolt; d6x2160@2	Proce Grap Intel UHD or	hics Graphics	Monitor cable (optional)  Bundled Accy	Two USB one USB one USB HDMI 1.4 headphoi microSD * Dependii HDMI to USB-C to USB-C to	B 3.1 Gen 1 (one Always On), B 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) B 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), Ab, Ethernet (RJ-45), nano-SIM card slot (WWAN models), One / microphone combo jack, optional smart card reader, O card reader, side docking connector, security keyhole Ing on many factors, actual data transfer speed may be lower than theoretical spee O VGA: Lenovo HDMI to VGA Monitor Adapter O VGA: Lenovo USB-C to VGA Adapter O HDMI: Lenovo USB-C to HDMI Adapter				
Numbe   i5-1021   i7-1051     i7-1051     i7-1051     Intel UI   Intel UI   NVIDIA suppor suppor Max re   Chipset   Intel Sc   Memory   48GB r   8GB or * Installar   Instal	DIA GOOD AND AND AND AND AND AND AND AND AND AN	Graphic Graphic eForce tternal ree incition: 4 System / 2400 GB meremory is	Es 620 or es 620	Intel UHD Intel UHD Intel UHD 2GB GD Intel UHD Onitor via It 4 @ 60Hz (1) 4 platform R4, dual-cl ered to sy 2666MHz bu E Surface	Frequency 4.2 GHz 4.9 GHz  Graphics in Graphics in DR5 memor HDMI or Thu Thunderbolt) mannel capal st run at 24001	proce proce y; inderb ble, one D	Types DDR4-2400	Grap Intel UHD or 24Hz (HD	hics Graphics	Monitor cable (optional) Bundled Accy	one USB one USB HDMI 1.4 headphor microSD * Dependir HDMI to USB-C to USB-C to	3 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) 3 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), 4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), one / microphone combo jack, optional smart card reader, o card reader, side docking connector, security keyhole ling on many factors, actual data transfer speed may be lower than theoretical spee to VGA: Lenovo HDMI to VGA Monitor Adapter to VGA: Lenovo USB-C to VGA Adapter to HDMI: Lenovo USB-C to HDMI Adapter				
Graphics Intel UI Intel Intel Intel Intel Intel UI Intel	UHD (1 UH	Graphic Graphic eForce kternal ree inc tion: 4 System / 2400 B mer emory is	es 620 or es 620	I.8 GHz Intel UHD Intel UHD 2GB GD onitor via I t displays; 9 60Hz ( 9 60Hz ( 10 ered to sy 10 666MHz bu e Surface	Graphics in Graphics in DR5 memory HDMI or Thunderbolt) mannel capal stemboard, at run at 24001	proce proce y; inderb ); 409 ble, one D	essor only of essor and es	or 24Hz (HD	<u> </u>	(optional) Bundled Accy	HDMI 1.4 headphormicroSD * Depending HDMI to USB-C to USB-C to USB-C to	4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), one / microphone combo jack, optional smart card reader, o card reader, side docking connector, security keyhole ling on many factors, actual data transfer speed may be lower than theoretical spee to VGA: Lenovo HDMI to VGA Monitor Adapter to VGA: Lenovo USB-C to VGA Adapter to HDMI: Lenovo USB-C to HDMI Adapter				
Intel UI NVIDIA's suppor suppor Max re  Chipset Intel So Memory 48GB in 8GB or * Installion*  Display Size R  14.0" H  14.0" F  14.0" F  14.0" F  14.0" H  Multi-touch (opt) On-cell  Storage • M.2.2 • M.2.2 • M.2.2 • Intel M.2.2 Optical None  Ethernet Non-viv VProm	UHD ( DIA® G ports exports the resolution of the content of the co	Graphic Force Aternal ree incidention: 4 System / 2400 GB meremory is a strong at the	es 620 or  MX250 digital melependen 096x230 on Chip MHz DDI mory solo s actually 2	Intel UHD 2GB GDI onitor via I t displays; I @ 60Hz ( platform A4, dual-cl ered to sy 6666MHz bu e Surface	Graphics in DR5 memory HDMI or Thunderbolt) mannel capal stemboard, at run at 24001	proce y; inderb ); 409 ble, one D	essor and oolt; 96x2160@2 DDR4 SO-E	24Hz (HD	MI)	(optional) Bundled Accy	HDMI to USB-C to USB-C to	o VGA: Lenovo HDMI to VGA Monitor Adapter to VGA: Lenovo USB-C to VGA Adapter to HDMI: Lenovo USB-C to HDMI Adapter				
Intel Sc	SoC (EB max B or 160 talled m	System / 2400 GB mer emory is	on Chip MHz DDF nory solo s actually 2	platform R4, dual-cl ered to sy 2666MHz bu	nannel capal rstemboard, ut run at 2400l	ble, one D	DR4 SO-E		,	⊣	140110					
Memory	B max B or 160 talled m Resolution HD (13	/ 2400 GB mer emory is	MHz DDI nory solo s actually 2 Typ	R4, dual-chered to sy e666MHz bu	stemboard, ut run at 24001	one D				Camera (optional) One of the following, configurable by model:						
Size   H	" HD (1:						ue to intei iin		ket	Audio support	<ul> <li>HD720 </li> <li>IR came</li> <li>HD Audio</li> </ul>	Op camera with ThinkShutter camera privacy, fixed focus nera and HD720p camera with ThinkShutter camera privacy, fixed focus io, Realtek® ALC3287 codec /				
14.0" F     14.0" F		366x768	) TN		Brightness	Aspec Ratio			Viewing Angle	]		peakers, 2W x 2, Dolby® Audio™ Premium / ay far-field microphone, headphone / microphone combo jack				
14.0"   F				Anti-glare	+	16:9	400:1	45%	90°	Keyboard UltraNav™		pill-resistant, multimedia Fn keys, optional LED backlight int®pointing device and buttonless Mylar surface multi-touch touchpad				
Multi-touch (opt) On-cell  Storage • M.2.2 • M.2.2 • M.2.2 • Intel M.2.2 Optical None  Ethernet Non-vi-vProm	" FHD (	1920x10	)80) IP:	Anti-glare	250 nits (non-touch) 300 nits (multi-touch)	16:9	700:1	45%	170°	Security Security chip System Mgt (opt)	Power-or Discrete	n password, hard disk password, supervisor password, security keyhole TPM 2.0. TCG Certified				
Multi-touch (opt) On-cell Storage • M.2.2 • M.2.2 • M.2.2 • Intel M.2.2 Optical None Ethernet Non-viv	Low P		, IP	Anti-glare	400 nits	16:9	800:1	72%	170°	Fingerprint reade NFC (optional)	r Optional:	i. Touch style match on chip fingerprint reader on the palm rest eld Communication				
Multi-touch (opt)	FHD ( Thinkf Guard		acy IPS	Anti-glare	400 nits	16:9	1000:1	72%	170°	Battery Max battery life	MobileMa	ed Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) flark® 2014: 16.11 hr life varies significantly with settings, usage, & other factors				
Storage		) (2560) Dolby V		Glossy	500 nits	16:9	1500:1	100% Adobe	170°	AC adapter	45W, 65V	W, or 65W slim USB-C AC adapter				
Optical  Optical  Ethernet  Optical  Non-vF-vProm	cell tou	ch, sup	ports 10	finger ges	ture (FHD o	nly)				Preload		e following, configurable by model: ws® 10 Home 64				
Optical None  Ethernet Non-vF vPro m	.2 2280 .2 2242	SSD /	PCIe N\	Me, PČle Me, PCle	3.0 x 2		,				<ul> <li>Window</li> </ul>	ws 10 Pro 64 ws 10 Pro in S mode				
vPro m	.2 2280		NVMe 3		olia State St	orage,	,			Limited warranty	• 1-year o	e following, configurable by model: depot repair service				
					nection I219- nection I219-			e)		-	<ul> <li>3-year/1</li> </ul>	depot with 2-year planar repair service 1-yr battery depot repair service 1-yr battery limited onsite service				
				ble by mode			. H. E.O.			Mil-Spec test		D-810G military testing				
(optional) • Intel		i 6 AX2	01, Wi-F		02.11ac + B 11ax + Bluet y)					Environment	EPEAT™	Silver; ENERGY STAR® 7.1; RoHS-compliant				
<ul><li>Integ</li><li>Integ</li><li>Integ</li></ul>	X201 fo		pgradabl e Broadb	e and 4G L1 and 4G L1	E, Fibocom	m L85 m I 86	50-GL, M.2 60-GL, MIN ogradable	card	-							



#### ThinkPad T490s Platform Specifications

Processor	8th Generation Ir	ntel® Cor	'e™ i5 / i	i7 Proce	essor					Dimensions	WxDxH (b	black with FHD / I				
		# of Threads	Base Frequer	ncy Fred	Turbo quency Cac	ne Ty	emory ypes	Proce: Graph			,	black with FHD Lo 12.94" x	8.90" x 0.66"; 329.0mm x 2 ow <i>Power / WQHD):</i> 8.89" x 0.63"; 328.8mm x 2	225.8mm x 16.1mm		
	i5-8265U i5-8365U i7-8565U i7-8665U	8	1.6 GF 1.6 GF 1.8 GF	Hz 4.1	9 GHZ 6M 1 GHz 6M 6 GHz 8M 3 GHz 8M	B DDR	R4-2400	ntel UHD ( 620	Graphics 0	Weight	Models	Black with FHD	8.92" x 0.68"; 329.15mm x Black with FHD Low Power / WQHD / Privacy Guard	Silver		
0		: 000 :			S GITZ   OIVI	ь				Case color	Weight	2.98 lb / 1.35 kg	2.81 lb / 1.27 kg	3.29 lb / 1.49 kg		
Graphics	Intel UHD Graph supports externa supports three in Max resolution:	al digital independe	monitor <sup>.</sup> ent displ	via ĤDN avs:		,	160@24	.Hz (HDN	MI)	Case material  Smart card reade	Bottom:	over: CFRP Hyb Magnesium		er);		
Chipset Memory	Intel SoC (System on Chip) platform 8GB, 16GB or 32GB / 2400MHz DDR4 / soldered to systemboard, no sockets * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation									Media reader Ports Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and Dis one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and						
Display	Size Resolution	1	Гуре Su	ırface l	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle		HDMI 1.4	b, Ethernet exten	sion connector, nano-SIM c	ard slot (WWAN models		
	14.0" FHD (1920x1	1080)	IPS Anti	i-giare   `	250 nits (non-touch) 300 nits multi-touch)	16:9	700:1	45%	170°	Monitor cable	microSD o * Dependin HDMI to V	card reader, side <i>ig on many factors,</i> /GA: Lenovo H	combo jack, optional smart of docking connector, security actual data transfer speed may IDMI to VGA Monitor Adapte	keyhole be lower than theoretical sp		
	14.0" FHD (1920x1 Low Power	1080)	IPS Anti	i-glare	400 nits	16:9	800:1	72%	170°	(optional) Bundled Accy	USB-C to	DP: Lenovo U	SB-C to VGA Adapter SB-C to DisplayPort Adapte let Extension Adapter Gen 2	er O		
	FHD (1920x1 14.0" ThinkPad Pri Guard	1080) ivacy	IPS Anti	i-glare	400 nits	16:9	1000:1	72%	170°	Camera	One of the • HD720p	following, configura	ble by model: nkShutter camera privacy, fi	xed focus		
	14.0" WQHD (2560 HDR, Dolby V		IPS GI	lossy	500 nits	16:9	1500:1	100% Adobe	170°	Audio support	HD Audio	, Realtek® ALC32		mera privacy, fixed focu		
Multi-touch (opt)	On-cell touch, su	ipports 1	0-finger	gesture	e (FHD only	′)				'			olby® Audio™ Premium / one, headphone / micropho	ne combo jack		
Storage	<ul><li>M.2 2280 SSD</li><li>M.2 2280 SSD</li><li>M.2 2242 SSD</li></ul>	/ PCIe N	VMe, P	Cle 3.0						Keyboard UltraNav™	6-row, spi	II-resistant, multir	media Fn keys, optional LED and buttonless Mylar surface	) backlight		
Optical	• Intel Optane™ M.2 2280, PCI None	Memory	H10 wit			ige,				Security Security chip System Mgt (opt)	Discrete T Intel vPro	「PM 2.0, TCG Ce Technology				
Ethernet	Native Intel Ethe	rnet Con	nection	I219-V	( <i>Non-vPro</i> )	or I219	9-LM ( <i>vP</i>	Pro)		Fingerprint reader NFC <i>(optional)</i>		Touch style mated Communication	ch on chip fingerprint reader	on the palm rest		
WLAN + Bluetooth™ <i>(optional)</i>	One of the following Intel Wireless-A Intel Wi-Fi 6 AX	<i>g, configu</i> AC 9560, K200, Wi	rable by r Wi-Fi 2 -Fi 2x2 8	<i>model:</i> x2 802. 302.11a	11ac + Blue	etooth 5				Battery Max battery life AC adapter	MobileMa * Battery li	<i>rk® 2014:</i> 20 hr	ly with settings, usage, & other f			
WWAN (optional)	One of the following  • Wireless WAN	g, configu	rable by r	model:						Operating system			ome 64 or Windows 10 Pro 6	64		
SIM card (opt)	<ul> <li>Integrated Mob</li> <li>Integrated Mob</li> <li>For non-WWAN n</li> <li>Nano-SIM card s</li> </ul>	oile Broad oile Broad onodel, it m	dband 4 dband 4 neans the	G LTE-A model is	A, Fibocom s <i>NOT WWAI</i>	L850-G V upgrad	L, M.2 c	d (EMEA ard	only)	Limited warranty	<ul><li>1-year d</li><li>1-year d</li><li>3-year/1</li></ul>	following, configural depot repair servion depot with 2-year l-yr battery depot l-yr battery limite	ce planar repair service repair service			
										Mil-Spec test	MIL-STD-	810G military tes	ting			
										Environment	EPEAT™	Silver; ENERGY	STAR® 7.1; RoHS-complian			



#### ThinkPad T495 Platform Specifications

Processor	AMD Ryzer	ı™ PR0	O Mobile	Processo	rs with Ra	deon™ Ve	ga Graphics	<del></del>		Dimensions	WxDxH:	12.95" x 8.94"	x 0.70"; 329mm;	x 227mm x 17.9mm
		# of	# of		Max Turbo	Cache	Memory	Proce		Weight	Models	HD	FHD	FHD Low Power
	Number C Ryzen 3			Frequency		2MB L2 /	Controller	Grap Radeon		Case color	Weight Black	3.46 lb / 1.57 kg	3.46 lb / 1.57 kg	3.39 lb / 1.54 kg
	Pro 3300U	4	4	2.1 GHz	3.5 GHz	4MB L3		Grap		Case material		ver: PPS / 50%	GF;	
	Ryzen 5 Pro 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Grap			Bottom:	PA / 50% C	***	
	Ryzen 7 Pro 3700U	4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Radeon Grap	Vega 10	Smart card reade Media reader Ports	MicroSD ca One USB 3	ard reader 3.1 Gen 1 (Alwa	ys On), one USB 3	3.1 Gen 2,
Graphics	AMD Raded supports ex supports for Max resolut	ternal ur inde	Í digital r epender	nonitor viant displays	USB-C or	HDMI;	orocessor; 60@60Hz (H	HDMI)			HDMI 2.0, I headphone microSD ca	Ethernet (RJ-45 / microphone o ard reader, side	5), nano-SIM card s combo jack, optiona docking connector	of Power Delivery and DisplayPort), slot (WWAN models), al smart card reader, r, security keyhole speed may be lower than theoretical speed
Chipset Memory	AMD SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, 8GB or 16GB memory soldered to systemboard, one DDR4 SO-DIMM socke * Installed memory is actually 2666MHz but run at 2400MHz due to AMD limitation									Monitor cable (optional) Bundled Accy	HDMI to VC USB-C to V USB-C to I None	GA: Lenovo F /GA: Lenovo U DP: Lenovo U	IDMI to VGA Monit JSB-C to VGA Ada JSB-C to DisplayPo	or Adapter pter
Display	Size Resolu	ition	T	ype Surfac	e Brightne	ss Aspec	ct Contrast Ratio		Viewing Angle	Camera (optional	() One of the fo • HD720p	ollowing, configura camera with Thi	able by model: inkShutter camera	privacy, fixed focus
	14.0" HD (13	366x76	8)	TN Anti-gla	re 220 nit	s 16:9	400:1	45%	90°	Audio oumnort	<ul> <li>IR camera</li> </ul>	a and HD720p	camera with Thinks	Shutter camera privacy, fixed focus
	14.0" FHD (1	1920x1	080)	PS Anti-gla	re 250 nit (non-tou 300 nit (multi-tou	ch) 16:9	700:1	45%	170°	Audio support	stereo spea dual array f	ar-field microph	Dolby® Audio™ Pre none, headphone /	microphone combo jack
	14.0" FHD (1 Low Po	1920x1	080)	PS Anti-gla		1	800:1	72%	170°	- Keyboard UltraNav™				tional LED backlight ylar surface multi-touch touchpad
Multi-touch (opt)			pports 1	0-finger ge	esture (FHI	) only)			L	Security	Power-on p	assword, hard	disk password, sur	pervisor password, security keyhole
	• M.2 2280				( )	· · · · · · · · · · ·				Security chip System Mgt	DISCRETE 11 DASH Man	PM 2.0, TCG Ce agement	ertified	
J	<ul><li>M.2 2280</li><li>M.2 2242</li></ul>												ch on chip fingerpr	int reader on the palm rest
-	None	TI 044	10: 1							Battery				oid Charge (charge up to 80% in 1hr)
	Realtek® R1						- 5.0			Max battery life	MobileMari * Battery life	k® 2014: 13.4 l varies significant	nr tly with settings, usag	e. & other factors
WLAN Bluetooth™	Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter									AC adapter	45W or 65V	N USB Type-C	AC adapter	
	One of the following, configurable by model:												Windows 10 Pro 6	4
	<ul> <li>Wireless V</li> <li>Integrated</li> <li>* For non-WV</li> </ul>	Mobi	ile Broad	band 4G	LTE-A, Fibo	ocom L8! WWAN ut	50-GL, M.2 o	ard		Limited warranty	<ul> <li>1-vear de</li> </ul>	ollowing, configura epot repair servi yr battery depot	ce	
SIM card (opt)	Nano-SIM o									Mil-Spec test		10G military tes		
										Environment			STAR® 7.1; RoHS-	-compliant

Note: The specifications above may not be available in all regions.

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#### ThinkPad T495s Platform Specifications

Processor	AMD Byz	en™ PF	RO Mohi	le Proces	sors with R	adeon™	Vega Graphic	```		Dimensions	WxDxH (FHD / Privacy Guard):
1 10003301	Processor		# of	Base	Max Turbo		Momory		essor		12.95" x 8.90" x 0.66"; 329.0mm x 226.15mm x 16.7mm
	Number	Cores	Threads	Frequenc	y Frequency	/	Controller		hics		WxDxH (Low Power): 12.94" x 8.89" x 0.63": 328.8mm x 225.8mm x 16.1mm
	Ryzen 5 Pro 3500U	4	8	2.1 GHz	3.7 GHz	2MB L 4MB I	2	Gran	Vega 8 hics	Weight	Models FHD FHD Low Power FHD Privacy Guard
	Ryzen 7	. 4	8	2.3 GHz	4.0 GHz	2MB L		Radeon	Vega 10	1 .	Weight 2.92 lb / 1.33 kg 2.76 lb / 1.25 kg 2.89 lb / 1.31 kg
	Pro 3700U					4MB I	-	Grap	hics	Case color Case material	Black Display cover: CFRP Hybrid;
Graphics					Graphics in ria USB-C d					Cass maismai	Bottom: Magnesium/Aluminum
	supports	three ir	ndepend	ent displ	ays;		, 2160@24Hz (	(HDMI)		Media reader	er Optional: Smart card reader MicroSD card reader
Chipset	AMD SoC	(Syste	em on C	hip) platf	orm					Ports	One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2, two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),
Memory		8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets * Installed memory is actually 2666MHz but run at 2400MHz due to AMD limitation									HDMI 2.0, Ethernet extension connector, nano-SIM card slot (WWAN models),
Display	Gizo Posolution Typo Surface Printhness Aspect Contrast Color									i	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Size Reso	Diution		Type Sun		R	tio Ratio	Gamu		Monitor cable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	14.0" FHD	/1020v	1080)	IPS Anti-	250 r (non-to	uch)	3:9 700:1	45%	170°	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter
		•	<i>'</i>	ii o paita	300 r multi-to)	แร	700.1	1370	170	Bundled Accy Camera	Optional: ThinkPad Ethernet Extension Adapter Gen 2 One of the following, configurable by model:
	14.0" FHD	(1920x	1080)	IPS Anti-	,		6:9 800:1	72%	170°	Camera	HD720p camera with ThinkShutter camera privacy, fixed focus
	LOW	Power (1920x			,					Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /</li> </ul>
	14.0" Thin	k̀Pad Pr		IPS Anti-	glare 400 r	its 1	3:9 1000:1	72%	170°		stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack
Multi-touch (opt)	On-cell to	uch, su	upports	10-finger	gesture (FF	ID only				Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight
Storage Optical	M.2 2280 None	SSD /	PCIe N	VMe, PC	e 3.0 x 4					UltraNav™ Security	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad  Power-on password, hard disk password, supervisor password, security keyhole
Ethernet	Realtek®	RTL81	11EPV	Gigabit E	hernet con	nection				Security chip	Discrete TPM 2.0, TCG Certified
WLAN <i>(optional)</i> Bluetooth™					802.11ac + in Wi-Fi + I		oth 5.0 h combo ada <sub>l</sub>	oter		System Mgt Fingerprint reade NFC	DASH Management er Optional: Touch style match on chip fingerprint reader on the palm rest None
WWAN (optional)	One of the				nodel:					Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
	<ul><li>Wireless</li><li>Integrate</li></ul>	s WAN ed Mol	upgrad oile Broa	abie idband 40	3 LTE-A. Fil	ocom l	.850-GL, M.2	card		Max battery life	MobileMark® 2014: 16.4 hr
SIM card (opt)	* For non-l	NWAN r	nodel, it	neans the	model is NO zon LTE (US	T WWAN	upgradable			AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Onvi dara (opi)	INATIO-SIIV	n caru s	siot, opt	Oliai veli.	2011 ETE (03	o) Silvi (	aiu			Operating system	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
										Limited warranty	
											<ul><li>1-year depot repair service</li><li>3-year/1-yr battery depot repair service</li></ul>
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
Note: The specifica	ations above	e may r	not be av	ailable in	all regions.					•	Lenovo









#### ThinkPad T580 Platform Specifications

Processor	7th Generation Ir	ntel® Cor	e™ i5 Proce	essor				Dimensions	WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm
	Processor # of Number Cores	# of	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight	Integrated model: starting at 4.29 lb / 1.95 kg; Discrete model: starting at 4.39 lb / 1.99 kg
	i5-7200U 2	4	2.5 GHz 2.6 GHz	3.1 GHz 3.5 GHz	3MB 3MB	DDR4-2133	Intel HD Graphics	Case color Case material	Black Display cover: Glass-Fiber Reinforced Plastic (PPS);
	or 8th Generation	n Intel Co			OIVID		1	Smart card roads	Bottom: Glass-Fiber Reinforced Plastic er Optional: Smart card reader
	Processor # of	# of	Base	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (one Always On).
	i5-8250U i5-8350U i7-8550U i7-8650U	8	1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz 3.6 GHz 4.0 GHz 4.2 GHz	6MB 6MB 8MB 8MB	DDR4-2400	Intel UHD Graphics 620		one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole
Graphics	Intel HD Graphic Intel HD Graphic NVIDIA® GeForce	s 620 or	Intel UHD (	Graphics 62	20 in p			Monitor cable (optional)	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	supports externa supports three in Max resolution: 4	l digital r depende 4096x23	nonitor via ent displays 04@60Hz (	HDMI or U: ; USB Type-	SÉ Typ	•	BOHz (HDMI)	Camera (optional)  Audio support	One of the following, configurable by model:   HD720p camera with ThinkShutter camera privacy, fixed focus   IR camera and HD720p camera, fixed focus   HD Audio, Realtek® ALC3287 codec /
Chipset Memory	Intel SoC (Syster 32GB max / 2400 * System clocks do	MHz DE	ÒŔ4, dual-c	hannel cap	able, t	wo DDR4 S roller	O-DIMM sockets		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Display		16:9 asp	ect ratio, 70	00:1 contra	st ratio	, 170° viewi	ng angle	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	On-cell touch, su	ect ratio, pports 1	1000:1 con 0-finger ge	trasť ratio, sture (FHD	72% g only)	amut, 170°	ht, IPS, 300 nits, viewing angle	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Storage	System has one HL Some: HDD / Si Some: SSD / Si	ATA 6.0G ATA 6.0G	Gb/s, 2.5" w Gb/s, 2.5" wi	ide, 7mm h de, 7mm h	igh, Ad igh (e.	ctive Protect	ion System™ SD)	NFC (optional)	r Optional: Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology Near Field Communication
	Some: M.2 SSD Some: 128GB N in WWAN	N.2 SSD I slot as	/ PCIe NVN 2nd Storag	/le, PCIe 3. e, mutually	0 x 2, exclus	sive with WV	VAN	Battery Max battery life	Optional integrated Li-ion 32Wh battery and external Li-ion 24Wh, 48Wh, or 72Wh battery  Models 24Wh 48Wh 72Wh 32Wh + 24Wh 32Wh + 48Wh 32Wh + 72Wh
Optane™ memory Optical	Optional: Intel O None	ptane m	emory, PCĬ	e NVMe, P	Cle 3.0	) x 2		(MobileMark® 2014)	Max battery life   5.8 hr   12.5 hr   18.1 hr   13.8 hr   20.3 hr   26.1 hr    * Battery life varies significantly with settings, usage, & other factors
Ethernet	Non-vPro model: vPro model:					icksonville) Jacksonville	)	AC adapter	45W or 65W USB Type-C AC adapter
WLAN + Bluetooth™	Intel Dual Band V * Intel 8265ac card						h 4.1, M.2 card	Limited warranty	Optional: Windows® 10 Home 64 or Windows 10 Pro 64 One of the following, configurable by model:
WWAN (optional)	One of the following  • Integrated Mob Intel XMM™ 720  • Integrated Mob	ile Broad 62 (Fibod	dband 4G L com L830-E	ТЕ, :В), М.2 са	rd (EM	EA only)			<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year planar repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
	Intel XMM™ 730	60 (Fibod	com L850-0	L), M.2 ca	rd	-   -   -		Mil-Spec test	MIL-STD-810G military testing
SIM card (opt)	* For non-WWAN m Nano-SIM card s							Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant



#### ThinkPad T590 Platform Specifications

Processor	8th Ge	enerat	ion Ir	itel® Core	e™ i5 / i	7 Prod	essor						Dimensions	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
	Proces Numbe	er C	# of Cores	# of Threads	Base Frequen		ax Turbo equency	Cache	Memory Types		Process Graphic		Weight Case color Case material	FHD model: 3.87 lb / 1.75 kg; UHD model: 3.86 lb / 1.75 kg Black Display cover: PPS / 50% GF;
	i5-8265 i5-8365 i7-8565 i7-8665	5U 5U	4	8	1.6 GH 1.6 GH 1.8 GH 1.9 GH	z 4 z 4	.1 GHz .6 GHz	6MB 6MB 8MB 8MB	DDR4-2400	Intel	I UHD Gi 620	aphics		Bottom: PA / 50% GF  r Optional: Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On).
	Intel U NVIDIA suppor suppor	IHD G A® Ge rts ext rts thr	iraphi Force terna ee in	l digital n depende	n proces 0, 2GB nonitor v	sor a GDDF /ia HE avs;	nd R5 memo IMI or Th	underb	olt; 6x2160@	24Hz	z (HDMI	)	Monitor cable	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Chipset Memory	48GB 8GB o	max / r 16G	′2400 iB me	mory so	DÁ4, dua Idered t	al-cha o syst		one D	DR4 SO-I			t	(optional) Bundled Accy	USB-C to VGA: Lenovo USB-C to VGA Adapter (NOT available in EMEA) USB-C to DP: Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA) None
Display	Size F	Resolu	tion	Ty	ype Sur	face	Brightness	Aspec	t Contras	st (	Color V Samut A	Angle	- Camera ( <i>optional</i> , - Audio support	<ul> <li>One of the following, configurable by model:</li> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /</li> </ul>
	15.6" F	•			PS Anti- PS Anti-		250 nits 500 nits	16:9 16:9	700:1 1200:1	, 1	1000/	170° 170°		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack
Multi-touch (opt)					0-finger	gestu	re (FHD	only)	1		laobe		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	<ul><li>M.2</li><li>M.2</li><li>Intel M.2</li></ul>	2280 2242 Opta	SSD SSD ne™ l	/ SATA 6 / PCIe N / PCIe N Memory e NVMe 3	IVMe, P IVMe, P H10 wit	Cle 3		torage	,					Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Optical Ethernet	None	Dro m	nodol:	Intol Eth	ornot C	onno	otion 1910	V ( la	cksonville)	\			Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
	vPro n	nodel:	:	Intel Eth	nernet C	onne	ction I219	-LM (J	acksonville				Max battery life	MobileMark® 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics)  * Battery life varies significantly with settings, usage, & other factors
WLAN <i>(optional)</i> Bluetooth™	Blueto	oth 5.	.0 wir	eless, int	n-Fi 2x2 tegrated	in Wi	11ac + Bl -Fi + Blue	tooth	ombo ada	apter			AC adapter	45W or 65W USB Type-C AC adapter
WWAN (optional)	One of	the fol	llowing	g, configur upgradat	rable by n	nodel:							Operating system Limited warranty	Optional: Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
	<ul><li>Integ</li><li>Integ</li><li>* For no</li></ul>	grated grated on-WW	Mob Mob VAN m	ile Broad ile Broad nodel, it m	lband 40 lband 40 <i>eans the</i>	G LTE model		om L8: WAN u				only)		<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year planar repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
													Mil-Spec test	MIL-STD-810G military testing
Note: The enecifica													Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



# ThinkPad X1 Carbon (6<sup>th</sup> Gen) Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Dimensions WxDxH: 12.74" x 8.55" x 0.63"; 323.5mm x 217.1mm x 15.95mm
	Processor # of H of Sase Number Cores Threads Frequency Frequency Cache Memory Types Processor Graphics	Weight   Starting at 2.49 lb / 1.13 kg   Case color   Black or Silver (silver case is NOT available in EMEA)
	i5-7300U 2 4 2.6 GHz 3.5 GHz 3MB LPDDR3-1866 Intel HD Graphics 620	Case material Display cover: CFRP/GFRP hybrid; Bottom: magnesium alloy / PPS hybrid
	or 8th Generation Intel Core i5 / i7 Processor	Smart card readerNone Media reader MicroSD card reader, supports UHS-II
	Processor Number         # of Cores         # of Threads         Base Frequency         Max Turbo Frequency         Cache         Memory Types         Processor Graphics	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,
	1.6 GHz   3.4 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.8 GHz   4.0 GHz   8MB   1.9 GHz   4.2 GHz   1.2 GH	side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed   Monitor cable
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays;	(optional) USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
	Max resolution: 5120x2880@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Camera (optional) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets * System clocks down for processors with lower memory controller	IR camera and HD720p camera, fixed focus     IR camera and HD720p camera, fixed focus     HD Audio, Realtek® ALC3286 codec /     stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array microphone,
Display	One of the following, configurable by model: • 14.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, IPS,	headphone / microphone combo jack, Dolby® Atmos™ via headphones
	300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle • 14.0" (355mm) WQHD (2560x1440), anti-glare, LED backlight, IPS,	Keyboard UltraNav™ 6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle • 14.0" (355mm) HDR WQHD (2560x1440) with Dolby Vision™, glossy, LED backlight, IPS, 500 nits,16:9 aspect ratio, 1500:1 contrast ratio, 100% gamut 170° viewing angle	Security Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro (optional) Intel vPro Technology
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)	Fingerprint reader Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology
Storage	One of the following, configurable by model:	NFC (optional) Near Field Communication
	<ul> <li>M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)</li> <li>M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)</li> </ul>	Battery Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Optical	None	Max battery life MobileMark® 2014: 19.3 hr
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2	* Battery life varies significantly with settings, usage, & other factors AC adapter 45W, 65W, or 65W Low Halogen USB-C AC adapter
WLAN +	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card	Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™	* Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS	Limited warranty  One of the following, configurable by model:  1-year depot repair service
, , ,	Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card  * For non-WWAN model, it means the model is NOT WWAN upgradable	<ul> <li>1-year depot with 2-year planar repair service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card	• 3-year/1-yr battery limited onsite service  Mil-Spec test MIL-STD-810G military testing
		Environment EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
		Lenovo

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## ThinkPad X1 Carbon (7<sup>th</sup> Gen) Platform Specifications

Processor	8th Generation Inte	el® Core™	™ i5 / i7 Pro	ocessor					WWAN (optional)	One of the following, configurable by model:
	Processor # of Number Cores Th	# of nreads   F		Max Turbo requency Ca	che N	lemory Types		essor ohics		<ul> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card</li> <li>* For non-WWAN model, it means the model is NOT WWAN upgradable</li> </ul>
	i5-8265U i5-8365U				MB				SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card
	i7-8565U 4	Ω —			MB MB	PDDR3-2133	Intel Graphi		Dimensions	WxDxH (Privacy Guard): 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.95mm
	i7-8665U				MB				Weight	WxDxH (other model): 12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm Privacy Guard model: starting at 2.4 lb / 1.09 kg;
	or 10th Generation	Intel Co	re i5 / i7 P	rocessor (N	OT ava	ailable in EM	1EA)			Other model: starting at 2.66 lb / 1.21 kg
	Processor # of Number Cores Th	# of hreads   F		Max Turbo Frequency Ca	ache N	Memory Types		essor ohics	Case color Case material	Black paint or black weave  Display cover: Carbon Fiber;  Bottom: magnesium alloy
	i5-10210U 4	გ ⊢			MB		Intel	UHD	Smart card reade	
	i7-10510U 6				MB L 2MB	.PDDR3-2133		ohics	Media reader Ports	None None Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3
Graphics	Intel UHD Graphics supports external d supports three inde Max resolution: 5K	digital mo ependen (@60Hz	onitor via H t displays; (Thunderb	IDMÎ or USE	Type	-C / Thunder	rbolt;		- Monitor cable	(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 *Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo HDMI to VGA Monitor Adapter
Chipset Memory	Intel SoC (System of 8GB or 16GB / 213			aldered to s	vetom	board no so	ockote		Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2
Display					Aspect			Viewing	Camera (optional,	) One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
2.00.00	Size Resolution	Тур	e Surface	Brightness	Ratio		Gamut	Angle		<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus</li> </ul>
	14.0" FHD (1920x108 Multi-touch	, lbs	Anti-glare	300 nits	16:9	700:1	72%	170°	Audio support	HD Audio, Realtek® ALC3286 codec / Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 /
	14.0" FHD (1920x108 Low Power	<sup>30)</sup>   IPS	Anti-glare	400 nits	16:9	800:1	72%	170°	Keyboard	4 array far-field microphones, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, LED backlight
	FHD (1920x108 14.0" ThinkPad Privad		Anti-glare	400 nits	16:9	1000:1	72%	170°	UltraNav™	TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	Guard 14.0" WQHD (2560x1	1440) IPS	S Anti-glare	300 nits	16:9	700:1	72%	170°	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
	UHD (3840x216 14.0" HDR 400, Dolby Vision™			500 nits	16:9	1400:1	90%	170°	Fingerprint reade	Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest Near Field Communication
Multi-touch (opt)	Capacitive-type mu				sture	(FHD only),			Battery	Integrated Li-ion 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Ctorrows	anti-reflection (AR)								Max battery life	with 65W USB Type-C AC adapter MobileMark® 2014: 18.3 hr
Storage	<ul><li>One of the following, o</li><li>M.2 2280 SSD / S</li></ul>	SATĂ 6.0	)Gb/s						AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W, 65W, or 65W slim USB-C AC adapter
	<ul> <li>M.2 2280 SSD / F</li> <li>Intel Optane™ Me</li> </ul>				rage.				Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	M.2 2280, PCIe N			IV/Ma 2 0 v	n .				Limited warranty	One of the following, configurable by model:
Optical	<ul> <li>Intel Optane SSD None</li> </ul>	), IVI.2 22	:80, PCIE N	VIVIE 3.0 X	2					<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year planar repair service</li> </ul>
Ethernet	Native Intel Etherne									3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service
WLAN +	One of the following, o	configural	ble by model	l:					Mil-Spec test	MIL-STD-810G military testing
Bluetooth™	<ul> <li>Intel Wireless-AC</li> <li>Intel Wi-Fi 6 AX20 (AX201 for 10th C</li> </ul>	01, Wí-F	i 2x2 802.1	1ax + Bluete					Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
Note: The specific	ations above may not	be availa	able in all re	gions.					•	Lenovo









#### ThinkPad X1 Extreme Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor		Optional: Smart card reader
	Processor Number     # of Cores     # of Threads     Base Frequency     Max Turbo Frequency     Cache     Memory Types     Processor Graphics	Ports	SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card 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
	15-8300H		and DisplayPort), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader.
	12   2.2 GHz   4.1 GHz   9MB   12   2.6 GHz   4.3 GHz   9MB   12   12   12   12   13   14   15   15   15   15   15   15   15		SD card reader, security keyhole  * Power Delivery only supports power-out for charging peripherals  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	Intel UHD Graphics 630 in processor and NVIDIA® GeForce® GTX 1050 Ti, 4GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt™; supports four independent displays;	Monitor cable (optional) Bundled Accy	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
	Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI)	Camera (optional)	One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset Memory	Mobile Intel CM246 Chipset 64GB max / 2666MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets	Audio support	IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec /
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio,		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
	72% gamut, 170° viewing angle  Some: 15.6" (396mm) HDR UHD (3840x2160) with Dolby Vision™, anti-glare, LED backlight, IPS, 400 nits, 16:9 aspect ratio, 1200:1 contrast ratio,	UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint®pointing device and buttonless glass surface multi-touch touchpad
Multi-touch (opt) Pen	100% gamut, 170° viewing angle, multi-touch, anti-reflection (AR)	Security chip vPro <i>(optional)</i>	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Touch style match on chip fingerprint reader on the keyboard bezel
Storage	<ul> <li>Up to 2 drives (two M.2 SSD)</li> <li>M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)</li> <li>M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)</li> </ul>	Color calibration	
RAID (optional) Optical	RAID 0/1 support None	Max battery life	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 9.5 hr; Hybrid mode: 14.9 hr  * Battery life varies significantly with settings, usage, & other factors
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ))	AC adapter	135W slim tip AC adapter
WLAN	via bundled or optional ThinkPad Ethernet Extension Cable Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card		Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter		One of the following, configurable by model:  • 1-year depot repair service
WWAN SIM card	None None		3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service
Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm	Mil-Spec test	MIL-STD-810G military testing
Weight	WxDxH (multi-ouch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.76 lb / 1.7 kg; Multi-touch model: starting at 4.06 lb / 1.8 kg	Environment	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant
Case color Case material	Black Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy		
Note: The specification	ations above may not be available in all regions.		Lenovo















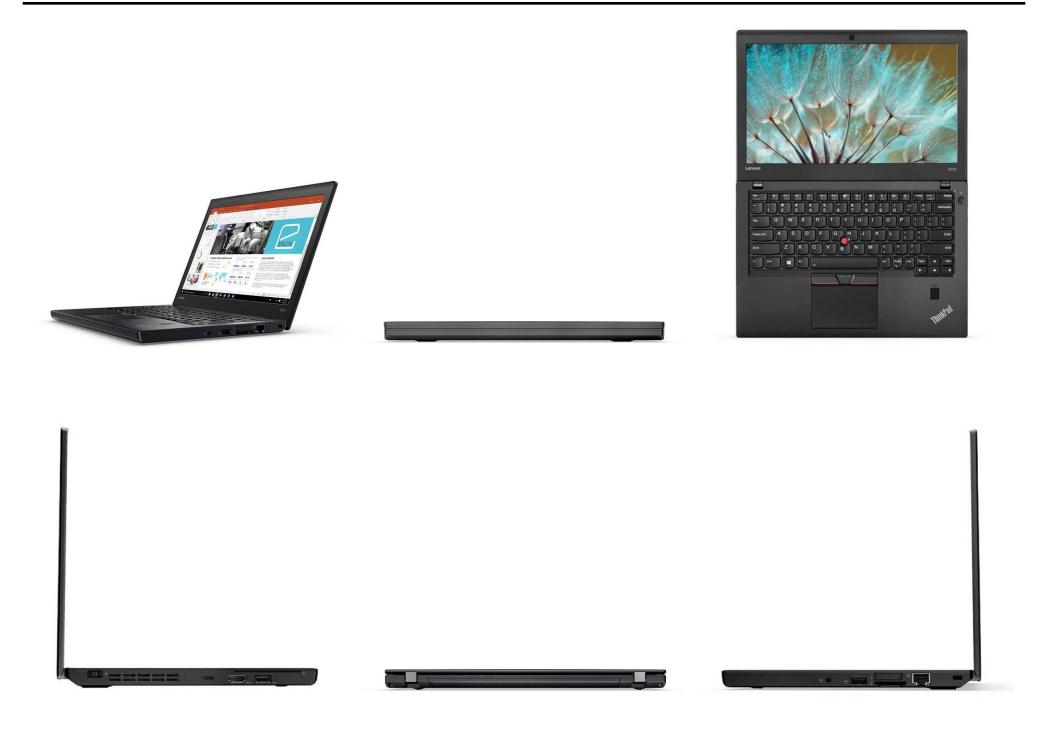






#### ThinkPad X1 Extreme (2nd Gen) Platform Specifications

Processor	9th Gener	ation I	ntel® Cor	e™ i5 /	i7 / i9 Pr	ocessor					Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Processor Number	# of Cores	# of Threads	Bas		Cach		mory pes	Proce Grapl		Weight	WxDxH (multi-touch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm Non-touch model: starting at 3.75 lb / 1.7 kg; Multi-touch model: starting at 4.0 lb / 1.81 kg
	i5-9300H i5-9400H i7-9750H	4 4 6	8 8 12	2.4 G 2.5 G 2.6 G	Hz 4.3	GHz 8ME GHz 8ME GHz 12M	_	1-2666 I	Intel UHD 63		Case color Case material	Black paint (FHD model) or black weave (UHD model)  Display cover: CFRP/GFRP hybrid;  Bottom: Aluminum alloy
	i7-9850H i9-9880H	6 8	12 16	2.6 0		GHz 12M GHz 16M	_				Media reader	er Optional: Smart card reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card
Graphics	supports of	SeForcexternations  our inc	e® GTX al digital i depender	1650, 4 monito nt displ	·GB GD[ · via HDI ays;	d DR5 memor MI or Thund ); 4K@60H	érbolt™;				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 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole, slim tip AC adapter * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory	Mobile Int 64GB max				ual-chan	nel capable	, two DI	DR4 S	O-DIMM	sockets	Monitor cable (optional)	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Display										Viewing Angle	Barraida / 100y	Optional: ThinkPad Ethernet Extension Cable
	15.6" FHD	(1920x	1080)	IPS A	Anti-glare	300 nits	16:9	700:1	72% NTSC	170°	Camera (optional	One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" FHD Dolby	(1920x <sup>-</sup> / Vision	1080) ™ HDR	IPS A	Anti-glare	500 nits	16:9	1200:1	72% NTSC	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /</li> </ul>
	Dolby	(3840x Vision	HDŔ	IPS A	Anti-glare	500 nits	16:9	1200:1	100% Adobe	170°		dual 360° far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
	15.6" Dolby	(3840x Vision touch		OLED	AR, AS	SDR 400nit, HDR 500nit (peak)	16:9	100000:	100% DCI-P3	170°	 Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
Multi-touch (opt) Pen	anti-reflec	tion (A	R), anti-s	smudae	(AS) co	-finger gest ating accessory	,		• • • • • • • • • • • • • • • • • • • •		Security Security chip System Mat (opt)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Storage RAID (optional)	Up to two M M.2 2280 RAID 0/1	<i>1.2 SSD</i> SSD /	PCle NV				•	•			Fingerprint reade Color calibration NFC	er Touch style match on chip fingerprint reader on the keyboard bezel
Optical Éthernet	None Native Inte	el Ethe	rnet Con						Pro))		Battery Max battery life	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 14 hr
WLAN (optional)	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> )) via bundled or optional ThinkPad Ethernet Extension Cable  Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0										AC adapter	* Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter								oter			n Windows® 10 Home 64 or Windows 10 Pro 64
WWAN SIM card	None None										Limited warranty	<ul> <li>One of the following, configurable by model:</li> <li>1-year depot repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
											Mil-Spec test	MIL-STD-810G military testing
											Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant



#### ThinkPad X270 Platform Specifications

Processor	6th Generation I	ntel® Cor	e™ i3 / i5 / i	7 Processor			Dimensions	WxDxH: 12.03" x 8.21" x 0.80"; 305.5mm x 208.5mm x 20.3mm					
1 10000001	Processor # of	# of	Base	Mary Trustee	Memory	Processor	Weight	Models No + 3-cell 3-cell 3+6-cell 3+ 6-cell					
		Threads		Frequency Cache	Types	Graphics		Weight 2.79 lb / 1.27 kg 2.98 lb / 1.36 kg 3.33 lb / 1.52 kg					
	i3-6006U		2.0 GHz	- 3MB			Case color	Black					
	i3-6100U		2.3 GHz	- 3MB			Case material	Display cover: Glass-Fiber Reinforced Plastic;  Bottom: Glass-Fiber Reinforced Plastic					
	i5-6200U 2	4	2.3 GHz	2.8 GHz 3MB	DDR4-2133	Intel HD Graphics 520	0						
	i5-6300U		2.4 GHz	3.0 GHz 3MB 3.1 GHz 4MB	-		Media reader	er <i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)					
	i7-6500U i7-6600U		2.5 GHz 2.6 GHz	3.1 GHZ 4MB 3.4 GHz 4MB	-		Ports	Two USB 3.1 Gen 1 (USB 3.0, one Always On),					
		n Intel Co						USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),					
	or 7th Generation Intel Core i3 / i5 / i7 Processor  Processor # of # of Base Max Turbo Ocale Memory Processor							HDMI 1.4b, Ethernet (RJ-45), Dock connector  * Depending on many factors, actual data transfer speed may be lower than theoretical speed					
		Threads	Frequency	Frequency Cache	Types	Graphics	WiGig dock (opt)	ThinkPad WiGig dock, mutually exclusive with WWAN (US only)					
	i3-7100U		2.4 GHz	- 3MB			Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter					
	i5-7200U		2.5 GHz	3.1 GHz 3MB		Intel HD Graphics	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter					
	i5-7300U 2	4	2.6 GHz	3.5 GHz 3MB	DDR4-2133	620	Camera (ontiona	//HD720p resolution, fixed focus					
	i7-7500U		2.7 GHz	3.5 GHz 4MB	_	020	Audio support	HD Audio, Realtek ALC3268 codec / stereo speakers, 1.5W x 2 /					
	i7-7600U		2.8 GHz	3.9 GHz 4MB				dual array microphone, combo audio/microphone jack					
Graphics	Intel HD Graphic				C.		Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight					
	supports three in			HDMI or USB Typ	e-C;		UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad					
				, USB Type-C); 40	96x2160@	24Hz (HDMI)	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified					
Chipset	Intel SoC (Syste	m on Chi	p) platform				vPro (optional)	Intel vPro Technology					
Memory				DR4 SO-DIMM so			Fingerprint reade	er Optional: Touch style match on chip fingerprint reader on the palm rest					
D: 1		•		lower memory cont			NFČ (optional)	Near Field Communication					
Display	Some: 12.5" (31	l / .5mm) 16·9 asr	HD (1366X) ect ratio 50	768), anti-glare, L 00:1 contrast ratio	.ED backligi	nt,	Internal battery External battery	Optional: Integrated Li-ion or Li-Polymer 3-cell (23Wh) Li-ion 3-cell (23Wh) or 6-cell (48Wh or 72Wh)					
	Some: 12.5" (31	17.5mm)	HD (1366x)	768), anti-glare, L	ED backlig	nt, IPS,	Max battery life	Models   No + 3-cell   3-cell + 3-cell   3-cell + 6-cell 48Wh   3-cell + 6-cell 72Wh					
	300 nits,	16:9 aśp	ect ratio, 8	00:1 contrast ratio	o, 170° view	ing angle	(MobileMark® 2014	Max battery life   6.52 hr   13.04 hr   20.1 hr   26.9 hr					
				x1080), anti-glare 00:1 contrast ratio				* Battery life varies significantly with settings, usage, & other factors					
Multi-touch (opt)					o, i i o view	ing angle	AC adapter	45W slim tip AC adapter or 45W USB Type-C AC adapter					
Storage	System has one H	DD slot or	one M.2 228	0 slot exclusively for	r storage		Operating system	<ul> <li>One of the following, configurable by model:</li> <li>Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64</li> <li>Windows 10 Home 64</li> </ul>					
Ü				ide, 7mm high, Ad									
				de, 7mm high (e.		SD)							
				e 3.0 x 2, 16Gb/s Gb/s, in WWAN sl		torage.		• Windows 10 Pro 64					
	mutually			N and WiGig	0. 40	iciago,	Limited warranty	One of the following, configurable by model:					
Optical	None							1-year depot repair service					
Ethernet		: Intel Eth	ernet Conr	nection I219-V (Ja	cksonville)	. \		<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>					
14/1 441	vPro model:			nection I219-LM (		,	Mil-Spec test	MIL-STD-810G military testing					
WLAN	<ul> <li>Realtek® RTL8</li> </ul>			el (WiGig is mutually	y exclusive w	ith WWAN):	I						
				Wi-Fi 2x2 802.11	ac + BT4.1		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant					
	<ul> <li>Intel Dual Band</li> </ul>	d Wireles	s-AC 8265,	Wi-Fi 2x2 802.11	ac + BT4.1								
Pluotooth™		Vireless-	AC 18265, V	ViGig 802.11ad +	Wi-Fi 2x2	302.11ac + BT4.1							
Bluetooth™	(US only) Bluetooth 4.1 wii	reless in	tegrated in	Wi-Fi + Bluetooth	combo ada	inter							
	* Intel 8265ac / 18.	265ac car	d support BT	4.2 but is limited to E	3T4.1 by Win	dows OS							
WWAN (optional)	One of the followin			el (mutually exclusiv	e with WiGig	):							
	Wireless WAN     Integrated Make			TC A									
	<ul> <li>Integrated Mob Qualcomm® Sr</li> </ul>	nandrago	ıdand 4G L n™ X7 I T⊏	≀ Е-А, :-А (Sierra Wireles	ss FM7455	<b>\</b>							
	Integrated Mob	oile Broad	lband 4G L	TE,	55 EIVI 455	,							
OIM soud (sout)	Intel XMM™ 71	60 (Fiboo	com L831-E	EAÚ) (EMEA only)									
SIM card (opt)	Micro-SIM card	siot, opt \	erizon LTE	(US) or Lenovo®	Connect (E	MEA) SIM card							
								Lenovo					



#### ThinkPad X280 Platform Specifications

Processor				e™ i3 / i5 P n US and EN		U is NC	T available in	US	Dimensions Weight	WxDxH: 12.11" x 8.26" x 0.69-0.70"; 307.7mm x 209.8mm x 17.4-17.8mm FHD non-touch model: 2.49 lb / 1.13 kg;					
	Processor Number	# of Cores	# of	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		HD non-touch model: 2.78 lb / 1.26 kg; FHD multi-touch model: 2.79 lb / 1.27 kg					
	i3-7020U i3-7130U i5-7200U i5-7300U	2	4	2.3 GHz 2.7 GHz 2.5 GHz 2.6 GHz	- 3.1 GHz 3.5 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 620	Case color Case material	Black Display cover: Carbon Fiber (FHD non-touch model) or Glass Fiber (HD & FHD multi-touch model);  Bottom: Magnesium/Aluminum					
		neratio	n Intel Co		7 Processo		I	l .	Media reader	er Optional: Smart card reader  MicroSD card reader, in the combo slot with nano-SIM card					
	Processor Number	# of Cores		Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Ports	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),					
	i3-8130U i5-8250U i5-8350U i7-8550U i7-8650U	4	8	2.2 GHz 1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz 3.4 GHz 3.6 GHz 4.0 GHz 4.2 GHz	4MB 6MB 6MB 8MB	DDR4-2400	Intel UHD Graphics 620	- Monitor cable	HDMI 1.4b, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole *Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter					
Graphics	supports t	externa hree in	al digital n ndepende	nonitor via ent displays	;	SB Typ	e-C;	BOHz (HDMI)	(optional) USB-C to VGA: Lenovo HDMI to VGA Monitor Adapter (optional) USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Bundled Accy Optional: ThinkPad Ethernet Extension Adapter Gen 2  Camera (optional) One of the following, configurable by model:						
Chipset Memory	Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)  Intel SoC (System on Chip) platform  4GB, 8GB, or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets  * 4GB memory is NOT available in US and EMEA  * System clocks down for processors with lower memory controller								<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera, fixed focus</li> <li>HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /</li> </ul>						
Display	Some: 12.5" (317.5mm) HD (1366x768), anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 400:1 contrast ratio  Some: 12.5" (317.5mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 170° viewing angle								Keyboard UltraNav™	dual array microphone, headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad					
Multi-touch (opt)	On-cell tou	ıch. su	ipports İ	ect ratio, 7 0-finger ge <i>DT available</i>	sture (FHD	only)	, 170° viewi	ing angle	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology					
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)  • M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)								• .	er <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology					
Optical	None						KKGD 33D I	vi.2 FOIE INVIVIE)	NFC (optional) Battery	Near Field Communication  Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr)					
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2								Max battery life	with 65W USB Type-C AC adapter  MobileMark® 2014: 16.6 hr					
WLAN + Bluetooth™		ntel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS						h 4.1, M.2 card	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB-C AC adapter					
WWAN (optional)	AN (optional) One of the following, configurable by model:								Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64						
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)</li> <li>Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card</li> <li>*For non-WWAN model, it means the model is NOT WWAN upgradable</li> <li>Nano-SIM card slot, in the combo slot with microSD card reader,</li> </ul>								Limited warranty	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year planar repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>					
(-1-9	optional Ve								Mil-Spec test	MIL-STD-810G military testing					
Note: The specifica									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant  Lenovo					



#### ThinkPad X390 Platform Specifications

Processor	_		Intel® Co	re™	i3 / i5 / i	7 Processo	·				Dimensions	Models	FHD Non-touch		HD / FHD Multi-touch		
	Proce Numb					Max Turbo Frequency	Cache	Memory Types		essor phics		Carbon Fiber	Carbon Fiber 311.9mm x 217.0mm x 16.5mm 12.28" x 8.54" x 0.65"		-		
	i3-814		4		.1 GHz .6 GHz		4MB 6MB					PPS	312.0mm x 217.2mm 12.28" x 8.55" x 0			x 217.2mm x 16.9mm 8" x 8.55" x 0.67"	
	i5-8365U 4		8	1.	.6 GHz	4.1 GHz 6MB		DDR4-2400	Intel UHD Graphics	Weight	Models	FHD Non-touch	Н	ID	FHD Multi-touch		
	i7-856	5U .		_	.8 GHz		8MB					Carbon Fiber	2.70 lb / 1.22 kg		-	-	
	i7-866		Cara Irakal		.9 GHz		8MB	and a factor for F	 			PPS 2.85 lb / 1.29 kg 2.93 lb / 1.33 kg 2.84 lb					
		or 10th Generation Intel Core i5 / i7 Processor (NOT available in EMEA)  Processor  # of  # of  Base  Max Turbo  Memory  Processor								Case color Case material							
	Numb					Max Turbo Frequency	Cache	Memory Types		phics		Bottom: Magnesium/Aluminum				-,	
	i5-102	4	8	_	.6 GHz .8 GHz	4.2 GHz	6MB 8MB	DDR4-2400	Intel UHE	Graphics	Tivieula readei	MicroSD card	d				
Graphics	Intel l	HD Grap	hics 620	or Ir	ntel UHD	Graphics in	n proc	essor:			Ports	IWO USB 3.1 (	Gen 1 (one Always On)	), function of	Power Deli	ivery and DisplayPort)	
G. G	suppo	Intel UHD Graphics 620 or Intel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C;										one USB 3.1 T	ne USB 3.1 Type-C Gen 1 (with the function of Power Delivery an ne USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD				
	supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI)											HDMI 1.4b, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader,					
Chipset						manacibol	.,, 400	OXL TOO @ L	-7112 (112	) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	_	headphone / m	nicrophone combo jack	k, optional s	smart card	reader,	
Memory	Intel SoC (System on Chip) platform 4GB, 8GB, 16GB or 32GB / 2400MHz DDR4 / soldered to systemboard, no socket										3	side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed					
	* Insta	led memor	y is actua	lly 26	66MHz bu	ıt run at 2400	MHz a	ue to Intel lin	nitation		Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter					
Display	Size Resolution T		Туре	Surface	Brightness	Aspec Ratio	t Contrast Ratio	Color		(optional)		Lenovo USB-C to V Lenovo USB-C to D					
	13.3"	HD (1366x	768)	TN	Anti-glare	250 nits	16:9	500:1	45%	90°	Bundled Accy		kPad Ethernet Extens				
			/					800:1			Camera (optional	) One of the follow	ing, configurable by mod	lel:			
	13.3"	FHD (1920:	x1080)	IPS	Anti-glare	300 nits	16:9	(non-touch	72% (۱	170°		HD720p camera with ThinkShutter of the camera and HD720p camera with thinkShutter of the transfer of the			vacy, fixed	focus	
								(multi-touc	h)		Audio support			uller carner	, ,,		
		FHD (1920: FhinkPad F		IPS	Anti-glare	400 nits	16:9	1000:1	72%	178°		stereo speakei	rs, 1W x 2, Dolby® Auc	dio™ Premiι			
		Guard								1	Kanda a sud	dual array far-field microphone, headphone / microphone combo jack					
	On-cell touch, supports 10-finger gesture (FHD only)								Keyboard -UltraNav™								
Storage	<ul> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> </ul>								Security Power-on password, hard disk password, supervisor password, security key								
	• M.2	2242 SSI	D / PCle	NVN	/le, PCle	3.0 x 2					Security chip	Discrete TPM 2.0, TCG Certified Intel vPro Technology Or Optional: Touch style match on chip fingerprint reader on the palm rest					
	• Inte	Optane™	Memory	/ H1	0 with So	olid State S	torage	,			Fingerprint reade						
Optical	M.2 2280, PCIe NVMė 3.0 x 4 None								NFC (optional)	Near Field Communication							
Ethernet	Native	Intel Eth	ernet Co	nnec	ction I219	9-V (Non-vF	<i>ro</i> ) or	1219-LM (v	Pro)		Battery Integrated Li-ion 48Wh battery, supports Rapid Charge (charge u				arge up to 80% in 1hr)		
						ernet Exten	sion A	dapter Ger	12		with 65W USB Type-C AC adapter  Max battery life MobileMark® 2014: 17.6 hr						
WLAN (optional)		the followi					2luoto	oth 5 0			AC adapter	* Battery life varies significantly with settings, usage, & other factors					
			/ireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0 /i-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0									45W, 65W, or 65W slim USB-C AC adapter					
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter								Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64  Limited warranty One of the following, configurable by model:								
WWAN (optional)	(optional) One of the following, configurable by model:  • Wireless WAN upgradable										Limited warranty	<ul> <li>1-year depot</li> </ul>		CI.			
	<ul><li>Inte</li></ul>	rated Mo	i upgrada bile Broa	abie idbai	nd 4G LT	E. Fibocom	1 L830	-EB. M.2 ca	ard (EME	A only)		<ul> <li>1-year depot</li> </ul>	: with 2-year planar rep	oair service			
	<ul> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> </ul>							,,		<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>							
	* For non-WWAN model, it means the model is NOT WWAN upgradable						Mil-Spec test		attery inflited offsite so	01 1100							
											Environment		r: ENERGY STAR® 7.1	1: BoHS-co	mnliant		
Note: The specifica				ما ما : م	سالمصليا						=	L. L/11 Olive	i, Enerior 6777 7.1	.,	piidiit	Lenov	



#### ThinkPad X395 Platform Specifications

Number Cores Threads Frequency Frequency Cache Controller Graphics  Ryzen 3 Pro 3300U 4 4 2.1 GHz 3.5 GHz 4MB L3 Pro 3500U 5 Pro 3500U 5 Pro 3500U 6 Pro 3700U 6 Pro 3700U 7 P	en 2,						
Ryzen 3 4 4 2.1 GHz 3.5 GHz 2MB L2 / 4MB L3 Ryzen 5 Pro 3700U 4 8 2.3 GHz 4.0 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 / 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 2MB L2 /	SIM card						
Pro 3300U 4 4 8 2.1 GHz 3.3 GHz 4MB L3 Ryzen 5 Pro 3500U 4 8 2.1 GHz 3.7 GHz 4MB L3 Ryzen 7 Pro 3700U 4 8 2.3 GHz 4.0 GHz 4MB L3 Ryzen 7 AMD Radeon Vega 6 Vega 8 or Vega 10 Graphics in processor:  Graphics  Graphics  Graphics  Graphics  Graphics  Graphics  Graphics  Graphics  Graphics  Case material Display cover: PPS/GF; Bottom: Magnesium/Aluminum  Smart card reader Optional: Smart card reader Media reader MicroSD card reader, in the combo slot with nano-SI Graphics  One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2 (with the function of Pow	en 2,						
Ryzen 5 Pro 3500U 4 8 2.1 GHz 3.7 GHz 4MB L3 DDR4-2400 Radeon Vega 8 Graphics Ryzen 7 Pro 3700U 4 8 2.3 GHz 4.0 GHz 4MB L3 DDR4-2400 Radeon Vega 10 Graphics in processor:  AMD Radeon Vega 6 Vega 8 or Vega 10 Graphics in processor:  Ryzen 7 AMD Radeon Vega 6 Vega 8 or Vega 10 Graphics in processor:  AMD Radeon Vega 6 Vega 8 or Vega 10 Graphics in processor:	en 2,						
Ryzen 7   4   8   2.3 GHz   4.0 GHz   2MB L2 / 4MB L3   Radeon Vega 10 Graphics   MicroSD card reader, in the combo slot with nano-SI One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2 (with the function of Pow	en 2,						
Graphics AMD Radeon Vega 6 Vega 8 or Vega 10 Graphics in processor: two USB 3.1 Type-C Gen 2 (with the function of Pow	wer Delivery and DisplayPort),						
supports external digital monitor via USB-C or HDMI;  supports three independent displays:  combo slot of nano-SIM card (WWAN models) and r	two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 2.0, Ethernet extension connector, combo slot of nano-SIM card (WWAN models) and microSD card reader, headphone / microphone combo jack, optional smart card reader,						
Chipset AMD SoC (System on Chip) platform  Memory 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets  * Installed memory is actually 2666MHz but run at 2400MHz due to AMD limitation  * Depending on many factors, actual data transfer speed many factors actually 2666MHz but run at 2400MHz due to AMD limitation  * Depending on many factors, actual data transfer speed many factors actually 2666MHz but run at 2400MHz due to AMD limitation  * Depending on many factors, actual data transfer speed many factors actu	apter						
Display  Size Resolution  Type Surface Brightness Ratio  Ratio  Contrast Ratio  Ratio  Color Viewing Gamut Angle  Camera (optional) One of the following, configurable by model:	en 2						
13.3" HD (1366x768) TN Anti-glare 250 nits 16:9 300:1 45% 90° + HD720p camera with ThinkShutter camera privacy.							
13.3" FHD (1920x1080) IPS Anti-glare 300 nits 16:9 800:1 (non-touch) 700:1 (multi-touch) 170°   170°   4udio support   170°   1	/						
FHD (1920x1080)   13.3"   ThinkPad Privacy   Guard   IPS   Anti-glare   400 nits   16:9   1000:1   72%   178°     Keyboard   178°   Keyboard   6-row, spill-resistant, multimedia Fn keys, optional Lt   178°   UltraNav™   TrackPoint® pointing device and buttonless Mylar sur	LED backlight urface multi-touch touchpad						
Multi-touch (ant) On-cell touch supports 10-finger gesture (EHD only)  Security  Power-on password, hard disk password, supports 10-finger gesture (EHD only)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified DASH Management						
Storage • M.2 2280 SSD / SATA 6.0Gb/s Storage Storage PASH Management							
M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4 Optical  None  M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4 Fingerprint reader <i>Optionals</i> : Touch style match on chip fingerprint read NFC None  NFC None	ader on the palm rest						
Ethernet Native Realtek® RTL8153 Gigabit Ethernet connection via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2  Battery Integrated Li-ion 48Wh battery, supports Rapid Char with 65W USB Type-C AC adapter	arge (charge up to 80% in 1hr)						
WLAN (optional) Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0  Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter  * Battery life * MobileMark® 2014: 14.5 hr  * Battery life varies significantly with settings, usage, & other settings and the settings and the settings are settings. Integrated in Wi-Fi + Bluetooth combo adapter.	her factors						
WWAN (optional) One of the following, configurable by model:  • Wireless WAN upgradable  Operating system Windows® 10 Home 64 or Windows 10 Pro 64							
<ul> <li>Wireless WAN upgradable</li> <li>Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card</li> <li>Operating system Windows® 10 Home 64 or Windows 10 Pro 64</li> <li>Limited warranty</li> <li>One of the following, configurable by model:</li> </ul>							
* For non-WWAN model, it means the model is NOT WWAN upgradable  SIM card (opt)  Nano-SIM card slot, optional Verizon LTE (US) SIM card  * For non-WWAN model, it means the model is NOT WWAN upgradable  Nano-SIM card slot, optional Verizon LTE (US) SIM card  * 1-year depot repair service  3-year/1-yr battery depot repair service							
Mil-Spec test MIL-STD-810G military testing							
Environment EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-complia	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant						

Note: The specifications above may not be available in all regions.

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**Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

#### Lenovo Services:

**Carry-in or Mail-in Service:** Parts and labor repair coverage where the customer is responsible for shipping (including packaging) or delivery to authorized warranty provider or repair center.

**Depot or Courier Service:** Parts and labor repair coverage where shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

**Expedited Depot:** Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Onsite / In-home Service: Parts and labor repair coverage where labor is provided onsite at your place of business.

If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

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# Product Specifications Reference Version 549, October 2019

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### **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

#### **October 9, 2019 - Version 549**

#### Additions in this update

► New product(s)

None

► New model(s)

None

**▶** Others

ThinkPad X390 Yoga - Spec updated

#### Withdrawals in this update

► Withdrawn product(s)

None











## ThinkPad X1 Tablet (3<sup>rd</sup> Gen) Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor  Processor  # of  # of  Base  Max Turbo Number  Cores Threads  Frequency  Frequency  Frequency  Frequency  Graphics	Control buttons Dock Monitor cable	Power button, volume control button, reset switch Optional: Thin Keyboard or USB-C Dock None
	1.6 GHz   3.4 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.8 GHz   4.0 GHz   8MB   LPDDR3-2133   Intel UHD   Graphics 620	Bundled Accy (optional)	USB-C to RJ45: Lenovo USB-C to Ethernet Adapter USB-C to VGA: Lenovo USB C to VGA Plus Power Adapter USB-C to HDMI: Lenovo USB-C to HDMI Plus Power Adapter
	i7-8650U 1.9 GHz 4.2 GHz 8MB	Camera	Front camera: 2.0-megapixel, fixed focus Rear camera: 8.0-megapixel, auto focus
Graphics	Intel UHD Graphics 620 in processor, supports external digital monitor via USB Type-C	IR Camera Audio support	Optional: IR camera, fixed focus (mutually exclusive with NFC) Realtek® ALC3278 codec / stereo speakers, 1W x 2 / dual array microphones, combo audio/microphone jack
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3, soldered to systemboard, no sockets	Pogo keyboard	Magnetic attached thin keyboard, with TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch, backlit
Display	13.0" (330mm) QHD+ (3000x2000), glossy, LED backlight, IPS, anti-figerprint display with Corning® Gorilla® Glass, WideView (160° viewing),	Keyboard color	Black
Multi-touch Pen (optional) Kick stand	400 nits, 3:2 aspect ratio, 1200:1 contrast ratio Capacitive touch panel, supports ten-finger gesture Lenovo Pen Pro or Lenovo Active Pen (ThinkPad Pen Pro) Opening angle up to 170 degrees	Security Security chip System Mgt (opt) Fingerprint reade NFC (optional)	Kensington lock slot Discrete TPM 2.0 TCG Certified Intel vPro Technology or Optional: Touch style Fingerprint reader Near Field Communication (mutually exclusive with IR camera)
Storage  Optical Storage extension	One of the following, configurable by model:  • M.2 2280 SSD / SATA 6.0Gb/s  • M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s None  nOne MicroSD card reader, in the combo slot with nano-SIM card, support	Battery Max battery life AC adapter	Integrated Li-Ion 42Wh battery MobileMark® 2014: 9.5 hrs  * Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Ethernet	USH-I, microSDHC, microSDXC  None	G-sensor Gyroscope GPS (optional)	Ambient Light Sensor 3D accelerometer 3D gyrometer GPS function is integrated into WWAN module
WLAN Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card Bluetooth 4.2 wireless, integrated in Wi-Fi + Bluetooth combo adapter		
WWAN (optional) SIM card (opt)	Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455) Nano-SIM card slot, in the combo slot with microSD card reader	Preload	One of the following, configurable by model:  • Windows® 10 Pro 64  • Windows 10 Home 64
Dimensions	Tablet only: 11.97" x 8.9" x 0.35"; 304.1mm x 226mm x 8.9mm Tablet + keyboard: 11.97" x 8.9" x 0.57"; 304.1mm x 226mm x 14.4mm	Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
Weight	Tablet only: starting at 1.96 lb / 0.89kg Tablet+ keyboard: starting at 2.8 lb / 1.27kg		3-year/1-yr battery limited onsite service
Case color Case material	Black Magnesium/Aluminum	Mil-Spec test	MIL-STD-810G military testing
Smart card reade Ports		Environment	EPEAT™ Silver, GREENGUARD, Low Halogen, RoHS







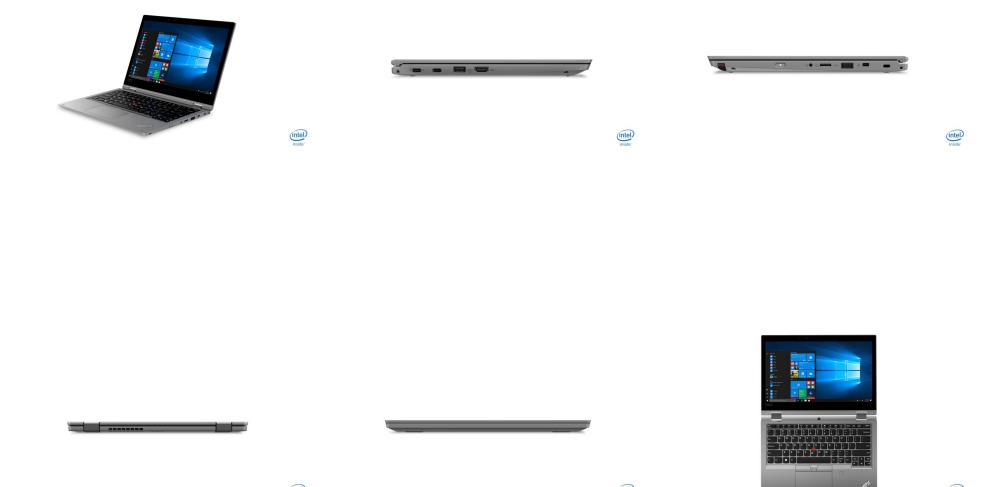




#### ThinkPad L380 Yoga Platform Specifications

Processor	7th Generation Intel® Core™ i3 / i5 Processor	Dimensions	WxDxH: 12.67" x 8.82" x 0.74"; 322mm x 224.2mm x 18.8mm
	Processor # of # of Base Max Turbo Cache Memory Processor	Weight Case color	Starting at 3.44 lb / 1.56 kg Black or Silver
	Number Cores I frequency Frequency Types Graphics	Case material	Display cover: Aluminum
	i3-7020U   2   4   2.3 GHz   // 3MB   DDR4-2133   Intel HD Graphics   620		Boittom: GFRP
	8th Generation Intel Core i3 / i5 / i7 Processor	Smart card reade	
	Draggery # of # of Dage May Turks   Mayory   Draggery	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	Number   Cores   Threads   Frequency   Frequency   Cache   Types   Graphics		two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	i3-8130U 2 4 2.2 GHz 3.4 GHz 4MB		HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole
	1.6 GHz 3.4 GHz 6MB DDR4-2400 Intel UHD Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	13-83300 4 8 1.7 GHZ 3.0 GHZ 0WB	Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
		(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C;	Camera	720p: HD720p resolution, low light sensitive, fixed focus
	supports three independent displays:		IR & 720p: IR camera and HD720p camera, fixed focus
	Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Audio support	World facing: Rear camera, 5MP resolution, auto focus HD Audio, Realtek ALC3287 codec, Dolby® Advance / stereo speakers, 2W x 2 /
Chipset Memory	Intel SoC (System on Chip) platform Up to 32GB max / 2400MHz DDR4, dual-channel capable,	Addio Support	dual array microphone, headphone / microphone combo jack
wemory	two DDR4 SO-DIMM sockets	Keyboard	6-row, multimedia Fn keys, optional LED backlight
	* System clocks down for processors with lower memory controller	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Display	13.3" (338mm) FHD (1920x1080), glossy, LED backlight, IPS, 300 nits,	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch (opt)	16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle Capacitive-type multi-touch, AR (anti-reflection), supports 10-finger gesture		Discrete TPM 2.0, TCG Certified Intel vPro Technology
Hinge ` ' / '	Yoga hinge, 360 degree	Fingerprint reader	r Optional: Touch style fingerprint reader on the keyboard bezel,
Convert-mode Pen	Laptop, tent, stand, yoga and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board garage	NFC (optional)	anti-spoofing technology Near Field Communication (mutually exclusive with smart card reader)
Storage	One of the following, configurable by model:	Battery	Integrated Li-Ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Storage	<ul> <li>M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)</li> </ul>		with 65W USB Type-C AC adapter
0	• M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)	Max battery life	MobileMark® 2014: 12.85 hrs * Battery life varies significantly with settings, usage, & other factors
Optane Memory Optical	None None	AC adapter	45W or 65W USB Type-C AC adapter
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro))	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
	via optional ThinkPad Ethernet Extension Cable Gen 2	Limited warranty	One of the following, configurable by model:
WLAN +	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card		1-year depot repair service
Bluetooth™	* Wireless card supports BT4.2 but is limited to BT4.1 by Windows OS  None		<ul> <li>1-year depot with 2-year planar</li> <li>3-year/1-yr battery depot repair service</li> </ul>
WWAN SIM card	None		3-year/1-yr battery limited onsite service
		Mil-Spec test	MIL-STD-810G military testing
		Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant
			Lenovo

Lenovo March 2019



### ThinkPad L390 Yoga Platform Specifications

Processor	8th Gener	ation I	ntel® Cor	e™ i3 / i5 /	i7 Process	or			Smart card readerNone		
	Processor Number		# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),	
	i3-8145U i5-8265U i5-8365U	2 4 4	8 8	2.1 GHz 1.6 GHz 1.6 GHz	3.9 GHz 3.9 GHz 4.1 GHz	4MB 6MB 6MB	DDR4-2400	Intel UHD Graphics 620		HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed	
	i7-8565U	4	8	1.8 GHz	4.6 GHz	8MB			Monitor cable (optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to VGA + Power Adapter: Lenovo USB-C to VGA plus Power Adapter	
Graphics	Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)							30Hz (HDMI)	Bundled	USB-C to HDMI:  USB-C to HDMI + Power Adapter: Lenovo USB-C to HDMI plus Power Adapter  USB-C to DP:  Lenovo USB-C to DisplayPort Adapter  Lenovo USB-C to Ethernet Adapter	
Chipset Memory				ip) platform DR4, dual-c		pable, t	wo DDR4 S	SO-DIMM sockets	Accessories (optional)	USB-C to USB-A: USB-C to USB-C: Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2M	
Display  Multi-touch  Hinge	13.3" (338mm) FHD (1920x1080), glossy, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, 72% gamut, 170° viewing angle Capacitive-type multi-touch, AR (anti-reflection), supports 10-finger gesture								Camera	720p: HD720p resolution, low light sensitive, fixed focus IR & 720p: IR camera and HD720p camera, fixed focus (black model only) World facing: 5MP resolution, auto focus (mutually exclusive with fingerprint reader)	
Multi-mode Pen <i>(optional)</i>	Yoga hinge, 360 degree Notebook, stand, tent, tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board garage								Audio support	HD Audio, Realtek ALĆ3287 codec, Dolby® Àudio™ Premium / stereo speakers, 2W x 2 / dual array microphone, headphone / microphone combo jack	
Storage	<ul> <li>M.2 SSI</li> </ul>	D/SAT	ΓΑ 6.0Ğb						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch	
	<ul> <li>M.2 (228)</li> </ul>	80) SS tane M	D / PCIe lemory H	NVMe, PC NVMe, PC I10 with So 3.0 x 4	le 3.0 x 4	torage,			Security Security chip System Mgt (opt)	Power-on password, supervisor password, system management password, hard disk password, security keyhole Discrete TPM 2.0, TCG Certified	
Optane™ Memory Optical	y <i>Optional:</i> I None	Intel O	ptane Me	emory H10					Fingerprint reader	r Optional: Touch style fingerprint reader on the palm rest (mutually exclusive with World facing camera)	
Storage				rable by mod		1.0\			NFC (optional)	Near Field Communication	
	• M.2 SSI	D / SA D / PC	le NVMe	/s (e.g. xxx , PCle 3.0 :	x 4, 32Gb/s	1.2) s (e.g. x	xxGB SSD	M.2 PCIe NVMe)	Battery	Integrated Li-Ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter	
Optical	None								Max battery life	MobileMark® 2014: 12.17 hrs	
Ethernet	via optiona	al Thin	kPad Eth	nection I21 ernet Exte	9-V ( <i>Non-</i> nsion Cabl	<i>vPro</i> ) o e or	r I219-LM (	vPro)	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter	
WLAN				et Adapter	20 11 22	Olivetee	+h = 0 M 0	aard	Preload	Windows® 10 Home 64 or Windows 10 Pro 64	
Bluetooth™	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter								Limited warranty	One of the following, configurable by model:  1-year depot repair service	
WWAN	None								1	1-year depot with 2-year planar	
Dimensions Weight	WxDxH: 12.67" x 8.82" x 0.74"; 321.8mm x 224.2mm x 18.8mm Starting at 3.44 lbs / 1.56 kg							n		3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service	
Case color	Black or Silver  Display cover: Magnesium / Aluminum								Mil-Spec test	MIL-STD-810G military testing	
Case material	Display co Bottom:	over: N	Magnesiu GFRP	im / Aiumin	um				Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant	

Lenovo July 2019







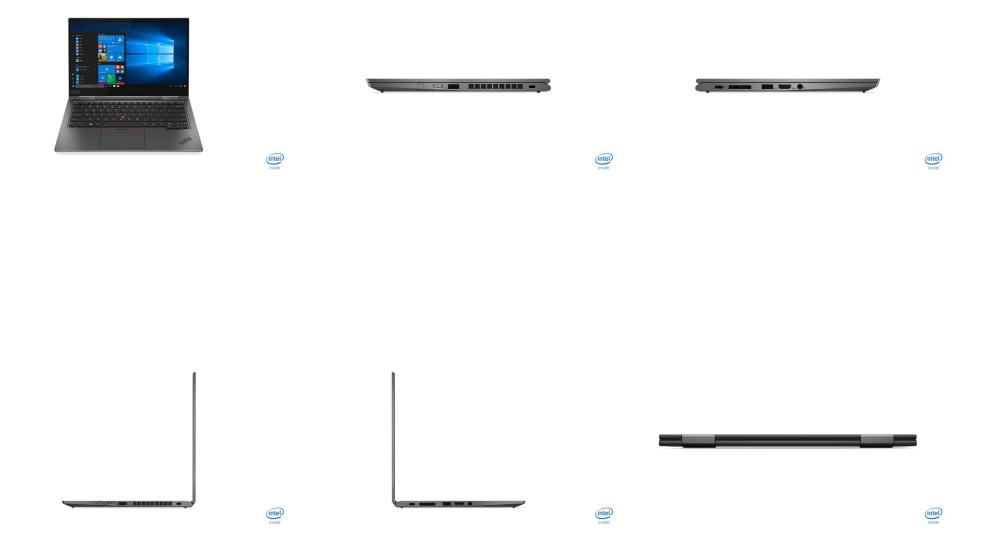






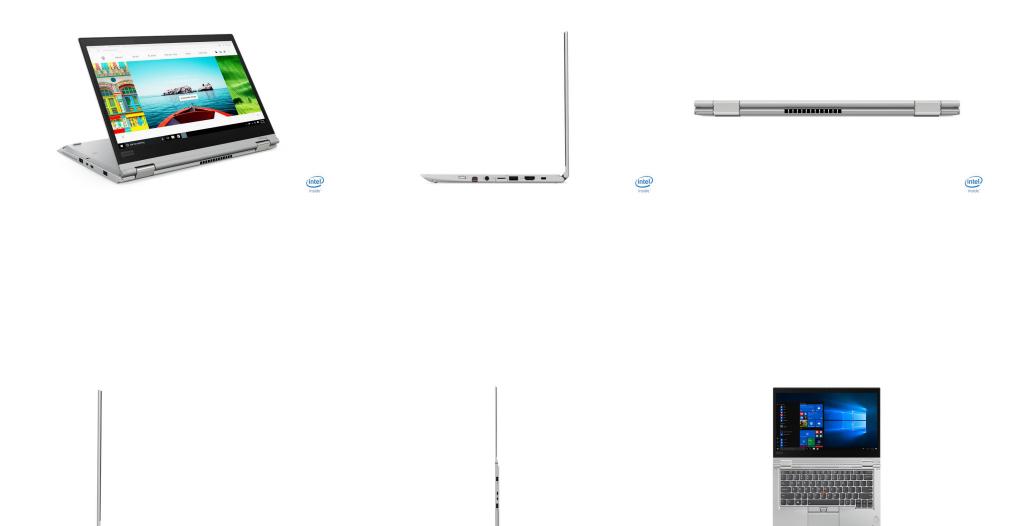
## ThinkPad X1 Yoga (3<sup>rd</sup> Gen) Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Smart card readerNo	one
	Processor Number# of Cores ThreadsBase FrequencyMax Turbo FrequencyCacheMemory TypesProcessor Graphicsi5-7300U242.6 GHz3.5 GHz3MBLPDDR3-1866Intel HD Graphics 620	Media reader Ports Mi Tw 3, he	ilicroSD card reader, supports UHS-II wo USB 3.1 Type-C Gen 2 / Thunderbolt wo USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt HDMI 1.4, Ethernet extension connector, nano-SIM card slot (WWAN models), eadphone / microphone combo jack, microSD card reader Depending on many factors, actual data transfer speed may be lower than theoretical speed
	8th Generation Intel Core i5 / i7 Processor	WiGig dock No	one IDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	Processor # of Mumber Cores Threads Frequency Frequency Cache Memory Types Processor Graphics		ISB-C to VGA: Lenovo USB-C to VGA Adapter ISB-C to DP: Lenovo USB-C to DisplayPort Adapter
	1.6 GHz   3.4 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.7 GHz   3.6 GHz   6MB   1.8 GHz   4.0 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz   8MB   1.9 GHz   4.2 GHz	72 IR * I	Ine of the following, configurable by model: 20p: HD720p camera with ThinkShutter camera privacy, fixed focus 3 & 720p: IR camera and HD720p camera, fixed focus WWAN models and HDR panel models can not support IR camera
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C;	1V	D Audio, Realtek® ALC3286 codec, Dolby® Audio™ Premium / stereo speakers, W x 2 / dual array microphone, headphone / microphone combo jack
	supports three independent displays; Max resolution: 5120x2880@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)		row wave keyboard (rise & fall), spill-resistant, multimedia Fn keys, LED backlit ackPoint® pointing device and 3+2 buttons multi-touch clickpad
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets	Security chip Dis	ower-on password, hard disk password, supervisor password, security keyhole iscrete TPM 2.0 TCG Certified
Display	Some: 14.0" (355mm) FHD (1920x1080), LED backlight, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle, IPS		Touch style match on chip fingerprint reader on the palm rest  Near Field Communication
	Some: 14.0" (355mm) WQHD (2560x1440), LED backlight, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle, IPS Some: 14.0" (355mm) HDR WQHD (2560x1440) with Dolby Vision™, LED backlight, 500 nits, 16:9 aspect ratio, 1500:1 contrast ratio, 100% gamut, 170° viewing angle, IPS	Battery Int wir Max battery life Max * E	tegrated Li-Ion 54Wh battery, supports Rapid Charge (charge up to 80% in 1hr) ith 65W USB Type-C AC adapter lobileMark® 2014: 15.4 hrs Battery life varies significantly with settings, usage, & other factors
Multi-touch	Capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge), supports 10-finger gesture, reduces overall display brightness by 10%		5W or 65W USB Type-C AC adapter mbient Light Sensor
Hinge Convert-mode Pen <i>(optional)</i>	Yoga hinge, 360 degree Laptop, tent, stand, and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable	G-sensor 3E Gyroscope 3E	D accelerometer D gyrometer PS function is integrated into WWAN module
Storage	Some: M.2 SSD / SATA 6.0Gb/s (e.g. xxxG SSD)		/indows® 10 Pro 64
Optical Ethernet	Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxG SSD PCIe NVMe) None  Native Intel Ethernet Connection WGI219-LM (vPro)	•	ne of the following, configurable by model: 1-year depot repair service 1-year depot with 2-year planar
WLAN	via optional ThinkPad Ethernet Extension Cable  Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card		3-year/1-yr battery depot repair service
	* Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS  Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter		PEAT™ Silver; ENERGY STAR®; RoHS-compliant
Bluetooth™ WWAN (optional)	Integrated Mobile Broadband 4G LTE-A,		
SIM card (opt)	Intel XMM™ 7360 (Fibocom L850-GL), M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card		
Dimensions Weight Case color	WxDxH: 13.11" x 9.02" x 0.67"; 333mm x 229mm x 17.05mm Starting at 3.08 lb (1.4kg) Black or silver		
Case material	Display cover: Carbon-Fiber and Glass-Fiber hybrid; magnesium-PPS hybrid		
			Lenovo



### ThinkPad X1 Yoga (4<sup>th</sup> Gen) Platform Specifications

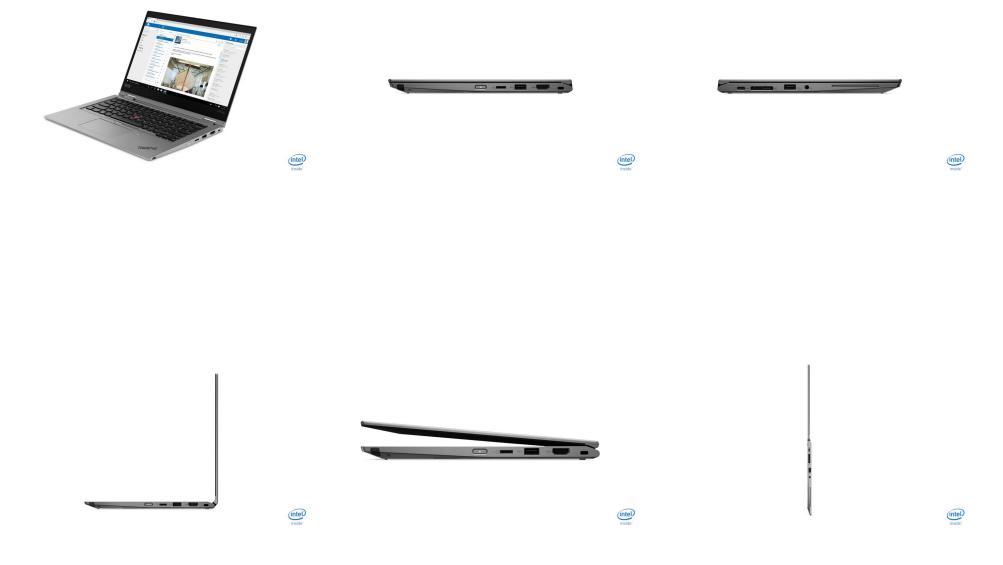
Processor					/ i7 Proce 5 / i7 Proc	ssor or essor (Not	availab	e in EMI	EA)		Dimensions Weight			
	Proces		of # of	_		Turba	ne Memo	1	Proce	essor	vveignt	Other model: starting at 3.24b / 1.47kg		
	Numl		res Threa			quency		ry rypes	Grap	hics	Case color	Iron Grey		
	i5-826			1.6 (		GHz 6ME	_				Case material	Display cover: Aluminium; Bottom: Magnesium		
	i5-836			1.6 (		GHz 6ME	_		Intel Graphi		Smart card reade			
	i7-866		4 8	1.9 (		GHz 8ME		R3-2133	Спарт	03 020	Media reader	None		
	i5-102	_		1.6 (		GHz 6ME					Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3		
	i7-105	10U		1.8 (	GHz 4.9	GHz 8ME	3		Intel	OHD hics		(with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models),		
	i7-107	10U	6 12	1.1 (	GHz 4.7	GHz 12M	В		Giap	711103		headphone / microphone combo jack, side docking connector, security keyhole		
Graphics	suppo suppo	rts exterts thre	ernal digit e indeper	al monito ndent dis	or via HDN splays;	ohics in prod MI or USB	Type-C™		,		Monitor cabl Bundled Accy	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo HDMI to VGA Monitor Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2		
					`	3 Type-C);	4096x2	160@24	Hz (HL	OMI)	Camera (optional	One of the following, configurable by model:     HD720p camera with ThinkShutter camera privacy, fixed focus		
Chipset Memory			stem on 6 3 / 2133M			lered to sy					Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC1012L codec,</li> </ul>		
Display	Size	Re	solution	Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle		Stereo speakers, 2W x 2, 0.8W x 2, Dolby® Audio™ Atmos / 4 array 360-degree far-field microphones, headphone / microphone combo jack		
	14.0"	FHD (1 Low Po	920x1080) wer	IPS	Glossy	380 nits	16:9	800:1	72%	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless Glass surface multi-touch touchpad		
		FHD (1	920x1080)								Security	Power-on password, supervisor password, system management password, hard disk password Discrete TPM 2.0 TCG Certified Optional: Intel vPro Technology		
	14.0"	Guard	ad Privacy	IPS	Glossy	380 nits	16:9	1000:1	72%	170°	Security chip System Mgt			
	14.0"	WQHD (2560x		IPS	Glossy	280 nits	16:9	800:1	72%	170°		er Touch style match on chip fingerprint reader on the palm rest  Optional: Near Field Communication		
	14.0"		8840x2160] ⁄ision™ 0	IPS	Glossy	470 nits	16:9	1400:1	90%	170°	Battery  Max battery life	Integrated Li-Ion 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter MobileMark® 2014: 18.1 hrs		
					R (anti-ref	ection), AS	S (anti-s	mudge),			AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter		
Multi-touch Hinge			finger ges 360 degre								G-sensor	3D accelerometer		
Convert-mode Pen	Laptor	o, tent,	stand, an	d tablet	or multi-to	ouch displa	y, on-bo	ard rech	argeab	le	Gyroscope GPS	3D gyrometer GPS function is integrated into WWAN module		
Storage	• M.2	2280 9	owing, conf SSD / SAT SSD / PCI	Ă 6.0Gb		) x 4	-				Preload	One of the following, configurable by model:  • Windows® 10 Pro 64  • Windows 10 Home 64		
0 11 1	<ul><li>Intel M.2</li></ul>	Optan		ry H10	with Solid	State Stor	age,				Limited warranty	1-year depot repair service		
Optical	None										_	1-year depot with 2-year planar     2-year/1-ye bettern depot repair consider		
Ethernet		Native Intel Ethernet Connection I1219-LM ( <i>vPro</i> ) or I1219-V ( <i>Non-vPro</i> ) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2									Mil-Spec test	3-year/1-yr battery depot repair service  MIL-STD-810G military testing		
WLAN Bluetooth™	Intel W Blueto	/irelessoth 5.0	-AC 9560 wireless	, Wi-Fi 2 integrat	2x2 802.11 ed in Wi-f	I ac + Bluet Fi + Blueto	tooth 5.0 oth com	M.2 ca	rd er		Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant		
WWAN (optional)	One of	the follo	wing, conf	igurable b	y model:	A, Fibocom	1 850-G	M 2 c	ard					
SIM card (opt)	<ul> <li>Integ</li> </ul>	grated	Mobile Br	oadband	I 4G LTE-	A, Fibocom A, Fibocom E (US) SIM	1 L860-G			√I.2 card				
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## ThinkPad X380 Yoga Platform Specifications

Processor					7 Processor			Dimensions	WxDxH: 12.34" x 8.75" x 0.72"; 313.5mm x 222.2mm x 18.2mm
	Processor Number	# of	# of Threads		Max Turbo Frequency Cac	ne Memory Types	Processor Graphics	Weight Case color	Starting at 3.17 lb (1.43kg) Black or silver
	i3-8130U	2	4	2.2 GHz	3.4 GHz 4M	3	Graphics	Case Material	Carbon-Fiber Hybrid
	i5-8250U			1.6 GHz	3.4 GHz 6M	3	Intel UHD	Smart card reader	Optional: Smart card reader (mutually exclusive with NFC)
	i5-8350U	4	8	1.7 GHz	3.6 GHz 6M		Graphics 620	Media reader Ports	One microSD card slot (microSD, microSDHC, microSDXC), UHS-I Two USB 3.1 Gen 1 (one Always On), Ethernet extension connector,
	i7-8550U			1.8 GHz	4.0 GHz 8M		'	FOILS	one USB 3.1 Type-C Gen 2 / Thunderbolt 3, HDMI 1.4b, microSD card reader,
	i7-8650U			1.9 GHz	4.2 GHz 8M	3		_	nano-SIM card slot (WWAN models), headphone / microphone combo jack
Graphics	Intel UHD	Graph	ics 620 i	n processoi	r only; HDMI or USB	Type C:		WiGig dock	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None
	supports t	hree ir	ndepende	ent displays	;	туре-С,		Monitor cable	USB-C to VGA: Lenovo USB-C to VGA Plus Power Adapter
						4096x2160@3	BOHz (HDMI)	(optional)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	Intel SoC	(Syste	m on Ch	ip) platform			-14-	Camera	One of the following, configurable by model:
Memory						mboard, no so emory controlle		Camera	720p: HD720p camera, fixed focus
Display				<u> </u>	LED backlight			Audio support	IR & 720p: IR camera and HD720p camera, fixed focus HD Audio, Conexant® CX11771 codec / stereo speakers, 2W x 2 /
	300 nits, 1	6:9 as	pect ratio	o, 800:1 cor	ntrast ratio, 17	o viewing angle			dual array microphone, headphone / microphone combo jack
	Supports 1				i-reflection), A	S (anti-smudge)	),	Keyboard	6-row, spill-resistant, multimedia Fn keys, LED backlight
Hinge	Yoga hinge	e, 360	degree					UltraNav™	TrackPoint® pointing device and 3+2 buttons Mylar surface multi-touch click pad
Convert-mode Pen	Laptop, ter	nt, staı Pon Pı	nd, yoga ro, activo	and tablet	lti-touch dienla	y, on-board red	haraeable	Security	Power-on password, hard disk password, supervisor password, security keyhole
Storage					g. xxxG SSD)	ly, on-board rec	nargeable	Fingerprint reader NFC (optional)	Discrete TPM 2.0 TCG Certified Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest
Storage	Some: M.	2 SSD	/ PCle N	NVMe, PCIe	3.0 x 4, 32Gl	/s (e.g. xxxG S	SD PCIe NVMe)		
	None None								Near Field Communication (mutually exclusive with smart card reader)
-1		l C+bo	rnat Cam	naction IO1	0 V /Non v/Dr	) or I219-LM ( <i>v</i>	(Dra)	Battery Max battery life	Li-lon 51Wh battery  MobileMark® 2014: 13.6 hrs
				nection iz i ernet Exter		) or 1219-LIVI (V	P10)		* Battery life varies significantly with settings, usage, & other factors
WLAN	Intel Dual	Band \	Nireless-	AC 8265, W	Vi-Fi 2x2 802.1	1ac + Bluetootl	h 4.1, M.2 card	AC adapter	45W or 65W AC adapter (slim tip), 45W or 65W USB Type-C AC adapter
	* Intel 826	Sac ca	ard suppo	orts BT4.2 b	out is limited to	BT4.1 by Wind	lows OS	Light sensor G-sensor/	Ambient Light Sensor 3D accelerometer and 3D magnetometer
Bluetooth™						oth combo ada	pter	eCompass	3D compass
WWAN (optional)					≣, 8), M.2 card (E	MEA only)		Gyroscope	3D gyrometer
	Nano-SIM			III LOSU-EB	o), IVI.2 Caru (E	VIEA OIIIy)		Preload	Some: Windows® 10 Home 64
(-1-7				•				Lineite ele en ent.	Some: Windows 10 Pro 64
								Limited warranty	One of the following, configurable by model:  • 1-year depot repair service
									1-year depot with 2-year planar
									3-year/1-yr battery depot repair service
								Mil-Spec test	MIL-STD-810G military testing
								Environment	EPEAT™ Gold; ENERGY STAR®; RoHS-compliant

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### ThinkPad X390 Yoga Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor	Smart card reade	rOptional: Smart card reader		
	Processor H of H of Base Max Turbo Cache Memory Types Processor Graphics	Media reader Ports	MicroSD card reader, in the combo slot with nano-SIM card Two USB 3.1 Gen 1 (one Always On),		
	Number Cores Threads Frequency Frequency Cache Memory Types Graphics  i5-8265U 4 8 1.6 GHz 3.9 GHz 6MB	FOITS	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and Display Port), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),		
	i5-8365U 4 8 1.6 GHz 4.1 GHz 6MB		one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector,		
			combo slot of nano-SIM card (WWAN models) and microSD card reader,		
	i7-8665U 4 8 1.9 GHz 4.8 GHz 8MB		headphone / microphone combo jack, optional smart card reader, side docking connector, security keyhole		
Graphics	Intel UHD Graphics 620 in processor only; supports external digital monitor via HDMI or USB Type-C;		* Depending on many factors, actual data transfer speed may be lower than theoretical speed		
	supports three independent displays;	Monitor cable	USB-C to HDMI: Lenovo USB-C to HDMI Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter		
	Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)		USB-C to DP: Lenovo USB-C to DisplayPort Adapter		
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets	Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2		
Memory	* Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation	Camera	One of the following, configurable by model:  • HD720p camera, with ThinkShutter camera privacy, fixed focus		
Display	13.3" (337.8mm) FHD (1920x1080), LED backlight, IPS, Glossy, 270 nits,		IR camera and HD720p camera, with ThinkShutter camera privacy, fixed focus		
	16:9 aspect ratio, 800:1 contrast ratio, Color Gamut 72%, 170° viewing angle, capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge)	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Pre-		
Multi-touch	supports 10-finger gesture	Keyboard	mium / dual array microphone, headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys, LED backlight		
Hinge	Yoga hinge, 360 degree	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Convert-mode Pen	Laptop, tent, stand and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable	Security	Power-on password, supervisor password, system management password,		
Storage	• M.2 2280 SSD / SATA 6.0Gb/s	Security chip	hard disk password, security keyhole Discrete TPM 2.0 TCG Certified		
· ·	<ul> <li>M.2 2280 SSD / PCle NVMe, PCle 3.0 x 4</li> </ul>	System Mat (opt)	Intel vPro Technology		
	<ul> <li>M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2</li> <li>Intel Optane Memory H10 with Solid State Storage,</li> </ul>	Fingerprint reade	erTouch style match on chip fingerprint reader on the palm rest  Near Field Communication		
O 1 TH	M.2 2280, PCIe NVMe 3.0 x 4	NFČ (optional) Battery	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr)		
Optane™ memory Optical	Optional: Intel Optane Memory H10 None	Dattery	with 65W USB Type-C AC adapter		
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)	Max battery life	MobileMark® 2014: 14.5 hrs		
	via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter		
WLAN	One of the following, configurable by model:  • Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0	Light sensor	None		
	• Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0	G-sensor Gyroscope	3D accelerometer 3D gyrometer		
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Preload	Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN (optional)	One of the following, configurable by model:  Integrated Mobile Broadband 4G LTE, Fibocom L830-EB,	Limited warranty	One of the following, configurable by model:		
	M.2 card (EMEA only)	Limited warranty	1-year depot repair service		
	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card     For non-WWAN model, it means the model is NOT WWAN upgradable		<ul> <li>1-year depot with 2-year planar</li> <li>3-year/1-yr battery depot repair service</li> </ul>		
Dimensions	· ·	_	3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service		
	<i>WxDxH</i> : 12.22" x 8.62" x 0.63"; 310.4mm x 219mm x 15.95mm Starting at 2.85 lb (1.29kg)	Mil-Spec test	MIL-STD-810G military testing		
Case color	Black or silver (Silver is not available in EMEA)	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		
Case Material	Display cover. Carbon-Fiber Hybrid Bottom: Carbon-Fiber Hybrid		·		
	Salbon Fibor Hybrid		Langua		

Lenovo July 2019



## ThinkPad Yoga 11e (5<sup>th</sup> Gen) Platform Specifications

Processor	7th Generation Intel® Core™ m / i5 Processor, Intel Celeron® processor, or Intel Pentium® Silver processor							cessor, or	Dimensions Weight	<i>WxDxH</i> : 11.81" x 8.27" x 0.89"; 300mm x 210mm x 22.5mm From 3.4 lb (1.54kg)
	Processor Number	# of Cores	# of Threads	Base Frequency	Burst Frequency	Cache	Memory Controller	Processor Graphics	Case color Case material	Black Display cover: PC/ABS+GF; Bottom: PC/ABS plastic
	m3-7Y30	2			2.6 GHz	4MB	LPDDR3-1866	Intel HD Graphics	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1, HDMI1.4,
	i5-7Y54			1.2 GHz	3.2 GHz	4MB	LI DDI 13-1000	615	FOILS	Ethernet (RJ-45), headphone / microphone combo jack,
	Cel N4100		4	1.1 GHz	2.4 GHz	4MB	DDD 4 0 400	Intel UHD Graphics 600		microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Pen N5000	4		1.1 GHz	2.7 GHz	4MB	DDR4-2400	Intel UHD Graphics 605	Control buttons	Power button, volume control button
Graphics	Intol UD C	rophic	0 61E I	ntal LIUD (	Prophico 6	00 01	20E in process		Camera	One of the following, configurable by model:
Graphics	Intel HD Graphics 615, Intel UHD Graphics 600 or 605 in processor, supports external digital monitor via HDMI or USB Type-C; supports dual independent display; Max resolution: 3840x2160@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)								Audio support	720p: HD720p resolution, low light sensitive, fixed focus World facing: Rear camera, 5MP resolution, auto focuss HD Audio, Realtek® ALC3287 codec Dolby Audio / stereo speakers, 2W x 2 / monaural microphone, headphone / microphone combo jack
Chipset Memory	Intel SoC (System on Chip) platform 4GB or 8GB / 1866MHz LPDDR3 or 2400MHz DDR4 /								Keyboard UltraNav™	6-row, multimedia Fn keys Two buttons click pad below keyboard, multi-touch
Display MultiTouch	soldered to systemboard, no sockets  11.6" (295mm) HD (1366x768), anti-glare, LED backlight, IPS 250 nits, 16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle Capacitive-type multi-touch, support 10 fingers							le	Security Security chip System Mgt (opt) Fingerprint reader	
Hinge Convertible mode Pen	Yoga hinge Laptop, ter Optional:	nt. sta	nd and t	ablet Pro, batter	ries requir	ed, on-	board garage		Battery Max battery life	Integrated Li-lon 42Wh battery  MobileMark® 2014: 12 hrs  * Battery life varies significantly with settings, usage, & other factors
Storage	eMMC flas								AC adapter	45W or 65W slim tip AC adapter or USB Type-C AC adapter
Optical	M.2 SSD / None	PCIe	NVMe,	PCIe 3.0 x	2, 16Gb/s	; 			Preload	Some: Windows® 10 Home 64 Some: Windows 10 Pro 64
Ethernet	Realtek R					Conne	ction		Limited warranty	One of the following, configurable by model:
WLAN	One of the following, configurable by model:  • Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card									<ul><li>1-year depot repair service</li><li>3-year depot repair service</li></ul>
Bluetooth™							etooth 5.0, M. combo adapte		Mil-Spec test	MIL-STD-810G military testing
WWAN	None						· ·		Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant

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**Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

#### Lenovo Services:

**Carry-in or Mail-in Service:** Parts and labor repair coverage where the customer is responsible for shipping (including packaging) or delivery to authorized warranty provider or repair center.

**Depot or Courier Service:** Parts and labor repair coverage where shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

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Onsite / In-home Service: Parts and labor repair coverage where labor is provided onsite at your place of business.

If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit http://psref.lenovo.com/ for the latest version of Product Specifications Reference.

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### **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

#### September 2019 - Version 549

#### Additions in this update

► New product(s)

ThinkCentre M75s SFF ThinkCentre M720e SFF

► New model(s)

None

**▶** Others

None

#### Withdrawals in this update

► Withdrawn product(s)

None

► Withdrawn model(s)

None













#### ThinkCentre M810z Platform Specifications

Processor	Intel® Celeron®, Int	tel Pentiur	n®, or 6th / 7th G	en Intel	Core™ i3 / i5 / i7 I	Processor	Security features	Security slot (in rear for attachment of     Power-on, admin, hard disk password			
	Processor	Cores /	Frequency	Cache	Memory Support		1	optional Kensington® MicroSaver® cable; • Boot sequence control			
		1	Base/Max(GHz)		(Up to)	Graphics		<ul> <li>Kensington lock also locks chassis)</li> <li>Smart USB protection, allows keyboard/</li> <li>Individual USB port disablement</li> </ul>			
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510	-	mouse only, blocks all storage devices   Optional Chassis intrusion switch			
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610	-	Optional cable lock to physically lock     Is the send and may see			
	Pentium G4600	2/4	3.6G 3.7G	3 MB 3 MB	DDR4-2400 DDR4-2133	HD 630	17. 1	keyboard and mouse			
	Core i3-6100 Core i5-6500	4/4				HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i7-6700	4/4	3.2G / 3.6G 3.4G / 4.0G	6 MB 8 MB	DDR4-2133 DDR4-2133	HD 530 HD 530	-	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	Core i3-7100	2/4	3.4G / 4.0G 3.9G	3 MB	DDR4-2133 DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
	Core i5-7100	4/4	3.0G / 3.5G	6 MB	DDR4-2400 DDR4-2400	HD 630	-	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Mechanical	Business black color			
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	1	• Toolless stand			
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	1	Support VESA mount (100mm)			
Marian		•					4	Dimensions (WxDxH) Max weight (lb / kg) Adjustments			
Memory	32GB max, DDR4 * System clocks do	,			*			Without stand: 21.1 X 1.8 X 14.3 (inch); (Touch) 14.6 / 6.6 (Non-touch) 12.8 / 5.8 N/A			
Storage	Some: Hard Drive Some: Solid State	Drive (S	SD) / SATA 6.0G	b/s. 2.5"	· ·			With Basic Monitor stand: 21.1 X 9.6 X 17.0 (inch); (Non-touch) 17.0 / 7.7 Tilt: 45° back, -5° forward			
Optical	Some: M.2 Solid Some: Intel Optar Some: DVD-RON Some: DVD Burn	State Driv ne™ Memo I SATA 1.5 er (DVD±l	e (SSD) / PCIe N ory (models with 5Gb/s Drive, slim RW), SATA 1.5Gl	IVMe, Po 7th gen (9.5mm)	Core processor),	√s M.2		With UltraFlex II stand: 21.1X 10.0 X 19.3 (inch); (Touch) 20.3 / 9.2 (Non-touch) 18.3 / 8.3 Tilt: 61° back, -5° forward; (Non-touch) 18.3 / 8.3 Lift: 110mm; Swivel: +/-45°			
Media reader	Optional 9-in-1 me	edia card r	eader				Power supply	150 watts, autosensing, 85% PSU			
Graphics	Intel HD Graphics external monitor si	upport via	DisplayPort <sup>™</sup> ;	-	•	DirectX® 12	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
Display	Max resolution: 40 21.5" (546.1mm) F angle (+/- 89°), LE anti-glare, support	<b>Full HD 1(</b> D backligl	<b>)80p (1920x108)</b> nt, 250 nits, 16:9	D) TFT co	olor, MVA panel,	wide viewing rast ratio,	Preload	Preloaded operating system  Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit  Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit  Some: Windows 10 Home 64-bit  Preloaded applications (only some listed)  • Microsoft Office preloaded; purchase a product key to activate - Only for Window 10  • Lenovo Companion			
Multi-touch Camera	Optional Projected Optional 1080p ca switch on/offf	I Capacitiv mera, fixe	re Touch (PCT) to d focus, with dua	al microp	hone, LED indica	tor, physical					
Controls	Physical buttons for	or Microph	one mute, bright	ness up/	down, and power	on/off		- Only for Window 7			
Chipset	Intel B250 Chipse	et					]	Lenovo Solution Center     Lenovo ThinkVantage Tools			
Rear ports* Side ports*	Four USB 3.1 Gen Two USB 3.1 Gen one headphone / r * Depending on man	1 (one is A nicrophon v factors, ac	Always On and fa e combo jack (3. ctual data transfer s	st chargi 5mm) speed may	e), optional card r	reader,		ThinkVantage System Update Create Recovery Media Adobe® Reader® Cyberlink PowerDVD Create			
M.2 card slot	Two M.2 Card slot	`			<u> </u>		<u> </u>	(ĎVD±RW)			
Audio support	High Definition (HI Dolby <sup>®</sup> Audio™ cer	,	Realtek ALC233	/ two inte	ernal speakers (2'	W x 2),	Environment	EPEAT™ Gold rating (North America); ENERGY STAR® 6.1; TCO AIO Computer Certified; ErP Lot 3; GREENGUARD® certified; RoHS-compliant			
WLAN <sup>13</sup>	Some: 11ac wirel Wi-Fi + Blu	ess, M.2 ( uetooth 4.	Card, Qualcomm 1 combo adapter	Atheros	QCA9377A (dua	l band),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock)			
	Some: 11ac wirel	ess, M.2 (	Card, Qualcomm 1 combo adapter	Atheros	QCA6174A (dua	l band),	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com			
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.1 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,										
	Some: 11ac wirel	ess, M.2 ( letooth /	Card, Intel Dual E 1 combo adapter	sand Wir · 2x2	eiess-AU 8265,						
Bluetooth™ Ethernet	Some: Bluetooth 4 Gigabit ethernet, F	.1 wireles	s, integrated in V	Vi-Fi + Bl	uetooth combo a	dapter					
Manageability Security chip	None TPM (Trusted Plat * Downgrade to TF				G Win7 32 OS						
Soo footpotos for	more detailed informa	tion			<u>-</u>			© Lenovo			

























#### **ThinkCentre M820z Platform Specifications**

Drococc	Intol® Coloron® Intol	Dontium®	or 9th / 9th Con	Intol Co	roTM i2 / i5 / i7 / i0	) oorioo	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),		
Processor	Intel® Celeron®, Intel				1		WLAN	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		
	Processor		Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,		
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,		
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610	Bluetooth™	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter		
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Ethernet	Gigabit ethernet, Realtek RTL8111G, Wake on LAN®		
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Manageability	None		
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	, ,	Security slot (in rear for attachment of     Power-on, admin, hard disk password		
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	. Cooding locatoroo	optional Kensington® MicroSaver® cable; • Boot sequence control		
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		Kensington lock also locks chassis)  • Boot without keyboard and mouse		
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630		<ul> <li>Smart USB protection, allows keyboard/</li> <li>Individual USB port disablement mouse only, blocks all storage devices</li> <li>Optional Chassis intrusion switch</li> </ul>		
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	16 1			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black		
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black		
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black		
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Mechanical	Business black color		
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Toolless back cover, stand, memory removal     Support VESA mount (100mm)		
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630		Support VESA mount (100mm)		
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Dimensions (WxDxH) Max weight (lb / kg) Adjustments		
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	_	Without stand (No camera):		
Memory	32GB max (16GB SC	)-DIMM o	nly available via	special b	oid models), DDR	4-2666*,	1	19.3 X 1.9 X 13.5 (inch) (Touch) 11.6 / 5.25 (Non-touch) 11.1 / 5.05 N/A		
,	two 260-pin SO-DIMN	√ sockets	, dual-channel ca	apable				With Full Function Monitor stand (No camera):		
	* System clocks dowr	n for the p	rocessors with lo	wer me	mory controller			Tilt: 45° back -5° forward:		
Storage	Some: Hard Drive / S	SATA 6.00	ab/s. 2.5". 5400	om or 7	200 rpm			19.3 X 9.9 X 14.8 to 19.1 (inch) 491 X 252 X 377 to 486 (mm) (Non-touch) 15.8 / 7.18 Lift: 110mm;		
	Some: Solid State D	rive (SSD	) / SATA 6.0Gb/s	, 2.5"				Swivei. +/-45		
	Some: M.2 SSD / PC	Cle NVMe	, PCle 3.0 x 4*,	32Gb/s	N- 0 0 0 400h	1-		With UltraFlex III stand (No camera):  (Touch) 17.0 / 7.05   Tilt: 70° back, -5° forward;		
	* 128GB SSD M.2 (2)	242) PCIE Memory	NVIVIE only sup	ports PC	Dentium Processo	/S r\ M 2		[19.3 X 9.9 X 16.4 (nignest) (inch)   (10uch) 17.3 / 7.85   Lift 136mm;		
Optical	Some: Intel Optane™ Memory (not support Celeron / Pentium Processor), M.2 Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm)							491 X 252 X 416 (highest) (mm)   (Non-touch) 16.9 / 7.65   Swivel: +/-45°		
•	Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm)						Power supply	150 watts, autosensing, 90% PSU		
Media reader	Optional 3-in-1 media	card rea	der					. 0.		
Graphics	Intel HD Graphics 6			main me	emory, DirectX® 1	2,	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
	external monitor supp			4000 /B	lonal\@60U-		Dueleed			
Display	Max resolution: 4096 21.5" (546.1mm) Ful					sian	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit		
Diopiay	MVA panel, wide viev	ving angle	e (+/- 89°), LED k	acklight	, 250 nits, 16:9 as	spect ratio,		Some: Windows 10 Home 64-bit		
	1000:1 contrast ratio,	anti-glare	e, support Low B	lue Light	Mode			Preloaded applications (only some listed)		
Multi-touch	Optional multi-touch,	supports	10-point, AIT (A	dvanced	In-cell Touch) ted	chnology		Lenovo Vantage		
Camera	Optional 1080p came off, supports multi-de	era, with d aree rotat	uai microphone, ion (horizontal 0	LED ING	ocator, physical si	WITCH OH/ 25°)		Microsoft Office preloaded; purchase a product key to activate     Output link Program (No. 1977)		
Controls	Physical buttons on s					23 )		<ul> <li>Cyberlink PowerDVD (only for models with DVD / ĎVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>		
Chipset	Intel B360 Chipset						-	LinkedIn		
						-\	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models), ErP Lot 3,		
Rear ports*	Four USB 3.1 Gen1 (one supports Smart Power On), one ethernet (RJ-45), one DisplayPort, one optional serial (9-pin),						Livinoriinorii	TCO AIO Computer certified, GREENGUARD® certified, TUV Eye comfort certified		
Side ports*	one USB 3.1 Gen2 (c	ne is Alw	avs On and fast	charge).	one USB 3.1 Tvp	e-C Gen 1.		(for Full Function Monitor Stand only), TUV Low Blue Light certified,		
5.00 p 5.10	one optional card rea	der, one h	neadphone / mic	rophone	combo jack (3.5r	nm)		TUV Ultra Low Noise certified (on some models), RoHS-compliant		
	* Depending on many fa Two M.2 Card slots (c						MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,		
M.2 card slot	<u>:</u>							Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)		
Audio support	High Definition (HD)	,	altek ALC233 / t	wo interr	nal speakers (2W	x 2),	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
	Dolby <sup>®</sup> Audio™ Premi	um								
Note: The enerific	ations above may not be	واطوانويو	in all maniana					Lenovo June 2010		













#### ThinkCentre M910z Platform Specifications

Processor	Intel® Celeron®, Int	tel Pentiur	m®, or 6th / 7th G	en Intel	Core™ i3 / i5 / i7 I	Processor	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified			
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	1 ' '	* Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS			
		Threads	· /		(Up to)	Graphics	Security features	<ul> <li>Security slot (in rear for attachment of optional Kensington® MicroSaver® cable;</li> <li>Boot sequence control</li> </ul>			
	Core i3-6100 Core i5-6500	2/4	3.7G 3.2G / 3.6G	3 MB 6 MB	DDR4-2133 DDR4-2133	HD 530 HD 530	-	Kensington lock also locks chassis)   • Boot without keyboard and mouse			
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530	-	Smart USB protection, allows keyboard/     Individual USB port disablement     Chicago Characteristics and the second control of the second control o			
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630	1	mouse only, blocks all storage devices  Optional Chassis intrusion switch  Optional cable lock to physically lock			
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	1	keyboard and mouse			
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	1	Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black			
Memory	32GB max, DDR4	-2400*. tw	o 260-pin SO-D	IMM soci	kets. dual-channe	l capable	INIOUSE	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
,	* System clocks do		•				Mechanical	Business black color			
Storage	Some: Hard Drive	e / SATA 6 e Drive (S	.0Gb/s, 2.5", 540 SD) / SATA 6.0G	00 rpm oi b/s, 2.5"	7200 rpm		Medianical	Toolless back cover, stand, disk, memory removal     Support VESA mount (100mm)			
	Some: M.2 Solid	State Driv	e (SSD) / PCIe N	√VMe, P				Dimensions (WxDxH) Max weight (lb / kg) Adjustments			
Optical	Some: Intel Optar Some: DVD-ROM	ne™ Mem ∉SΔTΔ 1 ¤	ory (models with 5Gh/s Drive, slim	7th gen	Core processor),	M.2		Without stand: 23.0 X 1.8 X 15.4 (inch); (Touch) 17.2 / 7.8			
Optical	Some: DVD-NON	er (DVD±	RW), SATA 1.5G	b/s Drive	) e, slim (9.5mm)			584 X 45 X 590 (mm) (Non-touch) 15.0 / 6.8			
Media reader	Optional 9-in-1 me	edia card r	eader			10	_	With Basic 23.0 X 9.6 X 18.0 (inch); (Non-touch) 19.4 / 8.8 Tilt: 45° back, -5° forward			
Graphics	Intel HD Graphics external monitor so	upport via	in processor, us DisplavPort™:	es main	memory, DirectA	12,		Tilt: 61° back,			
	Max resolution: 40	)96x2304	(DP)@60Hz, 192					With UltraFlex   23.0X 10.0 X 19.9 (inch);   (Touch) 22.7 / 10.3   -5° forward;   II stand:   584 X 253 X 505 (mm)   (Non-touch) 20.7 / 9.4   Lift: 110mm;			
Display	23.8" (604.5mm) F	Full HD 10	080p (1920x108	0) TFT c	olor, WVA panel,	wide viewing		Swivel: +/-45°			
	angle (+/- 89°), LE anti-glare, support	:D backlig :Low Blue	nt, 250 nits, 16:9 Light Mode wo	aspect i rk as sta	atio, 1000:1 conti ndalone monitor v	ast ratio,	Power supply	150 watts, autosensing, 85% PSU			
	DisplayPort (DP in			ik as sia	ridaione monitor v	πα					
Multi-touch	Optional Projected Capacitive Touch (PCT) technology, supports 10-point touch Optional 1080p camera, fixed focus, with dual microphone, LED indicator, physical switch on/offf						Limited warranty <sup>3</sup>	3 Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
Camera							Preload	Preloaded operating system Preloaded applications (only some			
Controls	Physical buttons for and power on/off	or Microph	none mute, monit	or mode	switch, brightnes	s up/down,	Preioad	Some: Windows® 7 Professional 32/64 listed) preinstalled through downgrade • Microsoft Office preloaded;			
Chipset	Intel Q270 Chipse	et					-	rights in Windows 10 Pro 64-bit purchase a product key to activate			
Rear ports*	Four USB 3.1 Gen	1, etherne	et (RJ-45), Displa	ayPort in	out combo port,			Some: Windows 10 Pro 64-bit - Only for Window 10 Lenovo Companion			
	optional serial (9-pin) Two USB 3.1 Gen1 (one is Always On and fast charge), optional card reader,							- Only for Window 7			
Side ports*	Two USB 3.1 Gen one headphone / r	1 (one is A	Always On and ta	st charg	e), optional card r	reader,		Lenovo Solution Center     Lenovo Think/ortage Teals			
	* Depending on many							<ul><li>Lenovo ThinkVantage Tools</li><li>ThinkVantage System Update</li></ul>			
M.2 card slot	Two M.2 Card slot					romour opoou		Create Recovery Media			
Audio support	High Definition (HI	D) Audio,	Realtek ALC233	/ two inte	ernal speakers (3'	W x 2),	1	Adobe® Reader®     Cubadiak PayerPVD Create			
	Dolby <sup>®</sup> Audio™ cer	rtified				, .		<ul> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>			
WLAN <sup>13</sup>	Some: 11ac wirel				QCA9377A (dua	l band),	Environment	EPEAT™ Gold rating (North America); ENERGY STAR® 6.1; TCO AIO Computer			
			1 combo adapte		00001740 /dis-	l la a .a al\		Certified; ULE Gold; ErP Lot 3; GREENGUARD® certified; RoHS-compliant			
	Some: 11ac wirel Wi-Fi + Blı		Jard, Qualcomm 1 combo adapte		QCA6174A (dua	i band),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,			
	Some: 11ac wirel				eless-AC 3165,			Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock)  For compatible accessories, please go to http://www.lenovoquickpick.com			
	Some: 11ac wirel	ess, M.2 (	1 combo adapte Card, Intel Dual E	Sand Wir	eless-AC 8265,		Accessories				
			1 combo adapte		alaaa AC gage						
	Some: 11ac wirel Wi-Fi + Blı				eiess-AC 8265, Pro technology su	pport. 2x2					
Bluetooth™	Some: Bluetooth 4	I.1 wireles	ss, integrated in V	Vi-Fi + B	luetooth combo a	dapter					
Ethernet	Gigabit ethernet, In	ntel Ether	net Connection I	219-LM	(Jacksonville), Wa	ke on LAN®	]				
Manageability	Intel Active Manag Intel vPro technolo	gy on sor	ne modéls (requ	ire choos	sing a vPro-suppo	ort Wi-Fi					
	adapter to enable	vPro func	tion through wire	less con	nection)						
See footnotes for	more detailed informa	ation						© Lenov			



















#### **ThinkCentre M920z Platform Specifications**

Processor	Intel® Celeron®, Intel Pentium®, or 8th / 9th Gen Intel Core™ i3 / i5 / i7 / i9 series						Audio support	High Definition (HD) Audio, Realtek ALC233 / two internal speakers (3W x 2),		
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Dolby® Audio™ Premium		
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),		
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610	1	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,		
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),		
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Bluetooth™	Wi-Fi + Bluetooth 5.0 combo adapter, Intel vPro technology support, 2x2 Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter		
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®		
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Manageability	Intel Active Management Technology 12.0 (Intel AMT 12.0);		
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	-	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	O a a consider carbains	adapter to enable vPro function through wireless connection)		
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security features	<ul> <li>Security slot (in rear for attachment of optional Kensington® MicroSaver® cable;</li> <li>Boot sequence control</li> </ul>		
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	_	Kensington lock also locks chassis)   Boot sequence control  Boot sequence control  Boot sequence control		
	Core i3-9100 Core i3-9300	4/4	3.6G / 4.2G 3.7G / 4.3G	6 MB 8 MB	DDR4-2400 DDR4-2400	UHD 630	-	<ul> <li>Smart USB protection, allows keyboard/</li> <li>Individual USB port disablement</li> </ul>		
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices   Optional Chassis intrusion switch		
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	-	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black		
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Wireless Reyboard (2.4-cm/2 via 635 receiver), black		
	Core i9-9900	8/16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	-	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
Mamani								Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
Memory	32GB max (16GB SC two 260-pin SO-DIMI * System clocks down fo	M sockets or the proce	, dual-channel c essors with lower m	apable emory co	ntroller		Mechanical	<ul> <li>Business black color</li> <li>Toolless back cover, stand, disk, memory removal</li> <li>Support VESA mount (100mm)</li> </ul>		
Storage	Some: Hard Drive / : HDDs (2nd F				200 rpm, support support (RAID pr			Dimensions (WxDxH) Max weight (lb / kg) Adjustments		
	available via	special bi	d model)		oapport ( p.	0001 01,		Without stand (No camera):		
	Some: Solid State D	rive (SSD	) / SATA 6.0Gb/s	3, 2.5"				21.3 X 1.8 X 13.7 (inch) (Touch) 14.0 / 6.34 N/A (Non-touch) 13.5 / 6.13		
	Some: M.2 SSD / PC * 128GB SSD M.2 (2242	CIE NVME 2) PCIe NV	e, PCIe 3.0 x 4^, Me only supports f	32Gb/s 2Cle 3.0 x	2 16Gh/s			With Full Function Monitor stand (No camera):		
	Some: Intel Optane	Memor  Memo	(not support Ce	eleron / P	entium Processo	r), M.2		21.3 Y 9.9 Y 15.9 to 20.2 (inch) Tilt: 45° back -5° forward:		
Optical	Some: DVD-ROM S	ATA 1.5G	b/s Drive, slim (9	).0mm)		,		542 X 252 X 405 to 514 (mm) (Non-touch) 18.2 / 8.26   Titl: 43 back, 3 followard, Lift: 110mm; Swivel: +/-45°		
Madia raadar	Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm) Optional 3-in-1 media card reader							With UltraFlex III stand (No camera):		
Media reader Graphics	Intel HD Graphics 6	<b>10/630</b> in	processor, uses	main me	emory, DirectX® 1	2,	-	21.3 X 9.9 X 14.3 to 17.5 (inch) (Touch) 19.7 / 8.94 Tilt: 70° back, -5° forward; 542 X 252 X 363 to 444 (mm) (Non-touch) 19.2 / 8.73 Lift: 136mm; Swivel: +/-45°		
	external monitor supp Max resolution: 4096			v1080 (P	22201)@60Hz		Power supply	150 watts, autosensing, 90% PSU		
Display	23.8" (604.5mm) Ful WVA panel, wide view	II HD 108	Op (1920x1080)	TFT cold	<b>or</b> , Borderless des		Limited warranty <sup>3</sup>	3 Some: 1-year or 3-year, depot repair service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
	1000:1 contrast ratio,	, anti-glare	e, support Low B					Preloaded operating system		
	monitor via DisplayPo							Some: Windows 10 Pro 64-bit		
Multi-touch Camera	Optional multi-touch, Some: 1080p camer	supports	10-point, AII (A	dvanced	In-cell louch) ted	chnology		Some: Windows 10 Home 64-bit		
Camera	supports mul	ti-dearee	rotation (horizon	tal 0° to	180°, vertical -25	° to 25°)		Preloaded applications (only some listed)		
	Some: RGBIR came	era. 1080r	with dual micro	phone, r	physical switch on	n/off.		<ul><li>Lenovo Vantage</li><li>Microsoft Office preloaded;purchase a product key to activate</li></ul>		
	supports mul	ti-dearee	rotation (horizon	tal 0° to	180°. vertical -25'	° to 25°)		Cyberlink PowerDVD (only for models with DVD / DVD±RW)		
Controls	Physical buttons on s	iio suppor side for mi	t, only available crophone mute a	via speci and powe	er on/off			<ul> <li>Cýberlink Power2GO (onlý for models with DVD±RW)</li> <li>LinkedIn</li> </ul>		
Chipset	Intel Q370 Chipset		<u></u>				Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models), ErP Lot 3,		
Rear ports*	Four USB 3.1 Gen1 (	one supp	orts Smart Powe	er On), oi	ne ethernet (RJ-4	5),	1	TCO AIO Computer certified, GREENGUAŘD® certified,		
·	one DisplayPort in/ou	it combo	port, one optiona	ıl serial (	9-pin)			TUV Eye comfort certified, TUV Low Blue Light certified,		
Side ports*	one USB 3.1 Gen2 (c							TUV Uİtra Low Noise certified (on some models), RoHS-compliant		
	USB 3.1 Type-C Gen combo jack (3.5mm)		nionai card read	er, one h	ieaapnone / micro	ppnone	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)		
	* Depending on many fa	ctors, actu	al data transfer spe	ed may b	e lower than theoret	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
M.2 card slot	Two M.2 Card slots (	one for W	LAN, one for SS	D/Optáno	e)		70069901169	i or companible accessories, please go to mup://smartimu.ienovo.com		













#### ThinkCentre M600 Tiny Platform Specifications

Processor	Intel® Celeron® F	Processor	N3000 Series or	Intel Penti	ium® Processor	N3000 Series	Keyboard		B Keyboard (USB connector), Lenov	o logo			
	Processor	Cores / Threads	Frequency (Base/Max)	Cache	Memory Types	Integrated Graphics	Mayraa	Some: Lenovo USB Fingerprint Keyboard (USB connector) Some: Ultraslim Plus Wireless Keyboard (2.4GHz via USB receiver)		eceiver), black			
	Celeron N3050	2/2	1.6 / 2.16 GHz	2MB	DDR3L-1600	Intel HD	Mouse	Some: Enhanced Optical USB Mouse, black, Lenovo logo Some: Ultraslim Plus Wireless Mouse (2.4GHz via USB receiver), black	iver) black				
	Celeron J3060	2/2	1.6 / 2.48 GHz	2MB	DDR3L-1600	Intel HD 400	 Mechanical	• Tiny (1L), black color, m	<u> </u>	ivory, black			
	Pentium N3700		1.6 / 2.4 GHz	2MB	DDR3L-1600	Intel HD	Mechanica	Tilly (TE), black color, ill					
	Pentium J3710		1.6 / 2.64 GHz	2MB	DDR3L-1600				Dimensions (WxDxH)	Max weight (lb / kg)			
Chipset			C that integrates In es into a single s			ics, memory		M600 Tiny only (1L)	7.05" X 7.20" X 1.36" 179mm X 182.9mm X 34.5mm	2.9 lb (1.3 kg)			
Graphics	twoDisplayPort™	<sup>и</sup> , one opti	essor, uses main ional 3rd DP (not	memory, D support D	DirectX® 11.1, P to HDMI donç	gle) or VGA,		M600 Tiny (1L) with VESA mount & ODD box	7.42" X 7.30" X 2.48" 188.4mm X 185.38mm X 63mm	4.12 lb (1.87 kg)			
	supports triple independent display; Maximum resolution: 3840x2160(DP)@30Hz; 1920x1200(optional VGA)@60Hz; 1920x1080(DP to VGA dongle)@60Hz; 1920x1080(DP to DVI dongle)@60Hz;							M600 Tiny (1L) with VESA mount & I/O box	7.42" X 7.30" X 2.62" 188.4mm X 185.38mm X 66.6mm	3.53 lb (1.6 kg)			
Monitor cable	3840x2160(DP to V		ongle)@30Hz o DVI-D (single lir	nk), or DP	to HDMI 1.4 do	ngle	VESA mount Floor Stand	Optional VESA mount bra Optional system floor star	cket kit, supports VESA 75mm and for vertical orientation	100mm			
Memory	8GB max / DDR socket	3 Low Vol	tage, DDR3L-160	00, non-pa	rity, one 204-pir	SO-DIMM	Power supply		autosensing, 88% PSU (not include autosensing, 88% PSU (only for mo				
Storage	Some: 500GB NAND fl Some: Solid St Some: external	(5400 rpm lash mem ate Drive ODD box	r 7200 rpm, SATA n) Solid State Hyb ory, SATA 6.0Gb/s (SSD) / SATA 6.0 c with DVD-ROM, c with DVD±RW, 9	orid Drive ( s, 2.5" wid Gb/s, 2.5" 9.5mm hig	SSHD) / with 80 e Wide gh, via USB	GB MLC	Limited warranty <sup>3</sup>	, , , , , , , , , , , , , , , , , , , ,					
Onboard SATA Media reader	Some: external Some:	ODD box	(for TIO) with DV (for TIO) with DV one connectors or	/D-ROM, 9 /D±RW, 9.	5mm high, via	USB JSB	Preload	Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64-bit Some: Windows 7 Professional 64					
Front ports*	Two USB 3.0 (or	ne is Alwa	ys On and fast ch	narge), one	e microphone (s	tereo, 3.5mm)		Some: Windows 10 Pro 64-bit					
	one headphone	/ microph	one combo jack (	stereo, 3.5	imm) .			Some: Windows 10 Home 64-bit Preloaded applications (only some listed)					
Rear ports*		Two USB 2.0, two USB 3.0 (optional external optical box or I/O box occupies one or two specific USB on some models), ethernet (RJ-45), two DisplayPort,					Desktop Power Manager						
	one optional por	t (VGA, 3	rd DP, or serial or	n some mo	dels), one head	lphone		<ul> <li>Lenovo Solution Center</li> <li>Lenovo REACHit</li> <li>Lenovo SHAREit</li> <li>Lenovo Bluetooth Lock</li> </ul>					
I/O box*	Optional externa	al I/O box,	extends two USE	3 2.0, two l	USB 3.0, and or	ne serial on							
	rear, two USB 2.	.0 on front	t, via USB (occup actual data transfe	y two spec	tific USB 3.0 of	M600 Tiny)							
Audia augaart						·	-	McAfee® LiveSafe™ (30)					
Audio support			o, Realtek ALC22		•	er (1 watt)		Microsoft Office preloaded;     purchase a product key to activate					
WLAN <sup>13</sup>			2 Card, Realtek F 4.0 combo adapt		= (dual band),			PowerDVD Create (DVD±RW)					
			2 Card, Qualcom		QCA9377 (dua	l band),		<ul> <li>Lenovo ThinkVantage Tools</li> </ul>					
	Wi-Fi + I	Bluetooth	4.1 combo adapt	er, 1x1	,	,,		- Only for Window 10	m10)				
	Some: 11ac wir	eless, M.2	2 Card, Qualcom	m Atheros	QCA6174 (dua	l band),	<ul><li>Lenovo Companion (Win10)</li><li>Cyberlink PowerDVD (DVD, DVD±RW)</li></ul>						
			4.1 combo adapt 2 Card, Intel Dual		eless-AC 3165			Lenovo QuickOptimizer					
	Wi-Fi + I	Bluetooth	4.0 combo adapt	er, 1x1	·			- Only for Window 7					
	Some: 11ac wir	eless, M.2	2 Card, Intel Dual	Band Wire	eless-AC 8260,			<ul><li>Rescue and Recovery</li><li>Password Manager</li></ul>					
Bluetooth™			<ol> <li>4.1 combo adapt</li> <li>.1 wireless, integr</li> </ol>		i-Fi + BT combo	adanter		<ul> <li>Tassword Manager</li> <li>ThinkVantage System I</li> </ul>	Jodate				
Ethernet Modem	One gigabit ethe	ernet port,	Realtek RTL811	1GN, Wak	e on LAN®	auaptei		<ul> <li>Lenovo Message Cente</li> <li>Adobe® Reader®</li> </ul>					
Manageability Security chip	None Trusted Platform	n Module,	TCG 1.2-complia	nt			Environment	ENERGY STAR® 6.0*, EP GREENGUARD®; RoHS-0	EAT™ Gold rating* (*not for non-OS compliant; Cisco EnergyWise compa	models); atible; ErP Lot 3			
Security features	Kensington® N • Padlock loop • Smart USB pr	dicroSaver otection, a locks all st	<sup>®</sup> cable)	<ul><li>Hard dis</li><li>Boot se</li><li>Boot wit</li><li>Individu</li></ul>	strator password sk password quence control thout keyboard al USB port dis s intrusion switch	and mouse ablement	Accessories	For compatible accessorie	es, please go to TC-AQP sheet				
Na faataataa fau u							•			anava Navanskar O			













#### ThinkCentre M600 Tiny Thin Client Platform Specifications

Processor	Intel® Celeron® Processor N3000 Series or Intel Pentium® Processor N3000 Series	Keyboard	Some: PS/2 Keyboard (PS/2 connector), Lenovo logo (for 2L models)			
	Processor         Cores / Threads         Frequency (Base/Max)         Cache         Memory Types         Integrated Graphics           Celeron N3000         2 / 2         1.04 / 2.08 GHz         2MB         DDR3L-1600         Intel HD           Celeron N3010         2 / 2         1.04 / 2.24 GHz         2MB         DDR3L-1600         Intel HD 400	Mouse	Some: Preferred Pro USB Keyboard (USB connector), Lenovo logo Some: Ultraslim Plus Wireless Keyboard (2.4GHz via USB receiver), black Some: PS/2 Optical Wheel Mouse, black, Lenovo logo (for 2L models) Some: Enhanced Optical USB Mouse, black, Lenovo logo Some: Ultraslim Plus Wireless Mouse (2.4GHz via USB receiver), black			
Chipset	Intel Architecture (IA) SoC that integrates Intel processor core, graphics, memory controller, and I/O interfaces into a single system-on-chip solution	Mechanical	• Tiny (1L or 2L), black color, metal case			
Graphics	Intel HD Graphics in processor, uses main memory, DirectX® 11.1,		Dimensions (WxDxH) Max weight (lb / kg)			
	twoDisplayPort™, one optional 3rd DP (not support DP to HDMI dongle) or VGA, supports triple independent display;		M600 Tiny only (1L) 7.05" X 7.20" X 1.36" 2.9 lb (1.3 kg) 179mm X 182.9mm X 34.5mm			
	Maximum resolution: 3840x2160(DP)@30Hz; 1920x1200(optional VGA)@60Hz; 1920x1080(DP to VGA dongle)@60Hz; 1920x1080(DP to DVI dongle)@60Hz; 3840x2160(DP to HDMI dongle)@30Hz		M600 Tiny only (2L) 7.05" X 7.20" X 3.15" 4.2 lb (1.9 kg) 179mm X 182.9mm X 80mm			
Monitor cable	Optional DP to VGA, DP to DVI-D (single link), or DP to HDMI 1.4 dongle	VESA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm			
Memory	and the state of t	Floor Stand	Optional system floor stand for vertical orientation			
Storage	16GB 32GB or 128GB M 2 Solid State Drive (SSD) SATA interface	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)			
Optical Onboard SATA Media reader	None SATA 6.0Gb/s controller, one connectors on planar None	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available Some: 3-year, limited onsite service, OID (Onsite International Delivery) / service upgrades available			
Front ports*	Two USB 3.0 (one is Always On and fast charge), one microphone (stereo, 3.5mm),		For Lenovo service upgrade options, please go to S-TC sheet			
Rear ports*	one headphone / microphone combo jack (stereo, 3.5mm) Two USB 2.0, two USB 3.0, ethernet (RJ-45), two DisplayPort, one optional port (VGA, 3rd DP, or serial on some models), one headphone; additional four serial (9-pin), one parallel (25-pin), and two PS/2 ports on 2L models *Depending on many factors, actual data transfer speed may be lower than theoretical speed None	Preload	Some: Windows Embedded Standard 7 (WES 7) Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise Some: LeTOS (Lenovo Terminal Operating System, Linux-based) Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)			
Audio support		Environment	ENERGY STAR® 6.0*, EPEAT™ Gold rating* (*not for non-OS models);			
WLAN¹³	Some: 11ac wireless, M.2 Card, Realtek RTL8821AE (dual band), Wi-Fi + Bluetooth 4.0 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.0 combo adapter, 1x1 (only for 1L models)  Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapter	Accessories	GREENGUARD®; RoHS-compliant; Cisco EnergyWise compatible; ErP Lot 3  For compatible accessories, please go to TC-AQP sheet			
Ethernet Modem Manageability	One gigabit ethernet port, Realtek RTL8111GN, Wake on LAN® None					
Security chip	Trusted Platform Module, TCG 1.2-compliant					
Security features	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/ mouse only, blocks all storage devices</li> <li>Power-on password</li> <li>Administrator password</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Chassis intrusion switch</li> </ul>		Langua November 2017			













### ThinkCentre M625 Tiny Platform Specifications

Processor	AMD A9 series APU							Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo			
	ADII		Frequency	L2	Memory	Integrated	Mouse	Some: USB Optical Wheel Mouse, black, Lenovo logo			
	APU	Cores	Base/Max	Cache	Support (Up to)	Graphics	Mechanical	Tiny (1L), black color; metal case  • Toolless chassis open (for models with optional toolless chassis screw)			
	A9-9420e	2	1.8 / 2.7 GHz	1 MB	DDR4-1866	Radeon R5 Series		Toolless HDD, SSD, memory, Wi-Fi removal			
Memory	8GB max, DDR4 * System frequer controller in proc	ncy autor	ne 260-pin SO- natically clocks	DIMM so down fo	ocket r the lower cap	pability of memory		Optional dust filter M625 Tiny only: 7.05" W X 7.20" D X 1.36" H 179mm W X 182.9mm D X 34.5mm H			
Disk	Some: SATA 6.0 Some: 128GB N Some: 256GB N	1.2 Solid	State Drive (SS	D) / PC	le NVMe interl	ace	VESA mount Floor Stand	2.9 lb (1.3 kg), weight may vary by configuration     Optional VESA mount bracket kit, supports VESA 75mm and 100mm     Optional system floor stand for vertical orientation			
Optical Onboard SATA	None one SATA 6.0Gb	/s conne	ctor on planar				Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)			
Media reader	None		·				Limited warranty <sup>3</sup>	Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available			
Graphics	Mode), supports  Max resolution: 3	ne option up to 2 i 3840x216 3840x216	al port (VGA or ndependent dis 60 (DP)@60Hz; 60 (USB 2.0 Typ	USB 2.0 plays; 2048x1; e-C)@6	) Type-C with [ 280 (VGA)@6 0Hz	DisplayPort Alternate 0Hz;	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit listed) Some: Windows 7 Professional 64 preinstalled through downgrade  Preloaded applications (only some listed) - Windows 10 only - Lenovo Vantage			
Monitor cable	Optional DP to V		to DVI-D (single	link), or	DP to HDMI 1	.4 dongle		rights in Windows 10 Pro 64-bit • LinkedIn • Microsoft Office preloaded;			
Chipset	AMD SoC platfo							purchase a product key to activate			
Front ports*	Two USB 3.1 Ge one headphone	n1 (one	is Always On ar	nd fast cl k (3 5mn	narge), one mi	crophone (3.5mm),		- Windows 7 only  ■ Lenovo Solution Center			
Rear ports*	One USB 3.1 Ge two optional port Alternate Mode), * Depending on ma	en1, three s (Port 1 Port 2 fo	e USB 2.0, ethe for VGA / serial or serial)	rnet (RJ I / USB 2	-45), two Disp 2.0 Type-C (wit	layPort, th DisplayPort than theoretical speed		<ul> <li>Lenovo System Update</li> <li>Factory Recovery</li> <li>User Guide Viewer</li> <li>Microsoft Office preloaded;</li> </ul>			
I/O box	None	15) 4 1	D !! ! A! O!	200 1/00		. (4.5)		purchase a product key to activate  • Adobe® Reader®			
Audio support						speaker (1.5 watt)					
WLAN <sup>13</sup>	Some: 11ac wire Wi-Fi + E	Bluetooth	4.2* combo ad	apter. 2x	(2	,,	Environment	ENERGY STAR® 6.1*, EPEAT™ Silver rating* (*Not for non-OS models), ErP Lot 3, RoHS-compliant, WEEE, TCO			
Bluetooth™	Some: Bluetooth	Bluetooth	4.2* combo ad reless, integrate	apter, 2x	t2 Fi + BT combo	adapter	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)			
Ethernet Modem	* Win 10 RS3 an Gigabit ethernet, None	Realtek	earlier version ( RTL8111HN, V	Vake on	port Bluetooth LAN®	4.1	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Manageability Security chip Security features	None Discrete TPM 2.0 Security slot (ir Kensington® M Smart USB pro mouse only, blo Power-on pass	rear for icroSave otection, ocks all s	optional r® cable) allows keyboard	<ul> <li>Har</li> <li>Boo</li> <li>Boo</li> <li>Indi</li> </ul>		ord ontrol oard and mouse ort disablement					













# ThinkCentre M625 Tiny Thin Client Platform Specifications

Processor	AMD E2 series A	APU					Keyboard	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo		
	APU	Coros	Frequency	L2	Memory	Integrated	Mouse	Some: USB Optical Wheel Mouse, black, Lenovo logo		
	APU	Cores	Base/Max	Cache	Support (Up to)	Graphics	Mechanical	Tiny (1L), fan-less design, black color, metal case  Toolless chassis open (for models with optional toolless chassis screw)		
	E2-9000e	2	1.5 / 2.0 GHz	1 MB	DDR4-1866	Radeon R2 Series		Toolless SSD, memory, Wi-Fi removal		
Memory	8GB max, DDR4 * System frequer controller in proc	ncy autor	ne 260-pin SO- natically clocks	DIMM so down fo	ocket r the lower cap	pability of memory		M625 Tiny Thin Client only: 7.05" W X 7.20" D X 1.36" H 179mm W X 182.9mm D X 34.5mm H 2.9 lb (1.3 kg), weight may vary by configuration		
Disk	Some: 32GB M. Some: 128GB M					face	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation		
Optical Onboard SATA Media reader	None one SATA 6.0Gb/ None	/s conne	ctor on planar				Power supply Limited warranty <sup>3</sup>	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)  y <sup>3</sup> Some: 1-year, depot service / service upgrades available		
Graphics	AMD Radeon™ (	Graphic	s in processor.	uses ma	in memory. Di	rectX® 12, two		Some: 1-year, limited onsite service / service upgrades available		
·	DisplayPort™, on Mode), supports  Max resolution: 3	ne option up to 2 i 3840x216 3840x216	al port (VGA or ndependent dis 60 (DP)@60Hz; 60 (USB 2.0 Typ	USB 2.0 plays; 2048x12 pe-C)@6	Type-C with [ 280 (VGA)@6 0Hz	DisplayPort Alternate 0Hz;	Preload	Preloaded operating system Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)		
Monitor cable Chipset	Optional DP to V		to DVI-D (single	link), or	DP to HDMI	1.4 dongle	Environment	ENERGY STAR® 6.1*, EPEAT™ Silver rating* (*Not for non-OS models), ErP Lot 3, RoHS-compliant, WEEE, TCO		
Front ports*	Two USB 3.1 Ge	n1 (one i				crophone (3.5mm),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock		
Rear ports*	one headphone / One USB 3.1 Ge two optional ports	n1, three	e USB 2.0, ethe	rnet (RJ	-45), two Disp	layPort, th DisplayPort	Accessories	Fungus, Solar Radiation)  For compatible accessories, please go to http://smartfind.lenovo.com		
	Alternate Mode),	Port 2 fo	or serial)		, ,	han theoretical speed	Accessories	To compatible decedednes, please go to mip.//smartima.ic/io/o.som		
I/O box	None									
Audio support			·			speaker (1.5 watt)				
WLAN <sup>13</sup>	Some: 11ac wire Wi-Fi + E Some: 11ac wire Wi-Fi + E Some: 11ac wire Wi-Fi + E	Bluetooth eless, M. Bluetooth eless, M. Bluetooth eless, M. Bluetooth	4.2* combo ad 2 Card, Qualco 4.2* combo ad 2 Card, Realtel 4.2* combo ad 2 Card, Qualco 4.2* combo ad	apter, 13 mm Athe apter, 13 c RTL882 apter, 23 mm Athe apter, 23	x1 eros QCA9377 x1 22BE (dual ba x2 eros QCA6174 x2	7 (dual band), nd), 4A (dual band),				
Bluetooth™	Some: Bluetooth * Win 10 RS3 and									
Ethernet Modem	Gigabit ethernet, None									
Manageability Security chip	None Discrete TPM 2.0	,								
Security features	Security slot (ir Kensington® M     Smart USB pro mouse only, blo     Power-on pass	icroSave otection, ocks all s	r® <sup>·</sup> cable) allows keyboar	<ul> <li>Har</li> <li>Boo</li> <li>Boo</li> <li>Indi</li> </ul>	ninistrator pas d disk passwo ot sequence co ot without keyb vidual USB po assis intrusion	ord ontrol ooard and mouse ort disablement				



















#### ThinkCentre M630e Tiny Platform Specifications

Processor	Intel® Pentium®, or 8th	Generat	ion Intel Core™	i3 / i5 Pı	rocessor		Manageability None								
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support	Integrated	Security chip	Firmware T	TPM 2.0, int	egrated in chips					
	Pentium Gold 5405U	2/4	2.3G	2 MB	(Up to) DDR4-2133	Graphics UHD 610	Security features	Y ● Security s	siot (in rear ton® MicroSa	tor optional ever® cable)	Boot sequence     Boot without key	control yboard and mouse			
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620		Chassis i	intrusion sw	itch	Individual USB				
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		<ul> <li>Power-on</li> </ul>				ection, allows keyboard/			
Memory	16GB max, DDR4-26						-	<ul><li>Administr</li><li>Hard disk</li></ul>	trator passw k password	ora	mouse only, blo	cks all storage dévices			
Wichiory	* System automaticall	y clocks	down for the prod	cessors	with lower memo	ory controlle	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black				(			
Storage	Some: Hard Drive / S	SATA 6.00	ab/s, 2.5", 5400 i	rpm or 7			Mouse				connector), black				
	Some: Solid State Dr Some: M.2 SSD (228				QCh/c		Mechanical		black color;	metal case					
	Some: M.2 SSD (224							Optional     Ope 2.5"		D/SSD two M 2	elote (one for WI Al	N, one for M.2 SSD)			
Onboard SATA	One onboard SATA 6.	0Ĝb/s co	nnector					One 2.5	Day 101 11D	·	`	·			
Graphics	Intel HD Graphics 61					12, one					ns (WxDxH)	Weight (Approx.)			
	DisplayPort™, one HE Max resolution: 4096x							Tiny only			.20" X 1.36" .9mm X 34.5mm	2.91 lb (1.32 kg), vary by config			
Monitor cable	Optional DP to VGA d	longle or	DP to HDMI 1.4	dongle	IDIVII) @ 24 HZ		\/F0.4			170111117 102		vary by coming			
Chipset	Intel SoC (System or	n Chip) p	latform				VESA mount Floor Stand	None Optional sy	ystem floor s	stand for vertica	l orientation				
Front ports* (Std.)	One USB 3.1 Gen1, c				nicrophone (3.5m	nm),	Power supply	Some: 65 watts adapter, autosensing, 88% PSU							
Rear ports* (Std.) Rear ports* (Opt.)	one headphone / micr Two USB 3.1 Gen1, to None	ophone o wo USB 2	combo jack (3.5n d.0, one ethernet	nm) : (RJ-45)	, one DisplayPor	rt, one HDM	Limited warranty	Some: 1-y Some: 1-y	year, depot year, limite	service / servi d onsite servic	ce upgrades availab e / service upgrade	lle s available			
	* Depending on many fac	ctors, actua	al data transfer spe	ed may b	e lower than theore	etical speed	Preload		operating						
Audio support	Realtek ALC233VB / i	internal s	peaker (1.5 watt)	)				Some: Wi	indows® 10 indows 10 F	Pro 64-bit					
WLAN	Some: 11ac wireless,				(dual band),					ns (only some	listed)				
	Wi-Fi + Blueto Some: 11ac wireless		ombo adapter, 1		(dual band)			Lenovo Vantage							
			ombo adapter, 2		(duai bariu),				ft Office prel						
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1			Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,			Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,				purchase a product key to activate  LinkedIn				
	Wi-Fi + Blueto Some: 11ac wireless				ess-AC 8265		Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating, ErP Lot 3, TCO, RoHS-compliant,			CO. RoHS-compliant.				
	Wi-Fi + Blueto	•			WEEE, RE			g,, ,							
Bluetooth	Some: Bluetooth 4.2	combo adapter		MIL-SPEC test	t Coming soon										
Ethernet Ethernet (Opt.)	Gigabit ethernet, Rea None	itek HTL	TITHN-CG				Accessories	For compat	tible access	ories, please go	to http://smartfind	d.lenovo.com			
							•					l M 0010			

Note: The specifications above may not be available in all regions.













#### ThinkCentre M710 SFF Platform Specifications

Processor	Intel® Celeron®. Int	tel Pentiur	m®. or 6/7th Gene	eration Ir	ntel Core™ i3 / i5	/ i7 Processor	Security features	Security slot (in rear for optional	Power-on password
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)		Joseph Marianes	Kensington® MicroSaver® cable)  • Padlock loop	Administrator password     Hard disk password
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		<ul> <li>Smart USB protection, allows keyboard/</li> </ul>	Boot sequence control
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610		<ul> <li>mouse only, blocks all storage devices</li> <li>Optional cable lock to physically lock</li> </ul>	<ul><li>Boot without keyboard and mouse</li><li>Individual USB port disablement</li></ul>
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630		both keyboard and mouse	Optional chassis intrusion switch
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB co	
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530	l to j z out u	Some: Lenovo Traditional Keyboard (USB	connector), black
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530	Mouse	Some: Lenovo Calliope Wireless Keyboar	d (2.4GHz via USB receiver), black
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB conr Some: Lenovo Calliope Wireless Mouse (2	
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	Machanical	• SFF (8.4L), black color; metal case	2. TGT 12 VIG GGB 10001V01), SIGGR
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Mechanical	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm >	( 290.5mm X 343.5mm
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		<ul> <li>Approx. 13.2 lb (6.0 kg), weight may vary</li> </ul>	
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630		<ul> <li>Toolless cover, disk, optical removal</li> </ul>	
Memory	64GB max, UDIMN dual-channel capa * System automati	ble*			•		r	<ul> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> <li>Bay 2: 3.5", 1" high, internal, HDD/SSD</li> <li>Bay 3: 2.5", internal, HDD/SSD (optional b.</li> </ul>	av)
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	e Drive (St State Driv	SD) / SATA 6.0GI e (SSD) / PCIe N	b/s, 2.5" IVMe, P(	Cle 3.0 x 4, 32Gb	/s		Slot 1: low-profile (length < 150mm, height Slot 2: low-profile (length < 150mm, height Slot 3: low-profile (length < 150mm, height	< 68mm), PCIe 3.0 x16* < 68mm), PCIe 3.0 x1* < 68mm), PCIe 3.0 x1*
Optical	Some: Intel Optar Some: DVD-ROM Some: DVD Burn	l SATA 1.5 er (DVD±l	5Gb/s Drive, slim RW), SATA 1.5Gl	(9.0mm	)	101.2		Slot 4: no slot, only bracket for optional por M.2 card slots: Two (one for WLAN, one for * Optional 2 front USB3.1 Type-C ports mo	r SSD/Optane)
Onboard SATA Media reader	Three onboard SA Optional 7-in-1 me	dia reade	r				Floor Stand	optional rear 2x USB2.0 / parallel / 2nd ser Optional system floor stand for vertical orie	ial occupies one expansion slot
Graphics	Intel HD Graphics one VGA, two Disp discrete graphics t Max resolution: 40 Some: NVIDIA Ge two Display	olayPort™, o support 96x2304 ( e <b>force® G</b> /Port, 35 v	supports 3 inde more displays; (DP) @ 60Hz; 204 <b>r 730</b> , DirectX 12 vatts;	pendent 8x1536 2, 2GB, F	displays, works a (VGA)@50Hz PCIe 2.0 x8 adapt	long with	т оттол одрргу	Some: 180 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 92% PS 210 watts, autosensing, 92% PS 210 watts, autosensing, 92% PS 210 watts, autosensing, 92% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 85% PS 210 watts, autosensing, 92% PS 210 watts, autosensing, 9	U (only available via special bid) service upgrades available
Monitor cable	Max resolu Optional DP to VG	<i>tion:</i> 3840 A, DP to I	0x2160 (DisplayP DVI-D (single link	ort)@60 (), DP to	Hz; dual DP, or DP to	HDMI 1.4	Preload	Preloaded operating system Some: Windows® 7 Professional 32/64	
Chipset	Intel B250 Chipse	et						preinstalled through downgrade	
Front ports*	Four USB 3.1 Gen	1, optiona	al two USB 3.1 Ty	/pe-C Ge	en 2 (only availabl	e via special		rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel	
D +	bid), microphone (	3.5mm), h	eadphone (3.5m	im)	) 0			processor)	
Rear ports*	Two USB 3.1 Gen serial (9-pin), optic							Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit	
	two PS/2 ports (ke	yboard/m	ouse);	1101 (110	10), 0110 1 0, 1, 1111	Diopiayi ort,	'	Preloaded applications (only some	
	additional DisplayF	ort on op	tional graphics o	n some ı	models			listed)	
Rear audio ports?	Line-in (3.5mm), li	ne-out (3.	5mm), microphoi	ne-in (3.5	ōmm)			<ul> <li>Microsoft Office preloaded;</li> </ul>	
ILLL 1004	None * Depending on many	v factors a	ctual data transfer s	sneed may	, he lower than theo	retical speed		purchase a product key to activate	
Audio support	High Definition (HI			· · ·	·		_	<ul><li>Only for Window 10</li><li>Lenovo Companion</li></ul>	
WLAN <sup>13</sup>	Some: 11ac wirele	, .				,	-	- Only for Window 7	
V V L/\(\)\	Wi-Fi + Blu	uetooth 4.	1 combo adapter	r, 1x1	,	, .		Lenovo Solution Center     Lenovo Think Vantago Tools	
	Some: 11ac wirele	ess, M.2 (	Card, Qualcomm	Atheros	QCA6174A (dua	l band),		<ul><li>Lenovo ThinkVantage Tools</li><li>Create Recovery Media</li></ul>	
	Wi-Fi + Blu Some: 11ac wirele		1 combo adapter		ologo AC 2165			Adobe® Reader®	
			1 combo adapter		EIESS-AC 3105,			Cyberlink PowerDVD Create     (DVD - DVV)	
	Some: 11ac wirele	ess, M.2 (	Card, Intel Dual E	Sand Wir	eless-AC 8265,		Environment	(DVD±RW) ENERGY STAR® 6.1, EPEAT™ Gold rating	(North America)
Bluetooth™	Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: Bluetooth 4.1 wireless, integrated in Wi-Fi + BT combo adapter						LIMIOIMIEM	ErP Lot 3, GREENGUARD®, RoHS-compli	ant.
Ethernet	Gigabit ethernet, F	Realtek R	L8111GN, Wake	on LAN	®			TUV low noise verified (on some models)	
Modem	None		<u> </u>				Accessories	For compatible accessories, please go to	nttp://www.lenovoquickpick.com
Manageability Security chip	None TPM (Trusted Platt * Downgrade to TF				G Win7 32 OS				
	. 3						1		













#### ThinkCentre M710 Tiny Platform Specifications

Processor	Intel® Celeron®. Int	el Pentiur	n®. or 6/7th Gene	eration In	itel Core™ i3 / i5 /	i7 Processor	Security features	Security slot (in real	ar for optional • Administrate	or password																					
	Processor	Cores /	Frequency Base/Max(GHz)		Memory Support (Up to)		Joseph Harris	Kensington® Micro		assword																					
	Pentium G4400T	2/2	2.9G	3 MB	DDR4-2133	HD 510		mouse only, blocks	all storage devices       Boot without	t keyboard and mouse																					
	Pentium G4560T	2/4	2.9G	3 MB	DDR4-2400	HD 610		<ul> <li>Power-on password</li> <li>Individual USB port disable</li> <li>Chassis intrusion switch</li> </ul>																							
	Pentium G4600T	2/4	3.0G	3 MB	DDR4-2400	HD 630	Kaybaard	Comor Longua Calli																							
	Core i3-6100T	2/4	3.2G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calli	ope Keyboard (USB connector), blac tional Keyboard (USB connector), bla	K ack																					
	Core i5-6500T	4/4	2.5G / 3.1G	6 MB	DDR4-2133	HD 530		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receive																							
	Core i7-6700T	4/8	2.8G / 3.6G	8 MB	DDR4-2133	HD 530	Mouse	Some: Lenovo Callid	ope Mouse (USB connector), black	<i>,</i> .																					
	Core i3-7100T	2/4	3.4G	3 MB	DDR4-2400	HD 630		Some: Lenovo Callid	ope Wireless Mouse (2.4GHz via US	B receiver), black																					
	Core i5-7400T	4/4	2.4G / 3.0G	6 MB	DDR4-2400	HD 630	Mechanical	Tiny (1L), black color; metal case																							
	Core i5-7500T	4/4	2.7G / 3.3G	6 MB	DDR4-2400	HD 630		<ul> <li>Toolless chassis open</li> <li>Toolless HDD, SSD, memory removal</li> </ul>																							
	Core i5-7600T	4/4	2.8G / 3.7G	6 MB	DDR4-2400	HD 630		Optional toolless c																							
	Core i7-7700T	4/8	2.9G / 3.8G	8 MB	DDR4-2400	HD 630		<ul> <li>Optional dust filter</li> </ul>	nassis screw																						
Memory	32GB max, DDR4- dual-channel capa		o 260-pin SO-DI	MM sock	ets, non-ECC,			M740 Time and	Dimensions (WxDxH)	Weight (Approx.)																					
Ctorogo	* System automatic	cally clock				ory controller		M710 Tiny only	7.05" X 7.20" X 1.36" 179mm X 182.9mm X 34.5mm	2.91 lb (1.32 kg), vary by config																					
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	Drive (S	SD) / SATA 6.0Gb	o/s, 2.5"		le.		With VESA mount & ODD box	7.42" X 7.30" X 2.48" 188.4mm X 185.38mm X 63mm	3.66 lb (1.66 kg), vary by config																					
Optical	Some: Intel Optan Some: DVD-ROM	ne™ Memo	ory (models with	7th gen	Core processor),	M.2		With VESA mount & I/O box	7.42" X 7.30" X 2.62" 188.4mm X 185.38mm X 66.6mm	3.66 lb (1.66 kg), vary by config																					
•	Some: DVD Burne	er (DVϱF	RW), slim (9.0mm			box	VESA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm																							
Onboard SATA Media reader	One onboard SATA None	4 6.0GD/S	connector				Floor Stand	Optional system floo	r stand for vertical orientation																						
Graphics	Intel HD Graphics two DisplayPort™, with DisplayPort Al	one optio	nal video port (H	DMI, VG.	A, 3rd DP, or UŚĒ		Power supply	90 watts AC/DC ada	oter, autosensing, 88% PSU (not incloter, autosensing, 88% PSU (only for	r models with I/O box)																					
	Max resolution: 40	96x2304 (		6x2304 (	(Type-C)@60Hz;			Some: 1-year or 3-	year, depot service / service upgrad year, limited onsite service / servic																						
Monitor cable	Optional DP to VG	A, DP to [				HDMI 1.4	Preload	Some: Windows® 7 Professional 32/64 preinstalled through downgrade																							
Chipset	Intel B250 Chipse	et							dows 10 Pro 64-bit																						
Front ports*	Two USB 3.1 Gen1	(one is A	Ilways On and fa	st charge	e), one microphor	ne (3.5mm),		(not available with 7th Gen Intel processor)  Some: Windows 10 Pro 64-bit  Some: Windows 10 Home 64-bit																							
Rear ports*	one headphone / n Four USB 3.1 Gen or two specific USB	1 (optiona	ıl external optical	box or e																											
	two optional ports (with DisplayPort A	(Port 1 for Iternate N	VGA / 3rd DP / I lode), Port 2 for	HĎMI / s serial)	erial / USB 3.1 Ty	pe-C Gen 1		Preloaded applicati listed)  • Microsoft Office pr	, ,																						
I/O box*	Optional external la on rear, two USB 2 Tiny)							purchase a production of the p	t key to activate																						
		/ factors. ac	tual data transfer s	peed may	be lower than theo	retical speed		<ul> <li>Lenovo Companio</li> </ul>																							
Audio support	* Depending on many factors, actual data transfer speed may be lower than theoretical High Definition (HD) Audio, Realtek ALC294 / optional internal speaker (1w of the content of the con						- Only for Window 7	ontor																							
WLAN <sup>13</sup>		, .			•	,	1	<ul><li>Lenovo Solution C</li><li>Lenovo ThinkVanta</li></ul>																							
VVLAIN	Wi-Fi + Bluetooth 4.1 combo adapter, 1x1										Wi-Fi + Bluetooth 4.1 combo adapter, 1x1					Wi-Fi + Bluetooth 4.1 combo adapter, 1x1			Wi-Fi + Bluetooth 4.1 combo adapter, 1x1		Wi-Fi + Bluetooth 4.1 combo adapter, 1x1		Wi-Fi + Bluetooth 4.1 combo adapter, 1x1		Wi-Fi + Bluetooth 4.1 combo adapter, 1x1		,,		Create Recovery N     Adobe® Reader®		
	Wi-Fi + Blu	1ac wireless, M.2 Card, Qualconfin Afrieros QCA6174A (dual band), Vi-Fi + Bluetooth 4.1 combo adapter, 2x2 1ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,						Cyberlink PowerD\     (DVD±RW)	/D Create																						
	Wi-Fi + Blu	etooth 4.	1 combo adapter	, 1x1			Environment	ENERGY STAR® 6.1	, EPEAT™ Gold rating (North Americ	ca),																					
		etooth 4.	1 combo adapter	, 2x2				ErP Lot 3, GREENG TUV low noise verifie	UARD®, RoHS-compliant,	•																					
Bluetooth™ Ethernet Modem	Some: Bluetooth 4 Gigabit ethernet, Ir None						MIL-SPEC test	·																							
Manageability Security chip	None TPM (Trusted Platf * Downgrade to TP	orm Modu M1.2 for t	ule) 2.0*, TCG Ce he models with V	ertified Vin10 D0	G Win7 32 OS		Accessories		esories, please go to http://www.len	ovoquickpick.com																					

See footnotes for more detailed information













#### ThinkCentre M710 Tower Platform Specifications

Processor	Intel® Celeron®, Int	el Pentiur	m®, or 6/7th Gene	eration Ir	ntel Core™ i3 / i5 /	i7 Processor	Manageability	None
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)		Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified  * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510	Security features	• Security slot (in rear for optional • Power-on password
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610		Kensington® MicroSaver® cable)  • Administrator password
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630		<ul> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequence control</li> </ul>
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		mouse only, blocks all storage devices  • Boot sequence control  • Boot without keyboard and mouse
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		<ul> <li>Optional cable lock to physically lock</li> <li>Individual USB port disablement</li> </ul>
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		both keyboard and mouse   • Optional chassis intrusion switch
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		Some: Lenovo Traditional Keyboard (USB connector), black
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Mechanical	Tower (15L), black color, metal case
Memory	64GB max, UDIMN dual-channel capal * System automatic	ble cally clock	ks down for the p	rocessor	rs with lower mem	ory controller		<ul> <li>(WxDxH) 5.7" X 11.5" X 14.4"; 145mm X 292.7mm X 366mm</li> <li>Approx. 14.3 lb (6.5 kg), weight may vary by configuration</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> </ul>
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S Some: Intel Optan	Drive (St State Driv	SD) / SATA 6.0GI e (SSD) / PCIe N	b/s, 2.5" IVMe, P0	Cle 3.0 x 4, 32Gb/	's		Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 3.5", 1" high, internal, HDD/SSD Slot 1: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x16* Slot 2: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1*
Optical	Some: DVD-ROM Some: DVD Burne	SATA 1.5	Gb/s Drive, slim	(9.0 mm)	)			Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1* Slot 4: no slot, only bracket for optional port extension*
Onboard SATA Media reader	Three onboard SA Optional 7-in-1 me				. ,			M.2 card slots: Two (one for WLAN, one for SSD/Optane)  * Optional 2 front USB3.1 Type-C ports module occupies PCIe x16 slot (x4 card)
Graphics	Intel HD Graphics							optional rear 2x USB2.0 / parallel occupies one expansion slot
	one VGA, two Disp discrete graphics to Max resolution: 409 Some: NVIDIA Ge	o support 96x2304 (	more displays; (DP)@60Hz; 204	8x1536	(VGA)@50Hz		Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 92% PSU (only available via special bid)
	two Display <i>Max resolu</i> :	Port, 35 v <i>tion:</i> 3840	vatts; )x2160 (DisplayP	ort)@60	Hz;	- ,	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
		ne HDMI	, 75 watts, occup	ies two s		985Hz	Preload	Preloaded operating system  Some: Windows® 7 Professional 32/64 listed)  Preloaded applications (only some listed)
Monitor Cable	Optional DP to VG	A, DP to I						preinstalled through downgrade • Microsoft Office preloaded; rights in Windows 10 Pro 64-bit purchase a product key to activate
Chipset Front ports*	Four USB 3.1 Gen		ol two LICE 2.1 To	ma C Cc	on 2 (only ovoilable	a via aposial		(not available with 7th Gen Intel - Only for Window 10 processor) • Lenovo Companion
	bid), microphone (3 Two USB 3.1 Gen1	3.5mm), h	eadphone (3.5m	im)				Some: Windows 10 Pro 64-bit - Only for Window 7 Some: Windows 10 Home 64-bit - Lenovo Solution Center
Rear ports*	serial (9-pin), optio two PS/2 ports (key	nal parall yboard/m	el (25-pin), ether ouse);	net (RJ-	45), one VGA, two	DisplayPort,		<ul> <li>Lenovo ThinkVantage Tools</li> <li>Create Recovery Media</li> <li>Adobe® Reader®</li> </ul>
Rear audio ports* IEEE 1394*	additional VGA, Dis Line-in (3.5mm), lir None	ne-out (3.	5mm), microphoi	ne-in (3.5	5mm)	oueis		<ul> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>
	* Depending on many	/ factors, ac	ctual data transfer s	speed may	be lower than theor	retical speed	Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America),
Audio support	High Definition (HD	) Audio, I	Realtek ALC662	/ optiona	al internal speaker	(1.5 watt)	]	ErP Lot 3, GREENGUARD®, RoHS-compliant, TUV low noise verified (on some models)
WLAN <sup>13</sup>	Some: 11ac wirele				QCA9377A (dual	band),	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
	Some: 11ac wirele	ess, M.2 (	1 combo adapter Card, Qualcomm 1 combo adapter	Atheros	QCA6174A (dual	band),	Accessories	roi companible accessories, please go to mtp.//www.ieriovoquickpick.com
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.1 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,							
	Wi-Fi + Blu	etooth 4.	1 combo adapter	: 2x2				
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.1 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Realtek RTL8111GN, Wake on LAN® None				BT combo adapter			
							I	













#### ThinkCentre M710e SFF Platform Specifications

Processor	Intel® Celeron®, Int			eration I	1		Security features	es • Security slot (in rear for optional Kensington® MicroSaver® cable)  • Power-on password • Administrator password			
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		<ul> <li>Padlock loop</li> <li>Hard disk pa</li> </ul>	assword		
	Celeron G3900	2/2	2.8G	2 MB	DDR4-2133	HD 510		<ul> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequer</li> <li>mouse only, blocks all storage devices</li> <li>Boot withou</li> </ul>	nce control t keyboard and mouse		
	Celeron G3930	2/2	2.9G	3 MB	DDR4-2133	HD 610		Optional smart cable clip to physically     Individual U	SB port disablement		
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		lock both keyboard and mouse   Optional cha	assis intrusion switch		
	Pentium G4500	2/2	3.5G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black	k		
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610	l., '	Some: Lenovo Traditional Keyboard (USB connector), bla	ack		
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black	المساح المالم مسمم المالم		
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		Some: Lenovo Fingerprint Mouse (USB connector), Wind	Jows Hello Support, blac		
	Core i5-6400	4/4	2.7G / 3.3G	6 MB	DDR4-2133	HD 530	Mechanical	SFF (7.4L), black color, metal case     (Market 10.2 Market 1	70		
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		<ul> <li>(WxDxH) 3.9" X 11.9" X 10.8"; 100mm X 303.5mm X 27</li> <li>Approx. 9.37 lb (4.25 kg), weight may vary by configurate</li> </ul>			
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		Bay 1: Slim external ODD bay	lion		
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630		Bay 2: 3.5", 1" high, internal, supports 2.5" or 3.5" HDD/S	SD (2.5 to 3.5 bracket		
	Core i3-7300	2/4	4.0G	4 MB	DDR4-2400	HD 630		comes with disk)			
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		Slot 1: low-profile (length < 152mm, height < 64mm), PCIe Slot 2: low-profile (length < 152mm, height < 64mm), PCIe			
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		M.2 card slots: one for SSD	6 3.0 X I		
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		*Optional rear 2x USB2.0 / parallel occupies one expansion	on slot		
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Floor Stand	Optional system floor stand for vertical orientation			
Memory	32GB max, UDIMN dual-channel capa	bĺe	, ,		,	,	Packaging	<ul> <li>(WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500</li> <li>Cross weight (approx.) 14.22 lb (6.45 kg)</li> </ul>	mm		
	*System automatic						Power supply	Some: 180 watts, autosensing, 85% PSU			
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	/ SATA 6 Drive (S	.0Gb/s, 2.5" or 3. SD) / SATA 6.0Gl	.5", 5400 b/s, 2.5"	or 7200 rpm	/s	Limited warranty <sup>3</sup>	Some: 1-year or 3-year, depot service / service upgrad Some: 1-year or 3-year, limited onsite service / service			
Optical	Some: DVD-ROM	SAIA 1.	oGb/s Drive, slim	(9.0mm	)	3	Preload	Preloaded operating system			
Onboard SATA	Some: DVD Burne Two onboard SATA			b/s Drive	e, slim (9.0mm)			Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit			
Media reader	Optional 7-in-1 me							Some: Windows 7 Professional 32/64 preinstalled through downgrade in Windows 10 Pro 64-bit/not available with 7th Gen Intel proc			
Graphics	Intel HD Graphics			essor us	ses main memory	DirectX® 12	1				
атартноо	one VGA, one Disp	layPort™	, supports 2 inde	pendent	displays, works a	long with		Preloaded applications (only some listed)	, ,		
	discrete graphics to	o support	more displays;			· ·		Microsoft Office preloaded;  numbers a preduct key to activate.			
	Max resolution: 40							<ul><li>purchase a product key to activate</li><li>Cyberlink PowerDVD (DVD, DVD±RW)</li></ul>			
	Some: NVIDIA Ge two Display			2, 2GB, I	Cie 2.0 x8 adapti	er,		Cyberlink PowerDVD Create (DVD±RW)			
			)x2160 (DisplayP	ort)@60	Hz:			- Only for Window 10			
Monitor cable	Optional DP to VG					HDMI 1.4		Lenovo Companion     Cally for Window 7			
Chipset	Intel B250 Chipse	t					1	<ul><li>Only for Window 7</li><li>Lenovo Solution Center</li></ul>			
Front ports*	Two USB 3.1 Gen1	microni	none (3.5mm) or	ne headr	phone / microphon	e combo jack		Lenovo System Update			
rioni porto	(3.5mm)	i, iiiloropi	10110 (0.011111), 01	ic ricadp	mone / miorophon	ie dombo jadi		Create Récovery Media			
Rear ports*	Two USB 3.1 Gen1	, two US	B 2.0, optional tw	o USB 2	2.0, serial (9-pin),	optional 2nd		Adobe® Reader®			
	serial (9-pin), optio optional external U	SB to PS	5/2 ports cable (fo	or PS/2 k	(eyboard / mouse	e DisplayPort. ;	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North Americ RoHS-compliant, WEEE	ca), ErP Lot 3,		
Daan avalla saast s	additional DisplayF		tional graphics o	n some	models		Accessories	For compatible accessories, please go to http://www.lene	ovoguicknick.com		
Rear audio ports* IEEE 1394*	Line-out jack (3.5m	ım)					710000001100	To companie accessories, produce go to <b>nitp://www.ici</b> i	ovoquiokpiok.com		
IEEE 1394*	None * Depending on many	factors a	otual data transfor s	spood ma	y bo lower than thee	ratical speed					
Audio support	High Definition (HD				•	<u> </u>	-				
WLAN <sup>13</sup>		, Audio,	I IGAIIGN ALUZ33	, miema	u speaket (1.5 Wat	,	-				
	None None										
Rhietooth™		Paltak R	ΓL8111HN, Wake	on LAN	<b>J</b> ®						
Bluetooth™ Ethernet	Gigabit ethernet. H	icalick i i					1				
	None	icanck in	0 ,								
Ethernet		leaner i					_				













## ThinkCentre M715 SFF Platform Specifications

						lo "				
Processor	AMD A6 / A8 / A10 / A1			/ 5 / 7 series	·	Security features	Security slot (in rear for optional     Power-on password     Administrator password     Administrator password			
	APU / processor	Cores / Threads	Frequency (Base/Max)	L2 Cache	Integrated Graphics		<ul> <li>Kensington® MicroSaver® cable)</li> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Administrator password</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>			
	Ryzen 3 PRO 1200	4 / 4	3.1 / 3.4	2MB	None		mouse only, blocks all storage devices  • Boot sequence control  • Boot sequence control  • Boot without keyboard and mouse			
	Ryzen 3 PRO 1300	4 / 4	3.5 / 3.7	2MB	None		Optional cable lock to physically lock     Individual USB port disablement			
	Ryzen 5 PRO 1500	4/8	3.5 / 3.7	2MB	None		both keyboard and mouse   Optional chassis intrusion switch			
	Ryzen 7 PRO 1700	8 / 16	3.0 / 3.7	4MB	None	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	PRO A6-8570	2/2	3.5 / 3.8	1MB	Radeon R5 Series		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	PRO A10-8770	4 / 4	3.5 / 3.8	2MB	Radeon R7 Series	Mouse				
	PRO A12-8870	4/4	3.7 / 4.2	2MB	Radeon R7 Series	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	PRO A6-9500	2/2	3.5 / 3.8	1MB	Radeon R5 Series		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
	PRO A8-9600	4 / 4	3.1 / 3.4	2MB	Radeon R7 Series	Mechanical	SFF (8.4L), black color; metal case			
	PRO A10-9700	4 / 4	3.5 / 3.8	2MB	Radeon R7 Series	Moonanicai	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm			
	PRO A12-9800	4 / 4	3.8 / 4.2	2MB	Radeon R7 Series		<ul> <li>Approx. 13.2 lb (6.0 kg), weight may vary by configuration</li> </ul>			
Memory	64GB max, UDIMM, DI dual-channel capable* * System automatically	clocks down	for the proces	sors with low	er memory controller		Toolless cover, disk, optical removal     Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", nternal, HDD/SSD			
Storage	Some: Hard Drive / SA Some: Solid State Driv Some: M.2 Solid State	re (SSD) / Ś/	ATA 6.0Gb/s, 2.	5" ່	'		Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16* Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1*			
Optical	Some: DVD-ROM SAT Some: DVD Burner (D	VD±RW), SA	ATA 1.5Gb/s Dr		mm)		Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1* Slot 4: no slot, only bracket for optional port extension*			
Onboard SATA Media reader	Three onboard SATA 6. Optional 7-in-1 media r	eader				_	M.2 card slots: two (one for WLAN, one for SSD)  * Optional front USB3.1 Type-C x2 module occupies PCIe x16 slot (x4 card), optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slot			
Graphics	AMD Radeon™ Graph memory, DirectX® 12, c	ics in proce	ssor (not for A DisplayPort™	MD Ryzen p (Onboard VC	rocessor), uses main AA and DP ports	Floor Stand	Optional system floor stand for vertical orientation			
	are invalid on the mode displays, works along v Max resolution: 4096x2 Some: NVIDIA Gefore	els with AMD vith AMD dis 160 (DP)@6	Ryzen process crete graphics 1 30Hz: 1920x120	sor), supports to support m 10 (VGA)@6	s 3 independent ore displays; 0Hz	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 92% PSU (only available via special bid)			
	two DisplayPort Max resolution:	, 35 watts; 3840x2160	(DisplavPort)@	60Hz:		Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
Monitor cable	Optional DP to VGA, D	P to DVI-D (s	single link), DP	to dual DP, c	or DP to HDMI 1.4	Preload	Preloaded operating system			
Chipset	AMD B350 Chipset						Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit (Only available with Pro A6/A10/A12-8xxx APUs)			
Front ports*	Two USB 3.1 Gen2, two available via special bid	o USB 3.1 G d), microphor	en1, optional tv ne (3.5mm), he	vo USB 3.1 T adphone (3.5	Type-C Gen 2 (only 5mm)		Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit			
Rear ports*	Two USB 3.1 Gen1, two	USB 2.0, o	ptional two US	B 2.0, serial	(9-pin), optional		Preloaded applications (only some listed)			
	2nd serial (9-pin), optio DisplayPort (not availab	nai parailei ( de on model	25-pin), etnern s with AMD Rv	et (HJ-45), 0 zen processo	ne vGA and two or), two PS/2 ports		Microsoft Office preloaded;			
	(keyboard / mouse);	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	o with the ray	Lon process	51), two 1 6/2 ports		purchase a product key to activate - Only for Window 10			
	àdditional DisplayPort	on optional g	raphics on som	e models			Lenovo Companion			
Rear audio ports	Line-in (3.5mm), line-or	ut (3.5mm), r	nicrophone-in (	3.5mm)			- Only for Window 7			
IEEE 1394*	None * Depending on many factor	ors. actual data	a transfer speed i	nav be lower t	han theoretical speed		<ul> <li>Lenovo Solution Center</li> <li>Lenovo ThinkVantage Tools</li> </ul>			
Audio support	High Definition (HD) Au				· · · · · · · · · · · · · · · · · · ·	1	Create Recovery Media			
WLAN	Some: 11ac wireless,			IAE (dual ba	nd),	1	<ul> <li>Adobe® Reader®</li> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>			
	Wi-Fi + Bluetoo Some: 11ac wireless, Wi-Fi + Bluetoo	M.2 Card, Q	ualcomm Ather	os QCA6174	A (dual band),	Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant			
	Some: 11ac wireless, Wi-Fi + Bluetoc	M.2 Card, Quality of the 4.1 comb	ualcomm Ather o adapter, 1x1		, , , , , , , , , , , , , , , , , , , ,	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com			
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.0 o Gigabit ethernet, Realte None	r 4.1 wireles	s, integrated in		combo adapter					
Manageability Security chip	DASH TPM (Trusted Platform * Downgrade to TPM1.2									













## ThinkCentre M715 Tiny (2<sup>nd</sup> Gen) Platform Specifications

Processor	AMD Athlon, A6, A1	0, A12,	or Ryzen pro	cessor			Security features	Security slot (in rear for optional     Administrator password			
	Processor	Cores / Threads	Frequency   L2 / L3   Memory   Integrated   Graphics			Graphics		Kensington® MicroSaver® cable)  • Padlock loop  • Smart USB protection, allows keyboard/ mouse only, blocks all storage devices  • Hard disk password  • Boot sequence control • Boot without keyboard and mouse • Individual USB port disablement			
	Athlon 200GE Athlon PRO 200GE	2/4	3.2 GHz 3.2 GHz	1 MB / 4MB	DDR4-2933 DDR4-2933	Radeon Vega 3 Radeon Vega 3	-	<ul> <li>mouse only, blocks all storage devices</li> <li>Power-on password</li> <li>Individual USB port disablement</li> <li>Chassis intrusion switch</li> </ul>			
	PRO A6-8570E	2/4	3.0 / 3.4 GHz	1 MB	DDR4-2933	Radeon R5	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	PRO A10-8770E	4/4	2.8 / 3.5 GHz	2 MB	DDR4-2400	Radeon R7	,	Some: Lenovo Traditional Keyboard (USB connector), black			
	PRO A6-9500E	2/2	3.0 / 3.4 GHz	1 MB	DDR4-2400	Radeon R5	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black			
	PRO A10-9700E	4/4	3.0 / 3.5 GHz	2 MB	DDR4-2400	Radeon R7	, iviouse	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, bla			
	PRO A12-9800E	4/4	3.1 / 3.8 GHz	2 MB	DDR4-2400	Radeon R7		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	Ryzen 3 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8	Mechanical	Tiny (1L), black color; metal case			
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8		<ul> <li>Toolless chassis open (need optional toolless chassis screw)</li> </ul>			
	Ryzen 5 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11		Optional dust filter     M715 Gen2 Tiny only:			
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11	]	7.05" W X 7.20" D X 1.36" H			
Memory	32GB max, DDR4 2 * System automatic							179mm W X 182.9mm D X 34.5mm H 2.91 lb (1.32 kg), weight may vary by configuration With VESA mount & ODD box:			
Disk Optical	Some: Hard Drive / Some: Solid State Some: M.2 SSD / F * 128GB SSD M.2 ( Some: DVD-ROM,	Drive (S PCIe NV 2242) P	SD) / SATA 6 Me, PCIe 3.0 CIe NVMe or	.0Gb/s, 2.5 x 4*, 32Gb ly supports	/s /S PCIe 3.0 x	2, 16Gb/s	VESA mount Floor Stand	7.42" W X 7.30" D X 2.48" H 188.4mm W X 185.38mm D X 63mm H 3.66 lb (1.66 kg), weight may vary by configuration Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation			
•	Some: DVD±RW, 9	.0mm hi	igh, via USB	external OD	D box		Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)			
Onboard SATA	One SATA cable (1-					-	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available			
Graphics  Monitor cable	AMD Radeon™ Gra DisplayPort™, one of displays (supports r port or DP to DVI/HI Max resolution: 409 192 Optional DP to VGA	ptional   naximun DMI don 6x2160 0x1200	port (HDMI, V n of 2 concur ngles, and Ath (DP)@60Hz; (VGA)@60Hz	/GA, or 3rd rent HDMI/I nlon / Athlor 4096x2160 z	DP), suppo DVI displays PRO only s (HDMI)@3	rts 3 independent when using HDMI support 2 displays); 0Hz;	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64-bit purchase a product key to activate			
Chipset	AMD B300 Chipset	:		-		-	1	<ul> <li>Cyberlink PowerDVD (only for mode)</li> </ul>			
. ,	) Two USB 3.1 Gen1 3.5mm), one headp	ĥone / n	nicrophone co	ombo jack (	stéreo, 3.5m	nm) ` `	-	with DVD / DVD±RW)  • Cyberlink Power2GO (only for mode with DVD±RW)			
Hear ports" (Std.	) One USB 3.1 Gen1 one headphoneone	and thre	ee USB 2.0, e	etnernet (H.	J-45), two D	ispiayPort,		<ul><li>LinkedIn</li><li>Windows 7 only</li></ul>			
Rear ports* (Opt.	) One optional port (\ * Depending on many ** Not support VGA, 3r	factors, a	ctual data trans	sfer speed ma	ay be lower th	an theoretical speed		<ul> <li>Lenovo Solution Center</li> <li>ThinkVantage System Update</li> <li>Create Recovery Media</li> </ul>			
Audio support	High Definition (HD)	Audio,	Realtek ALC	233-VB2 / ir	nternal spea	ker (1.5 watt)	]	<ul> <li>Microsoft Office preloaded; purchase a product key to activate</li> </ul>			
WLAN		tooth 4.	2* combo ad	apter, 1x1	`	,,	Environment	Adobe® Reader®  ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*Not for non-OS models);			
		tooth 4.	2* combo ad	apter, 1x1		, ,,		ErP Lot 3; ; RoHS-compliant			
	Some: 11ac wireles Wi-Fi + Blue	tooth 4.	2* combo ad	apter, 2x2	`	,,	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock			
Bluetooth	Wi-Fi + Blue Some: Bluetooth 4.	iome: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2  Some: Bluetooth 4.2* wireless, integrated in Wi-Fi + BT combo adapter Hardware supports BT 4.2, but Win10 RS3 and earlier only supports BT 4.1				adapter	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®				N®	PP0110 D1 T.1					
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, TCG Certified										













# ThinkCentre M715 Tiny Thin Client Platform Specifications

Processor	AMD A6, A10, or	A12 sei	ies APUs				Keyboard		Fullsize USB Keyboard (USB connector), Lenovo logo
	APU	Cores	Frequency	L2	Memory	Integrated	Mouse		USB Optical Wheel Mouse, black, Lenovo logo
	PRO A6-8570E	2	Base/Max 3.0 / 3.4 GHz	Cache 1 MB	Types DDR4-2400	Graphics Radeon R5 Series	Mechanical	Tiny (1L M715 Ti	.), black color; metal case
	PRO A10-8770E	4	2.8 / 3.5 GHz	2 MB	DDR4-2400 DDR4-2400	Radeon R7 Series		7.05" W	X 7.20" D X 1.36" H
	PRO A12-8870E*	4	2.9 / 3.8 GHz	2 MB	DDR4-2400	Radeon R7 Series	-	179mm	W X 182.9mm D X 34.5mm H
						via special bid models	VECA mount		.3 kg), weight may vary by configuration
Memory	4GB max, DDR4					na opoolai bia modolo	Floor Stand		I VESA mount bracket kit, supports VESA 75mm and 100mm I system floor stand for vertical orientation
Disk	Some: 256GB Se		<u>'</u>				Power supply	65 watts	s AC/DC adapter, autosensing, 88% PSU (not included for TIO models)
DISK	*256GB SATA (sup	port Wir	ndows 10 IOT ón	ly) is only	/ available via s	special bid models	Limited warranty <sup>3</sup>		1-year or 3-year, depot service / service upgrades available
	Some: 32GB M.2					· ,	Limitod Warranty		1-year or 3-year, limited onsite service / service upgrades available
Optical	Some: 128GB M None	i.2 Solid	State Drive (SS	SD) / PC	ie NVMe interi	race	Preload	Preload	led operating system
Onboard SATA	One SATA cable (	(1-drop	o device), one	SATA 6.0	Gb/s connect	or on planar			Windows Embedded Standard 7 V2 (WES 7 V2)
Media reader	None							Some:	Windows 10 IoT Enterprise LeTOS V2 (Lenovo Terminal Operating System, Linux-based)
Graphics	AMD Radeon™ C						Environment		Y STAR® 6.1*, EPEAT™ Gold rating* (*not for non-OS models);
						orts 3 independent s when using HDMI	Livioiiiicit		3; GREENGUARD®; RoHS-compliant
	port or DP to DVI	/HDMI c	longles);		, ,	J	Accessories	For com	patible accessories, please go to http://www.lenovoquickpick.com
	Max resolution: 4				160 (HDMI)@:	30Hz;			
DP cable	Optional DP to VC		00 (VGA)@60H: to DVI-D (single		DP to HDMI 1	1.4 dongle			
Chipset	AMD B300 Chips	set	, ,						
Front ports*	Two USB 3.0 (one	e is Alwa	ays On and fast	charge)	, one micropho	one (stereo, 3.5mm),			
	one headphone /	microph	one combo jac	k (stered	, 3.5mm)				
Rear ports*	one specific USB	inree t	some models)	ai extern ethernet	ai opticai box ( (R.I-45) two [	or I/O box occupies			
	one optional port	(VGA, 3	ord DP, HDMI, o	r serial c	n some mode	ls), one headphone			
I/O box		ny factors	, actual data trans	sfer speed	l may be lower t	han theoretical speed			
	None	ID\	a. Daaltal: ALO	000.00	/ :	lean (1 Fatt)			
Audio support	High Definition (H		*			,			
WLAN <sup>13</sup>	Some: 11ac wire Wi-Fi + B		4.0 combo ada			na),			
Bluetooth™	Some: Bluetooth	4.0 or 4	I.1 wireless, inte	grated i	n Wi-Fi + BT c	combo adapter			
Ethernet Modem	Gigabit ethernet,	Realtek	RTL8111EPV,	Wake or	LAN®				
Manageability	None DASH 1.0/1.1								
Security chip	Discrete TPM 2.0	TCG C	ertified						
Security features	Security slot (in	*		• Adr	ninistrator pas	sword			
	Kensington® Mi			<ul><li>Har</li></ul>	d disk passwo	ord			
		tootion	allowe keybeer						
	Power-on passy		.3		assis intrusion				
	<ul> <li>Padlock loop</li> <li>Smart USB promouse only, blo</li> </ul>	tection, ocks all s	allows keyboard	d/	vidual USB po	oard and mouse ort disablement			













#### ThinkCentre M715 Tiny Thin Client (2<sup>nd</sup> Gen) Platform Specifications

Processor	AMD Athlon, A6, A10	D. or Rvz	en processor	:			Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
	APU Athlon PRO 200GE	Cores / Threads	Frequency Base/Max 3.2 GHz	L2 / L3 Cache 1 MB / 4MB	Memory Sup- port (Up to) DDR4-2933	Integrated Graphics Radeon Vega 3	Mouse	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
	PRO A6-8570E	2/2	3.0 / 3.4 GHz	1 MB	DDR4-2400	Radeon R5		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
	PRO A10-8770E	4/4	2.8 / 3.5 GHz	2 MB	DDR4-2400	Radeon R7	Mechanical	Tiny (1L), black color; metal case • Toolless chassis open (need optional toolless chassis screw)		
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 8		Optional dust filter		
Memory	8GB max, DDR4 266 * System automatica							M715 Gen2 Tiny only: 7.05" W X 7.20" D X 1.36" H		
Disk Optical	Some: 32GB M.2 Some: 128GB M.2 Some	olid State Solid Sta	e Drive (SSD) te Drive (SSD	/ SATA inte D) / PCIe N	erface VMe, PCIe 3	.0 x 2	VESA mount	179mm W X 182.9mm D X 34.5mm H 2.91 lb (1.32 kg), weight may vary by configuration Optional VESA mount bracket kit, supports VESA 75mm and 100mm		
Onboard SATA	One SATA cable (1-d	Irop to de	evice), one S	ATA 6.0Gb/s	s connector	on planar	Floor Stand	Optional system floor stand for vertical orientation		
Graphics	AMD Radeon™ Gra						Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)		
	DisplayPort™, one or displays (supports m						,	1-year or 3-year, limited onsite service / service upgrades available		
	port or DP to DVI/HD Max resolution: 4096	MI dong x2160 ([	les, and Athle	on / Athlon	PRO onlý su	pport 2 displays);	Preload	Preloaded operating system  Some: Windows Embedded Standard 7 V2 (WES 7 V2)  Some: Windows 10 IoT Enterprise  Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)		
Monitor cable	Optional DP to VGA			dongle, or D	P to HDMI 1	I.4 dongle		, , , , ,		
Chipset	AMD B300 Chipset						Environment	ENERGY STAR® 6.1*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant		
	Two USB 3.1 Gen1 ( 3.5mm), one headph	ione / mi	crophone cor	nbo jack (st	téreo, 3.5mm	n)	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock)		
Rear ports* (Std.)	One USB 3.1 Gen1 a one headphoneone	and three	e USB 2.0, et	nernet (RJ-	45), two Disp	playPort,	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
Rear ports* (Opt.)	One optional port (VC * Depending on many fa ** Not support VGA, 3rd	actors, act	ual data transfe	er speed may	be lower than	theoretical speed		<b>3</b>		
Audio support	High Definition (HD)	Audio, R	ealtek ALC23	33-VB2 / int	ernal speak	er (1.5 watt)				
WLAN	Some: 11ac wireless Wi-Fi + Bluet Some: 11ac wireless Wi-Fi + Bluet Some: 11ac wireless Wi-Fi + Bluet Some: 11ac wireless Wi-Fi + Bluet Some: Bluetooth 4.2	tooth 4.2 s, M.2 Ca tooth 4.2 s, M.2 Ca tooth 4.2 s, M.2 Ca tooth 4.2 2* wireles	* combo ada ard, Qualcom * combo ada ard, Realtek I * combo ada ard, Qualcom * combo ada ss, integrated	pter, 1x1 nm Atheros pter, 1x1 RTL8822BE pter, 2x2 nm Atheros pter, 2x2 in Wi-Fi + I	QCA9377 (c E (dual band QCA6174A BT combo ac	dual band), ), (dual band), dapter				
Bluetooth Ethernet	* Hardware supports Gigabit ethernet, Rea					DORTS BT 4.1				
Manageability Security chip Security features	DASH 1.0/1.1 Discrete TPM 2.0, TO									
Jecumy leatures	<ul> <li>Security slot (in reakensington® Micros</li> <li>Padlock loop</li> <li>Smart USB protect mouse only, blocks</li> <li>Power-on passworn</li> </ul>	Saver <sup>®</sup> ·ca tion, allow all stora	able) ws keyboard/	<ul><li>Hard dis</li><li>Boot se</li><li>Boot wit</li><li>Individu</li></ul>	trator password password quence cont hout keyboa al USB port intrusion sw	rol Ird and mouse disablement				













#### ThinkCentre M715 Tower Platform Specifications

Processor	AMD A6 / A8 / A10 / A1	12 series AF	PU and Ryzen :	3 / 5 / 7 series	s processor	Manageability	DASH			
	APU / processor	Cores / Threads	Frequency (Base/Max)	L2 Cache	Integrated Graphics	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified  * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS			
	Ryzen 3 PRO 1200	4/4	3.1 / 3.4	2MB	None	Security features	Security slot (in rear for optional     Power-on password			
	Ryzen 3 PRO 1300	4/4	3.5 / 3.7	2MB	None		Kensington® MicroSaver® cable)  • Administrator password  • Hard disk password			
	Ryzen 5 PRO 1500	4/8	3.5 / 3.7	2MB	None		<ul> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>			
	Ryzen 7 PRO 1700	8 / 16	3.0 / 3.7	4MB	None		mouse only, blocks all storage devices  • Boot sequence control			
	PRO A6-8570	2/2	3.5 / 3.8	1MB	Radeon R5 Series		<ul> <li>Optional cable lock to physically lock</li> <li>Individual USB port disablement</li> </ul>			
	PRO A10-8770	4/4	3.5 / 3.8	2MB	Radeon R7 Series		both keyboard and mouse   • Optional chassis intrusion switch			
	PRO A12-8870	4/4	3.7 / 4.2	2MB	Radeon R7 Series	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	PRO A6-9500	2/2	3.5 / 3.8	1MB	Radeon R5 Series		Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	PRO A8-9600	4/4	3.1 / 3.4	2MB	Radeon R7 Series	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
	PRO A10-9700	4/4	3.5 / 3.8	2MB	Radeon R7 Series		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	PRO A12-9800	4/4	3.8 / 4.2	2MB	Radeon R7 Series		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
Memory	64GB max, UDIMM, DI dual-channel capable * System automatically		·		•	Mechanical r	<ul> <li>Tower (15L), black color, metal case</li> <li>(WxDxH) 5.7" X 11.5" X 14.4"; 145mm X 292.7mm X 366mm</li> <li>Approx. 14.3 lb (6.5 kg), weight may vary by configuration</li> <li>Optional dust filter</li> </ul>			
Storage	Some: Hard Drive / SA Some: Solid State Driv Some: M.2 Solid State	/e (SSD) / S · Drive (SSI	SATA 6.0Gb/s, 2 0) / PCIe NVMe	2.5" e, PCle 3.0 x 4			Bay 1: Slim external ODD bay Bay 2: 3.5", internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD			
Optical	Some: DVD-ROM SAT Some: DVD Burner (D	VD±RW), S	ATA 1.5Gb/s D		mm)		Slot 1: half-length full-height (length < 189mm, height < 104mm), PCIe 3.0 x16* Slot 2: half-length full-height (length < 189mm, height < 104mm), PCIe 2.0 x1*			
Onboard SATA Media reader	Three onboard SATA 6. Optional 7-in-1 media r	eader					Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 2.0 Slot 4: no slot, only bracket for optional port extension*			
Graphics	AMD Radeon™ Graph memory, DirectX® 12, of are invalid on the mode displays, works along w	one VGA, twels with AMI	o DisplayPort™ DRyzen proces	' (Onboard V( ssor), support	GA and DP ports s 3 independent	1	M.2 card slots: two (one for WLAN, one for SSD)  * Optional front USB3.1 Type-C x2 module occupies PCIe x16 slot (x4 card), optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slot			
	Max resolution: 4096x2 Some: NVIDIA Geforce two DisplayPort	:160 (DP)@ <b>e® GT 730</b> , , 35 watts;	60Hz; 1920x12 DirectX 12, 2G	200 (VGA)@6 B, PCIe 2.0 x	0Hz	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU 210 watts, autosensing, 92% PSU (only available via special bid)			
	Max resolution: Some: AMD Radeon™ one VGA, one H	RX 550, D IDMI, one D	irectX 12, 2GB DisplayPort, 50	PCIe 3.0 x8 watts, occupio	es two slots;	Limited warranty Preload	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available Preloaded operating system			
Monitor Cable	Max resolution:	5120x2880	(DP)@60Hz		,	1101044	Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit (Only available with Pro A6/A10/A12-8xxx APUs)			
	Optional DP to VGA, DI	ר נס טעו-ט	(single link), DF	to dual DP, C	OF DP to HUMI 1.4	_	Some: Windows 10 Pro 64-bit			
Chipset	AMD B350 Chipset						Some: Windows 10 Home 64-bit Preloaded applications (only some listed)			
Front ports*	Two USB 3.1 Gen2, two						Microsoft Office preloaded;			
Rear ports*	available via special bid Two USB 3.1 Gen1, two						purchase a product key to activate			
rical porto	2nd serial (9-pin), optio	nal parallel	(25-pin), ether	net (RJ-45), o	ne VGA and two		- Only for Window 10			
	DisplayPort (not availab	ole on mode	els with AMD R	yzen process	or),		<ul> <li>Lenovo Companion</li> <li>Only for Window 7</li> </ul>			
	two PS/2 ports (keyboa	rd / mouse)	); • • • • • • • • • • • • • • • • • • •		and a second also		Lenovo Solution Center			
Rear audio porto	additional VGA, DisplayPort, or HDMI on optional graphics on some models (S* Line-in (3.5mm), line-out (3.5mm), microphone-in (3.5mm)		additional VGA, DisplayPort, or HDMI on optional graphics on some models	some modéls		Lenovo ThinkVantage Tools				
Hear audio ports <sup></sup> IEEE 1394*	Line-in (3.5mm), line-ou None	ມເ (ວ.ວmm),	mcropnone-in	(J.Smm)			Create Recovery Media			
	* Depending on many factor	ors, actual da	ta transfer speed	may be lower t	han theoretical speed		Adobe® Reader®     Cyberlink PowerPMD Create (DMD) PMM			
Audio support	High Definition (HD) Au		•			Environment and	Cyberlink PowerDVD Create (DVD±RW)      Children (North America)			
WLAN	Some: 11ac wireless, Wi-Fi + Bluetoo	M.2 Card, F	Realtek RTL882	1AE (dual ba	, ,	Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant			
	Some: 11ac wireless,   Wi-Fi + Bluetoo	M.2 Card, C	Qualcomm Athe	ros QCA6174	1A (dual band),	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com			
	Some: 11ac wireless, l Wi-Fi + Bluetoo	M.2 Card, C	Qualcomm Athe	ros QCA9377	7 (dual band),					
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.0 o Gigabit ethernet, Realte None	r 4.1 wirele	ss, integrated in	n Wi-Fi + BT o	combo adapter					
	-									













## ThinkCentre M720 SFF Platform Specifications

Processor	Intel® Celeron®, Intel I	Pantium®	or 8th / 9th Gor	Intel Co	ore™ i3 / i5 / i7 / i0	Processor		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),
FIOCESSOI	inter Celerons, inter	Cores /	Frequency		Memory Support			Wi-Fi + Bluetooth 4.2 combo adapter, 2x2
	Processor	Threads	Base/Max(GHz)	Cache	(Up to)	Graphics		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400		Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x4 Some: Bitland BN8E88*, gigabit ethernet, PCIe x1 (only available via special bid)
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		* Choose either I350-T4 or BN8E88
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Manageability	None
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630 UHD 630	Security features	Security slot (in rear for optional Power-on password
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666 DDR4-2666	UHD 630		Kensington® MicroSaver® cable) • Administrator password
	Core i7-8700 Core i3-9100	6 / 12 4 / 4	3.2G / 4.6G 3.6G / 4.2G	12 MB 6 MB	DDR4-2400	UHD 630		<ul> <li>Padlock loop</li> <li>Optional cable lock to physically lock</li> <li>Boot sequence control</li> </ul>
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		Optional chassis intrusion switch     Individual USB port disablement
	Core i5-9320	6/6	2.9G / 4.1G	9 MB	DDR4-2400 DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)     Smart USB protection, allows keyboard/mouse only, blocks all storage devices
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	Marrie a a val	
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
Memory	64GB max, UDIMM, I	DDR4-266	66. four 288-pin	OIMM sc	ckets, non-FCC.		iviouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
	dual-channel capable * System automatical	*	•			y controlle		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
Storage	Some: Hard Drive / S				om or 7200 rpm		Mechanical	SFF (8.4L), black color; metal case
-	Some: Solid State Dr Some: M.2 Solid State * M.2 SSD (2242) PC	te Drive ( le NVMe	ŚSD) / PCIe NVI only supports P	Me, PCI Cle 3.0 x	( 2, 16Gb/s		Moonanioa	<ul> <li>(WxDxH) 3.64" X 11.44" X 13.52"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.24 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, and extension card removal</li> </ul>
Optical	Some: Intel Optane <sup>TM</sup> Some: DVD-ROM SA	4ta 1.5Gi	b/s Drive, slim (9	.0mm)		r), IVI.2		Optional dust filter Bay 1: Slim external ODD bay
Onboard SATA	Some: DVD Burner ( Three onboard SATA			Dilve, S	aliti (9.011liti)			Bay 2: 3.5", 1" high, internal, HDD/SSD
Media reader	Optional 7-in-1 media		001111001010					Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 147mm, height < 68.9mm), PCIe 3.0 x16
Graphics	Intel UHD Graphics	<b>610/630</b> i	n processor, use	s main r	nemory, DirectX®	12,	1	Slot 2: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1
·	one VGA, two Display	Port™, su	upports 3 indepe					Slot 3: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1
	discrete graphics to s			1506 (\/	CA)@E0U-			Slot 4: no slot, only bracket for optional port extension  M.2 card slots: Two (one for WLAN, one for SSD/Optane)
	Max resolution: 4096> Some: NVIDIA Gefor	ce® GT 7	30. DirectX 12.	GB. PC	GA)⊛50⊓2 le 2.0 x16 adapte	er.	Floor Stand	Optional system floor stand for vertical orientation
	two DisplayPo			,	=	,	Power supply	Some: 180 watts, autosensing, 85% PSU
Monitor cable	Max resolution	n: 3840x2	160 (DisplayPor	)@60Hz	r.	O - II	1	Some: 210 watts, autosensing, 85% PSU
WOTHOT Cable	Optional DP to VGA of Display with intel inter					for Collage		Some: 260 watts, autosensing, 92% PSU (only available via special bid)
Chipset	Intel B360 Chipset	gratou gre	(2011100), OI DI 10	TIDIVII I	.+ dorigio		Limited warranty	<sup>3</sup> Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
Front ports* (Std.	)2x USB 3.1 Gen2, 2x						Preload	Preloaded operating system
F	1x microphone (3.5m)		adphone / micro	phone c	ombo jack (3.5mn	n)	Troioda	Some: Windows® 10 Pro 64-bit
Rear ports* (Opt.	) Optional: 1x media re ) 4x USB 2.0, 1x serial	ader (9-pin), 1	x ethernet (RJ-4	5), 1x V(	GA, 2x DisplayPo	rt,		Some: Windows 10 Home 64-bit Preloaded applications (only some listed)
Rear ports* (Ont	1x line-out (3.5mm) ) Optional: 2x USB 3.1	Gent via	PCI2 v1** 2v I I	SB 2 1 T	vna-C Gan2 via E	PCIe v4**		Lenovo Vantage
porto (Opt.	(special bid only), 1x	2nd seria	l (9-pin), 4x seria	ا (9-pin)	via PCle x1, 1x p	arallel (25-		Microsoft Office preloaded;  purphase a product key to activate.
	pin), 2x PS/2 ports (ke	eyboard/r	nouse), addition	al RJ-45	and video ports a	available or	n	<ul> <li>purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> </ul>
	optional graphics or e				- 1			Cyberlink Power2GO (only for models with DVD±RW)
	* Depending on many fac ** Choose either 2x USB					lical speed		LinkedIn
Audio support	High Definition (HD)					tt )	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant
WLAN	Some: 11ac wireless					,	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
			ombo adapter, 1		- //		Accessories	r or companione accessories, prease go to <b>nup://smartimo.ienovo.com</b>













#### ThinkCentre M720 Tiny Platform Specifications

Processor   Tomas   Features   County   From the County   County	Processor	Intel® Celeron®, Intel F	Pentium®.	or 8th / 9th Gen	Intel C	ore™ i3 / i5 / i7 / i	9 Processor	Manageability	None					
Security Pearlure   Security				Frequency		1		Security chip	Discrete TPM 2.0, TCG Certified					
Pertium Gold GS507				` '		(Up to)		Security features	• Security slot (in rea					
Power on password   Power password   Power on password   Power pas									<ul> <li>Kensington® MicroSaver® cable)</li> <li>Chassis intrusion switch</li> <li>Power-on password</li> <li>Administrator password</li> <li>Boot without keyboard and mound individual USB port disablement</li> <li>Smart USB protection, allows k mouse only, blocks all storage of the provided individual USB port disablement</li> </ul>					
Administratory password   Administratory p						-								
Core 18-9800T						<u> </u>								
Core 15-84007				-										
Cone it-8600T 6 / 6   2.16 / 3.56   9.MB   DBR-42666   UHD 530								Keyboard	Some: Lenovo Callio	pe Keyboard (U	SB connector), black	(		
Concert   1-800   1-														
Some   Continue   Co								Mouse	Some: Lenovo Callio	pe Wireless Key	board (2.4GHz via U	JSB receiver), black		
Some: Lanovo Calliope Wireless Mouse (2.4-GHz via USB receiver), black   Some: Lanovo Calliope Wireless Mouse (2.4-GHz via USB receiver), black   Some: Lanovo Calliope Wireless Mouse (2.4-GHz via USB receiver), black   Some: 1.4-GHz via USB						-		Wiodoc	Some: Lenovo Galilope iviouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector) Windows Hello su					
Core iB-3800T   41/4   3_26_3_86   BMB   DDR4-2800   UHD-630			-	<del> </del>		<u> </u>								
**Toolles's classis open (need optional toolles's chassis screw)  **Toolles's chassis open (need optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis open (need optional toolles's chassis optional toolles's chassis open (need optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis optional toolles's chassis chassis								Mechanical	Tiny (1L) black color:	metal case	,			
Core 15-9900T   6 / 6   2.36 / 376   9 MB   DDR4-2666   UHD 630								Mooriariioar			al toolless chassis so	crew)		
Core is-9600T   6 / 6   2.36 / 3.93   9 MB   DDR4-2666   UHD 630										, mèmory remova	al	,		
Core if 97000T   818   2.06/4.36   12 MB   DDR4-2868   UHD 630										/CCD and DCIa	O O vO alat /law prof	ile) two M O clots (one		
Memory   32GB max, DDR4-2666*, two 260-jin SQ-DIMM sockets, non-ECC, dual-channel capable   1.0 miles   1.0 mile														
Memory   SCBB max, DPR4-2666*, two 260-pin SO-DIMM sockets, non-ECC, dual-channel capable   System-audical channel capable   Syste				<del> </del>		<del> </del>			101 112/111, 0110 101 1111	, · ·				
dual-channel capable  *System untomatically clocks down for the processors with lower memory controller  *System untomatically clocks down for the processors with lower memory controller  *System untomatically clocks down for the processors with lower memory controller  *System untomatically clocks down for the processors with lower memory controller  *Some: Active Company of th							OHD 630							
Storage Some: Hart Drive / SATA 6.0Gb/s, 2.5°, 5400 pm or 7200 pm	Memory		66*, two 2	260-pin SO-DIMI	√l socke	ets, non-ECC,			l iny only					
Some: Solid State Drive (SSD) / SATA 6.0Gb/s 2.5" Some: No. 258D P/Cle NVMe, PCle 3.0 x 4', 32Gb/s Some: NVMe, PCle 3.0 x 4', 32Gb/s Some: NVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: ODD Burner (DVD-ROM), slim (9.0mm), via USB external ODD box Some: Usb over 1500 and post size of the Volume of th							ory controller	•				3.66 lb (1.66 kg),		
Some: M.2 SSD / PCIe NVMé, PCIe 3.0 x 4*, 32Gb/s 128GB SSD M.2 (22442) PCIe NVMe only supports PCIe 3.0 x 2, 16Gb/s Some: Intel Optane™ Memory (not support Celeron / Pentium Processor), M.2 Some: DVD-ROM, slim (9.0mm), via USB external ODD box Onboard SATA One onboard SATA 6.06b/s connector One one one one one one one one one one o	Storage	Some: Hard Drive / S	SATA 6.00	6b/s, 2.5", 5400 i	pm or 7	7200 rpm			ODD box 188.4mm X 185.38mm X 63mm vary by c					
Proor Stand Potential System floor stand for vertical orientation  Some: Intel Qotane™ Memory (not support Deferon / Pentium Processor), M.2 Some: DVD-ROM, slim (9.0mm), via USB external ODD box Onboard SATA One onboard SATA One onboard SATA 6.0Gb/s connector  Intel HD Graphics 610(9530 in processor, uses main memory, DirectX™ 12, one DisplayPort™, one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP or USB 3.1 Type-C Gen time that the properties of the William one HDMI one optional video port (2nd HDMI, VGA, 2nd DP or USB 3.1 Type-C Gen time that the properties one HDMI one optional video port (2nd HDMI, VGA, 2nd DP or USB 3.1 Type-C Gen time that the properties of the properties of the product of the product of the properties of the properties of the product of the properties of the product of the properties of the product of t								VECA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm					
Optical Some: Intel Optanè "Mémory (not support Céleron / Pentium Processor), M.2 Some: DVD-ROM, slim (9.0mm), via USB external ODD box Some: DVD-Borner (DVD-EMW), slim (9.0mm), via USB external ODD box Some: DVD Burner (DVD-EMW), slim (9.0mm), via USB external ODD box Some: 30 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU Some: 136 watts AC/DC adapter, autosensing, 88% PSU Some: 146 watts AC/DC adapter, autosensing, 88% PSU Some: 146						Cle 3 0 x 2 16Gh	n/s							
Optical Some: DVD-RM, slim (9.0mm), via USB external ODD box Some: 90 watts AC/DC adapter; autosensing, 88%; PSU Onboard SATA 6.0Gb/s connector  Onboard SATA 6.0Gb/s connector  Intel HD Graphics 6 10f30 in processor, uses main memory, DirectX**12, one DisplayPort** one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP or USB 3.1 Type-C Gent with DisplayPort function, up to 3 independent displays; Max resolution: 4096:x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 4096x2		Some: Intel Optane™	¹ Memorv	(not support Ce	leron / I	Pentium Processo	or), M.2		Some: 65 watts AC/DC adapter, autosensing, 88% PSU					
Onboard SATA One onboard SATA 6.0Gb/s connector  Intel HD Graphics 610/630 in processor, uses main memory, DirectX® 12, one DisplayPort™, one HDMI, one optional video port (2nd HDMI), VGA, 2nd DP, or USB 3.1 Type-C Gen1 with DisplayPort function), up to 3 independent displays; Max resolution: 4096x2304 (DP) e00Hz; 4096x2304 (Type-Q) 660Hz; 4096x204 (Type-Q) 60Hz; 40Hz; 4	Optical	Some: DVD-ROM, sli	im (9.0mr	n), via USB exte	rnal OD	D box		l ower supply	Some: 90 watts AC/E	OC adapter, auto	sensing, 88% PSU			
Intel HD Graphics 610/630 in processor, uses main memory, DirectX® 12, one DisplayPort**, one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP, or USB 3.1 Type-C Gen1 with DisplayPort function), up to 3 independent displays; Max resolution: 4096x2304 (DP)® 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (DP)® 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (Type-C)@ 60Hz; 4096x2304 (DP)® 60Hz; 4096x234 (DP)® 60Hz; 4096x234 (DP)® 60Hz; 4096x234 (DP)® 60Hz; 4096x234	Onboard SATA				via USI	3 external ODD b	OOX		Some: 135 watts AC/DC adapter, autosensing, 88% PSU					
DisplayPort**, one HDMI, one óptional video port (2nd HDMÍ, VGA, 2nd DP, or USB 3.1 Type-C Genf with DisplayPort function), up to 3 independent displays; Max resolution: 4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x					main m	emory DirectX®	12 one	Some: 1-year or 3-year, limited onsite service / service upgrades available						
Monitor cable  Monitor cable  Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle  Chipset  Intel B360 Chipset  Front ports* (Std.) one USB 3.1 Gen1 (Always On and fast charge), one USB 3.1 Type-C Gen 1, one microphone (3.5mm), one headphone / microphone combo jack (3.5mm) Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (BJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd hDMI / Serial / USB 3.1 Type-C Gen 1 via PCle ard: 2x USB 3.1 Gen1, 1x ethernet (BJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports via PCle card: 2x USB 3.1 Gen1 (1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed  Audio support  Realtek ALC233VBZ / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL882DE (dual band), WI-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, WI-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, WI-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 3 Mill-STD-810G military certification (Low Pressure [Altitude], High Temperature, Englated in WI-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, WI-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 3 Mill-STD-810G military certification (Low Pressure [Altitude], High Temperature, Englated in WI-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 3 Mill-STD-810G military certification (Low Pressure [Altitude], High Temperature, Englated in WI-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 3 Mill-STD-810G military certification (Low Pressure [Altitude]), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 3 Mill-	агартноо	DisplayPort™, one HD	MI, one	optional video po	rt (2nd	HDMÍ, VGA, 2nd	DP,							
Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle  Chipset Intel B360 Chipset  Front ports' (Std.) one USB 3.1 Gen1 (Always On and fast charge), one USB 3.1 Type-C Gen 1, one microphone (3.5mm), one headphone / microphone combo jack (3.5mm)  Rear ports' (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports' (Opt.) Two optional ports (mutually exclusive with PCle card; Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1							t displays;							
Optional DP to VGA dongle, DP to Dungle, DP to dual DP dongle (for Collage Display with intel integrated graphics), or DP to HDMI 1.4 dongle  Chipset  Front ports* (Std.) one USB 3.1 Gen1 (Always On and fast charge), one USB 3.1 Type-C Gen 1, one microphone (3.5mm), one headphone / microphone combo jack (3.5mm)  Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI PCIe card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCIe card: 2x USB 3.1 Gen1 via PCIe x1, 4x serial (9-pin) via PCIe x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed Audio support  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (2x2 Std) and the propertion of the		Max resolution: 4096x	(2304 (DF	P)@60Hz; 4096x	2304 (T	ype-C)@60Hz;	@ FOLL=		Some: Windows 10	) Pro 64-bit Home 64-bit	ro 64-bit			
Monitor cable   Display with intel integrated graphics), or DP to HDMI 1.4 dongle														
Chipset   Intel B360 Chipset	Monitor cable						(loi oollage			, , ,				
Front ports* (Std.) one USB 3.1 Gen1 (Always On and fast charge), one USB 3.1 Type-C Gen 1, one microphone (3.5mm), one headphone / microphone combo jack (3.5mm)  Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  Audio support  Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Some: Some: Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Sluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Ethernet  Ethernet  Conception Sandard Sanda	Chinset		<u>,                                     </u>	, ,,				1	Microsoft Office preloaded;					
one microphone (3.5mm), one headphone / microphone combo jack (3.5mm) Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle x1 via PCle x1, 4x serial (9-pin) via PCle x1 PCle x1 Popending on many factors, actual data transfer speed may be lower than theoretical speed Audio support  Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®  Occurrence of the provision of the Company of the		· · · · · · · · · · · · · · · · · · ·	lwovo On	and fact charge	\ ono I	ISB 2.1 Tupo C.C	Con 1	-						
Rear ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45), 1x DisplayPort, 1x HDMI Rear ports* (Opt.) Two optional ports (mutually exclusive with PCle card): Port 1 for VGA / 2nd DP / 2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed PCle x1  Audio support Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (3igabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	From ports (Stu.								Cýberlink Power2GO (onlý for models with DVD±RW)     LinkedIn  ENERGY STAR® 7.0, EPEAT™ Gold rating (North America), ErP Lot 3, TCO,					
2nd HDMI / serial / USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  * Depending on many factors, actual data transfer speed may be lower than theoretical speed  **Audio support**  **Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  **WLAN**  **Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  **Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  **Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  **Bluetooth**  **Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection 1219-V (Jacksonville), Wake on LAN®**  **TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TUV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compliant TuV ultra low noise verified (coming soon, on some models), RoHS-compli		2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x ethern	et (RJ-4	45), 1x DisplayPo	rt, 1x HDMI							
Optional ports via PCle card: 2x USB 3.1 Type-C Gen 1 with DP function); Port 2 for serial; Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin) via PCle x1  Depending on many factors, actual data transfer speed may be lower than theoretical speed  Audio support  Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	Rear ports* (Opt.	) Two optional ports (mi	utually ex	clusive with PCI	e card):	Port 1 for VGA /	2nd DP /	Environment						
PCIe x1 * Depending on many factors, actual data transfer speed may be lower than theoretical speed  Audio support  Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter (Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®									TUV ultra low noise v	erified (coming s	oon, on some mode	ls), RoHS-compliant		
Audio support Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Gigabit ethernet Gigabit ethernet Connection I219-V (Jacksonville), Wake on LAN®			ie caru. Z	x 03D 3.1 dell1	via i O	ie XI, 4X Seriai (3	-piii) via	MIL-SPEC test	MIL-STD-810G milita	ry certification (L	ow Pressure [Altitud	le], High Temperature,		
Audio support  Healtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®											k, Humidity, Sand an	d Dust, Vibration, Shock,		
WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	Audio support	dio support Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)												
Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),							For compatible acces	sories, please go	o to <b>http://smartfind</b>	l.lenovo.com		
Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1												
Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Some: 11ac wireless,	, M.2 Car	d, Realtek RTL8	822BE	(dual band),								
Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter 2x2 Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1												
Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®														
Bluetooth Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2												
Ethernet Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®	Bluetooth													
Ethernet (Opt.) Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4		Gigabit ethernet, Intel	Ethernet	Connection I21	9-V (Jac	cksonville), Wake	on LAN®							
	Ethernet (Opt.)	Some: Intel Ethernet S	Server Ad	lapter I350-T4, g	igabit e	thernet, 4x RJ-45	5, PCIe x4							













#### ThinkCentre M720 Tower Platform Specifications

Processor	Intel® Celeron®, Intel I	Pantium®	or 8th / 9th Gen	Intel Co	vro™ i3 / i5 / i7 / i0	Processor	ΔΛ/Ι Δ ΝΙ13	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),			
1 10003301		Cores /	Frequency		Memory Support		VVLAIN	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1			
	Processor		Base/Max(GHz)	Cache	(Up to)	Graphics		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),			
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,			
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1			
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,			
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	DI t tl-TM	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter			
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN® Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Bitland BN8E88*, gigabit ethernet, 1x RJ-45, PCle x1 (special bid only)			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		* Choose either I350-T4 or BN8E88			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability	None			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified			
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security features	• Security slot (in rear for optional • Power-on password			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Kensington <sup>®</sup> MicroSaver <sup>®</sup> cable) • Administrator password			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		<ul> <li>Padlock loop</li> <li>Optional cable lock to physically lock</li> <li>Boot sequence control</li> </ul>			
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Individual USB port disablement</li> </ul>			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)     Smart USB protection, allows keyboard/			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices			
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
Memory	64GB max, UDIMM, I		66*, four 288-pin	DIMM s	ockets, non-ECC	,		Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
	dual-channel capable		down for the pro	20000ro	with lower memor	ar controller	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
01	* System automatical					y controller	_	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
Storage	Some: Hard Drive / S Some: Solid State Drive	0.00 AIA 6.00	3D/S, 2.5" OF 3.5" ) / SATA 6 OGb/s	, 5400 rp	om or 7200 rpm			Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
	Some: M.2 Solid Star	te Drive (	SSD) / PCIe NVI	Me. PCI	e 3.0 x 4*. 32Gb/s	3	Mechanical	Tower (15L), black color, metal case			
	* 128GB SSD M.2 (22	242) PCIè	e NVMe only sup	ports PC	Cle 3.0 x 2. 16Gb	/s	IVICOITATIICAI	• (WxDxH) 5.91" X 10.65" X 14.17"; 150mm X 270.5mm X 360mm			
Ontinal	Some: Intel Optane <sup>TM</sup>	Memory	(not support Ce	leron / F	entium Processo	r), M.2		<ul> <li>Approx. 15.21 lb (6.9 kg), weight may vary by configuration</li> </ul>			
Optical	Some: DVD-ROM SA Some: DVD Burner (				lim (9 0mm)			Optional dust filter  Bout 1 Clim automat ODD have			
Onboard SATA	Three onboard SATA			D1110, 0	(0.011111)			Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD			
Media reader	Optional 7-in-1 media	reader						Bay 3: 3.5", 1" high, internal, HDD/SSD (optional bay)			
Graphics	Intel UHD Graphics							Slot 1: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x16			
	one VGA, two Display			ndent di	splays, works alo	ng with		Slot 2: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1			
	discrete graphics to s Max resolution: 4096x			1536 (\/	GA)@50Hz			Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1 Slot 4: no slot, only bracket for optional port extension			
	Some: NVIDIA Gefor					er,		M.2 card slots: Two (one for WLAN, one for SSD/Optane)			
	two DisplayPo				·		Power supply	Some: 180 watts, autosensing, 85% PSU			
Monitor Cable	Max resolution Optional DP to VGA		160 (DisplayPort			for Collago		Some: 210 watts, autosensing, 85% PSU			
Monitor Gabio	Display with intel integ					ioi collage		Some: 260 watts, autosensing, 92% PSU (only available via special bid)			
Chipset	Intel B360 Chipset	9 9					Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available			
Front ports* (Std.)	2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x USB 3	.1 Type-	C Gen1 (15W cha	arging),	Preload	Some: 1-year or 3-year, limited onsite service / service upgrades available Preloaded operating system			
, , ,	1x microphone (3.5m)	m), 1x he				Fieldau	Some: Windows® 10 Pro 64-bit				
Front ports* (Opt.) Optional: 1x media reader Rear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort,								Some: Windows 10 Home 64-bit			
near ports (Stu.)	1x line-out (3.5mm)	(9-pin), 1	x etnernet (HJ-4	5), 1X V	3A, 2x DisplayPo	rt,		Preloaded applications (only some listed)			
Rear ports* (Opt.)	Optional: 2x USB 3.1	Gen1 via	PCIe x1**, 2x U	SB 3.1 T	vpe-C Gen2 via F	PCle x4**		Lenovo Vantage     Microsoft Office prolected			
	(special bid only), 1x 2	2nd seria	l (9-pin), 4x seria	ıl (9-pin)	via PCIe x1,			Microsoft Office preloaded;     purchase a product key to activate			
	1x parallel (25-pin), 2				dditional RJ-45 ar	nd video		Cyberlink PowerDVD (only for models with DVD / DVD±RW)			
	ports available on opt * Depending on many fac				e lower than theore	tical speed		Cyberlink Power2GO (only for models with DVD±RW)			
	** Choose either 2x USB					a. opoou		• LinkedIn			
Audio support	High Definition (HD) A	Audio, Re	altek ALC233VB	2 / interr	nal speaker (2 wa	tt )	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant			
							Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
							•				













## ThinkCentre M720e SFF Platform Specifications

Dragonor	Intal® Calaran® Intal	Dantium®	or Oth / Oth Con	Intal Ca	*oTM :0 /:E /:7 /:0	Drassass	Managashilitu	None			
Processor	Intel® Celeron®, Intel			inter Co	Υ		Security chip	None Discrete TPM 2.0, TCG Certified			
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Graphics		s • Security slot (in rear for optional • Power-on password			
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	occurry leatures	Kensington® MicroSaver® cable) • Administrator password			
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Padlock loop			
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Smart USB protection, allows keyboard/     Boot sequence control     Death without heads and make			
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		<ul> <li>mouse only, blocks all storage devices</li> <li>Optional smart cable clip to physically</li> <li>Individual USB port disablement</li> </ul>			
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		lock both keyboard and mouse  • Optional chassis intrusion switch			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	1	Some: Lenovo Traditional Keyboard (USB connector), black			
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	Mechanical	SFF (7.4L), black color, metal case			
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630		• (WxDxH) 3.9" X 11.9" X 10.8"; 100mm X 303.5mm X 274.8mm			
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		<ul> <li>Approx. 9.37 lb (4.25 kg), weight may vary by configuration</li> <li>Bay 1: Slim ODD bay</li> </ul>			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Bay 2: 3.5" disk bay, supports 2.5" HDD (2.5 to 3.5 bracket comes with 2.5" disk)			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Slot 1: low-profile (length < 152mm, height < 64mm), PCIe 3.0 x16*			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		Slot 2: low-profile (length < 152mm, height < 64mm), PCle 3.0 x1*			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		M.2 card slot: one for SSD *Optional rear 2x USB2.0 / parallel occupies one expansion slot			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Floor Stand	Optional system floor stand for vertical orientation			
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	Packaging	• (WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500mm			
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	ackaging	• Cross weight (approx.) 14.48 lb (6.57 kg)			
Memory	32GB max, UDIMM, I	DDR4-26	66*. two 288-pin	DIMM so	ockets, non-ECC.		Power supply	180 watts, autosensing, 85% PSU			
,	dual-channel capable		, p								
	* Memory may be und processor	derclocke	d to DDR4-2400	for the Id	ower memory con	itroller in	Limited warranty³ Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available				
Storage	Some: Hard Drive / S	SATA 6 00	3b/s 2.5" or 3.5"	5400 rp	m or 7200 rpm		Preload	Preloaded operating system			
Otorago	Some: M.2 Solid Sta	te Drive (	SSD) / PCIe NVI	Ие. PCle	3.0 x2 or PCle 3	3.0 x4		Some: Windows® 10 Pro 64-bit			
Optane memory	Some: Intel Optane™	Memory	, M.2 2280, PCI	NVMe,	PCle 3.0 x 2			Some: Windows 10 Home 64-bit Some: Linux Ubuntu			
Optical	Some: DVD-ROM SA Some: DVD Burner (				lim (0.0mm)		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7				
Onboard SATA	Two onboard SATA 6.			Dilve, S	11111 (9.0111111)		Environment ENERGY STAR® 7, EPEAT™ Silver rating (North America), ErP Lot 3, RoHS-compliant, WEEE				
Media reader	Optional 7-in-1 media						Accessories For compatible accessories, please go to http://www.lenovoquickpick.com				
Graphics	Intel HD Graphics 61	<b>10/630</b> in	processor, uses	main me	mory, DirectX® 1:	2,	Accessories	i or companione accessories, prease go to intip.//www.ienovoquickpick.com			
•	one VGA, one Display			ndent dis	splays, works alo	ng with					
	discrete graphics to s Max resolution: 4096	upport m	ore displays;	1506 (\/	C						
	Some: AMD Radeon	™ <b>520</b> D	irectX 12 2GB 6	iDDR5 F	GA) @ SUFIZ PCIe 3 0 x8 adan	ter					
	one VGA, one	HDMI, 3	0 watts (Max);		·						
Manitan aalala	Max resolution	n: 3840x2	160 (HDMI)@30	Hz; 2048	3x1536 (VGA)@8	5Hz					
Monitor cable	Optional DP to VGA,	DP to DV	I-D (single link),	JP to du	al DP, or DP to H	DMI 1.4	_				
Chipset	Intel B365 Chipset										
Front ports* (Std.	Two USB 3.1 Gen1, n	nicrophor	ne (3.5mm), one	headpho	ne / microphone	combo jack	(				
Front norto* (Ont	(3.5mm)										
	Front ports* (Opt.)None Rear ports* (Std.) Two USB 3.1 Gen1, two USB 2.0, serial (9-pin), ethernet (RJ-45), one VGA, one										
DisplayPort, Line-out jack (3.5mm)											
Rear ports* (Opt.)	Rear ports* (Opt.) optional two USB 2.0, optional 2nd serial (9-pin), optional parallel (25-pin), optional external USB to PS/2 ports cable (for PS/2 keyboard / mouse);										
	additional video ports					ma madala					
	* Depending on many fac										
Audio support	High Definition (HD)					ioai speeu	-				
WLAN <sup>13</sup>	3 / /	auio, ne	andr ALOUZU / II	nemai S	Joaner (2 Wall)		+				
WLAN <sup>™</sup> Bluetooth™	None None										
Ethernet	Gigabit ethernet, Rea										
Ethernet (Opt.)	Some: Bitland BN8E	88*, gigal	oit ethernet, PCI	x1							
Modem	None										













## ThinkCentre M725 SFF Platform Specifications

Processor	AMD A6 / A8 / A10	/ A12 and	d Ryzen 3 /	5 / 7 series	processor		Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®					
-				L2/L3	Memory	Integrated	Ethernet (Opt.)	Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)					
	Processor	Cores / Threads	Frequency (Base/Max)	Cache	Support	Integrated Graphics	Manageability	DASH 10/1.1					
	PRO A6-9500	2/2	3.5 / 3.8	1MB	(Up to) DDR4-2400	Radeon R5	Security chip	Discrete TPM 2.0, TCG Certified					
	PRO A6-9500 PRO A8-9600	4/4	3.5 / 3.8	2MB	DDR4-2400 DDR4-2400	Radeon R5	Security features	Security slot (in rear for optional Power-on password					
	PRO A10-9700	4/4	3.5 / 3.8	2MB	DDR4-2400	Radeon R7		Kensington® MicroSaver® cable) ● Administrator password					
	PRO A12-9800	4/4	3.8 / 4.2	2MB	DDR4-2400	Radeon R7		Padlock loop     Hard disk password     Past assumes central					
	Ryzen 3 2300X	4/4	3.5 / 4.0	+	DDR4-2933	None		Smart USB protection, allows keyboard/     Boot sequence control     Boot without keyboard and mouse					
	Ryzen 5 2500X	4/8	3.6 / 4.0		DDR4-2933	None		Optional cable lock to physically lock     Individual USB port disablement					
	Ryzen 3 PRO 2200G	4/4	3.5 / 3.6	2MB / 4MB		Radeon Vega 8		both keyboard and mouse  • Optional chassis intrusion switch					
	Ryzen 5 PRO 2400G	4/8	3.6 / 3.8	2MB / 4MB	DDR4-2933		Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black					
	Ryzen 5 PRO 2600	6 / 12	3.4 / 3.9	3MB / 16MB		None	l to j z o a. a	Some: Lenovo Traditional Keyboard (USB connector), black					
	Ryzen 7 PRO 2700	8 / 16	3.2 / 4.1	+	DDR4-2933	None		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black					
Mamani	64GB max, UDIMM	DDD4 C	)CCC* form	200 nin DIM	M applicate in	an FCC	Mauga	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)					
Memory	dual-channel capab		2000 , IOUI 2	200-bili Diivi	ivi sockets, n	on-ECC,	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black					
	* Systemboard supp		o DDR4-26	66. memory	frequency n	nav automatically		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black					
	clocks down for the							Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)					
Storage	Some: Hard Drive						Mechanical	SFF (8.4L), black color; metal case					
	Some: Solid State	Drive (SS	SD) / SATA 6	3.0Gb/s, 2.5		- P	iviculalillal	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm					
	Some: M.2 SSD / F	PCIe NVN	/le, PCIe 3.0	) x 4*, 32Gb	/s			• Approx. 13.2 lb (6.0 kg), weight may vary by configuration					
	* 128GB SSD M.2 (			nd AMD A6	/ A8 / A10 / .	A12 processor only		Toolless cover, disk, optical removal					
Ontical	supports PCIe 3.0 x Some: DVD-ROM	(2, 16GD	/S Ch/o Drivo	olim (0 0mn	2)			Optional dust filter					
Optical	Some: DVD-NOIVI	3AIA 1.3 r (DVD+F	RW) SATA 1	566/s Driv	ı) e. slim (9.0m	nm)		Bay 1: Slim external ODD bay Bay 2: 3.5", nternal, HDD/SSD					
Onboard SATA	Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm) Three onboard SATA 6.0Gb/s connectors, RAID 0/1 support (RAID preset only							Bay 2: 3.5 , filernal, HDD/SSD (bay only comes with 2.5" 2nd disk)					
	available via specia	l bid mod	el)	•	、	' '		Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1					
Media reader	Optional 7-in-1 med	lia reader	•										
Graphics	AMD Radeon™ Graphics in processor (only for some processors), uses main							Slot 3: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1					
	memory, DirectX® 1	2, one VO	GA, two Dis <sub>l</sub>	olayPort™ (C	Onboard VG/	A and DP ports		Slot 4: low-profile (length < 150mm, height < 68mm), PCI 3.0					
	are only available on the models with integrated graphics), supports 3 independent displays, works along with AMD discrete graphics to support more displays; Max resolution: 4096x2160 (DP)@60Hz; 1920x1200 (VGA)@60Hz Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB GDDR5, PCIe 2.0 x16 (x8 elec					orts 3 independent	Floor Stand	M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation					
						re displays;							
						le 2.0 x16 (x8 elec.)	Power supply	Some: 180 watts, autosensing, 85% PSU					
	adapter, two DisplayPort, 35 watts;							Some: 210 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 92% PSU (only available via special bid)					
Mandanashi	Max resolution: 3840x2160 (DisplayPort)@60Hz						1						
Monitor cable	cable Optional DP to VGA dongle, DP to DVI-D dongle, DP to dual DP dongle, or DP to HDMI 1.4 dongle							Limited warranty 1-year or 3-year, limited onsite service / service upgrades available					
Chipset	AMD B450 Chipse						Preload	Preloaded operating system Some: Windows 10 Pro 64-bit					
<u> </u>	2x USB 3.1 Gen2, 2		1 Con1 1v	miorophone	(2 Emm) 1	v haadahana	-	Some: Windows 10 Home 64-bit					
From ports (Std.)	(3.5mm)	X USD 3	. i Geiii, ix	microphone	e (3.5HIII), T	x rieaupriorie		Preloaded applications (only some listed)					
Front ports* (Opt.)	Optional: 1x media	reader, 2	x USB 3.1 T	vpe-C Gen2	via PCIe ca	rd (special bid only)		Lenovo Vantage     Missassiti Office preligeded.					
Rear ports* (Std.)	Rear ports* (Std.) 2x USB 3.1 Gen1, 2x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA**,					-45), 1x VGA**,		Microsoft Office preloaded; purchase a product key to activate					
	2x DisplayPort**, 2x (3.5mm), 1x microp			rd / mouse);	1x line-in (3	.5mm), 1x line-out		Cyberlink PowerDVD (only for models with DVD / DVD±RW)					
Poor porto* (Opt.)		in) 1y noro	llol (OE pip)	additional D I 45		Cyberlink Power2GO (only for models with DVD±RW)							
near ports (Opt.)	Optional: 2x USB 2	.∪, TX ∠N ilable on	ontional ara	nn), ix parai	ernet card	audilional HJ-45		• LinkedIn					
	and video ports available on optional graphics or ethernet card  * Depending on many factors, actual data transfer speed may be lower than theoretical speed		an theoretical speed	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models);								
	** only available on the models with integrated graphics							ErP Lot 3; RoHS-compliant					
Audio support	High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt )  Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com					
WLAN	Some: 11ac wireles	ss, M.2 C	ard, Realtel	k RTL8821C	E (dual ban	d),							
	Wi-Fi + Blue Some: 11ac wireles	3:00th 4.2	compo ada	apter, 1X1 nmm Atheros	c ∩CΔ0377/	(dual hand)							
	Wi-Fi + Blue				3 QUABOIIF	i (uuai vailu),							
	Some: 11ac wireles	ss. M.2 C	ard. Realte	k BTI 8822F	BE (dual ban	d),							
	Wi-Fi + Blue	etooth 4.2	2* combo ac	lapter, 2x2									
	Some: 11ac wireles	ss, M.2 C	ard, Qualco	mm Atheros	s QCA6174 <i>A</i>	A (dual band),							
Bluetooth™	Wi-Fi + Blue Some: Bluetooth 4.	etooth 4.2	2* combo ac	apter, 2x2	RT combo	adantor							
Diuelooth	* Hardware support												
	i lai avvai o ouppoi i	J J 1 7.2,	Dat William	co ana ca	mor ormy out	/PO.10 D1 7.1	J						











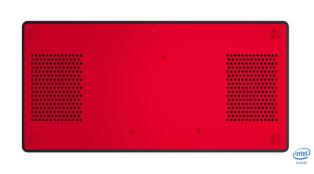


#### ThinkCentre M75s-1 SFF Platform Specifications

Processor   Proc	Processor	AMD Athlon PRO a	nd Ryzer	n 3 / 5 / 7 PR	O series pr	ocessor		Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®				
Amino PRO 30006		Processor			L2/L3			Ethernet (Opt.)					
Ambino PRO 3005E   2/4   3.47.4   1MB (7.4MB   DDR4-2666   Radeon Vega 3   Ryzon 9 PRO 3005G   4/8   3.67.4   2.48   Amb   DDR4-2938   Radeon Vega 11   Part	Processor	Threads	(Base/Max)	Cache									
Memory 64GB max, UDIMM, DDR4-2666*, four 284-pin DIMM sockets, non-ECC, dual-channel capable "Memory may be underclocked to DDR4-1866, DDR4-2133, or DDR4-2400 for the lower capability of memory controller in processor  Storage Some: Hard Drive / SATA 6.0Gb/s_G.25* or 3.5*, 5400 pm or 7200 rpm Some: Max Drive / SATA 6.0Gb/s_G.25* or 3.5*, 5400 pm or 7200 rpm Some: Max Drive / SATA 6.0Gb/s_G.25* or 3.5*, 5400 pm or 7200 rpm Some: DDR4-0134, and DR4-014, and								Security features	S e Security slot (in rear for optional Power-on password				
Memory AGB max, UDIMM, DDR4-2666*, four 288-pin DIMM sockets, non-ECC, dual-channel capable with channel capable between capability of memory controller in processor (ada-channel capable with the processor				-					Kensington® MicroSaver® cable) • Administrator password				
Memory    Solid Brax, UDINA 2-2beb, roll r 269-pin IUMN sockets, non-E-U.							- U						
Optical Some: Mat SSI 2224 × 2350 July 12-25 × 10-10 M Nite C (10 € 3.0 x 2 or PCIe 3.0 x 4 Optical Some: London SATA 1, 550 M Port 2, 550 M Port 1, 550 M Port 2, 550 M Port 1, 550 M Port 2, 550 M	Memory	dual-channel capable  * Memory may be underclocked to DDR4 -1866, DDR4-2133, or DDR4-2400 for the							<ul> <li>mouse only, blocks all storage dévices</li> <li>Optional smart cable clip to physically lock both keyboard and mouse</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>				
Optical Some: DVD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DVD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DVD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DVD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DVD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Some: DvD-ROM SXTA 1.5Gbs Drive, slim (9.0mm) Symbol SXTA 1.5Gbs Drive, slim (9.0mm) S	Storage	Some: Hard Drive	/ SATA 6.	.0Gb/s, 2.5" (	or 3.5", 540			Keyboard	Some: Lenovo Traditional Keyboard (USB connector), black				
Onboard SATA Media reader  Graphics  Media reader  Optional 7-in-1 media reader  Optional 7-in-1 media reader  Optional 7-in-1 media reader  AMD Radeon® Graphics in processor (only for some processors), uses main memory, DirectX® 12, one VGA, two DisplayPort™ (Onboard VGA and DP ports are only valiable on the models with integrated graphics), supports 3 independent displays, works along with AMD discrete graphics to support more displays; works along with AMD discrete graphics to support more displays; works along with AMD discrete graphics to support more displays. Wax resolution: 4096x2160 (DP)® 60Hz  Optional DP to VGA, DP to DVI-D (single link), DP to dual DP, or DP to HDMI 1.4  Chipset  AMD PRO 560 FCH  Front ports* (Std,) 2x USB 3.1 Gen1, 1x microphone (3.5mm), Max resolution: 4096x2160 (DP)® 60Hz  Chipset  AMD PRO 560 FCH  Front ports* (Opt,) Optional: 1x media reader  Rear ports* (Std), 2x USB 3.1 Gen1 (one support Smart Power-On), 2x USB 2.0, 1x serial (9-pin), 1x line-in (3.5mm), 1x microphone (3.5mm), 1x microphone (3.5mm)  Rear ports* (Opt,) Optional: 2x USB 2.0, 1x parallel (25-pin), additional video ports available on optional graphics card  *Opending on many factors, actual data transfer speed may be lower than theoretical speed  *Optional graphics card  *Optional system floor stand for vertical orientation  Prover supply  *Optional system floor stand for vertical orientation  Power supply  *Optional system floor stand for vertical orientation  Power supply  *Optional system floor stand for vertical orientation  Power supply  *Optional system floor stand for vertical orientation  Power supply  *Optional system floor stand for vertical orientation  Power supply  *Optional system floor stand for vertical orientation  *Optional system floor stand for vertical orientation  *Optional system floor stand for vertical orientation  *Optional system floor stand for vertical orientation  *Optional system floor stand for vertical	Optical	Some: DVD-ROM:	SATA 1.5	Gb/s Drive,	slim (9.0mn	n)		Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid) Some: Lenovo Calliope Mouse (USB connector), black				
## AMD Radeon™ Graphics in processor (only for some processors), uses main memory, DirectX** 12, one VGA, two DisplayPort™ (Onboard VGA and DP ports are only available on the models with integrated graphics), supports 3 independent displays, works along with AMD discrete graphics to support more displays; Max resolution: 4096x2160 (DP)® 60Hz; Some: AMD Radeon™ 520, DirectX 12, 2GB GDDR5, PCIe 3.0 x8 adapter, two DisplayPort, 30 watts (Max); Max resolution: 4096x2160 (DP)® 60Hz; Some: AMD PRO 560 FCH  Chipset AMD PRO 560 FCH  Front ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x microphone (3.5mm), 1x headphone (3.5mm) front ports* (Opt.) Optional: 1x media reader  Rear ports* (Std.) 2x USB 3.1 Gen1 (one support Smart Power-On), 2x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA***, 2x DisplayPort**, 2x PS/2 ports (keyboard / mouse); 1x line-in (3.5mm), 1x line-out (3.5mm), 1x microphone (3.5mm)  Rear ports* (Opt.) Optional: 2x USB 2.0, 1x parallel (25-pin), additional video ports available on optional graphics card *Depending on many factors, actual data transfer speed may be lower than theoretical speed only available on the models with integrated graphics with integrated graphics (3.5mm) for the models with integrated graphics (3.5mm) for the models with integrated graphics (3.5mm) for the models with integrated graphics (3.5mm) for combo adapter, 2x2 forme: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 forme: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 forme: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 forme: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 forme: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 forme: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 forme: 11		Three onboard SAT available via special	A 6.0Gb/ I bid mod	s connectors lel)					Some: Lenovo Fingerprint Mouse (USB connector), Windows Heilo Support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)				
### Amb Patch Stage of Cardy Stage o					(only for on	mo process	ara) ugaa main	Mechanical	SFF (8.4L), black color; metal case				
Chipset AMD PRO 560 FCH  Front ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x microphone (3.5mm), 1x headphone (3.5mm) Front ports* (Opt.) Optional: 1x media reader Rear ports* (Std.) 2x USB 3.1 Gen1 (one support Smart Power-On), 2x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA**, 2x DisplayPort**, 2x PS/2 ports (keyboard / mouse); 1x line-in (3.5mm), 1x line-out (3.5mm), 1x microphone (3.5mm)  Rear ports* (Opt.) Optional: 2x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA**, 2x DisplayPort**, 2x PS/2 ports (keyboard / mouse); 1x line-in (3.5mm), 1x line-out (3.5mm), 1x microphone (3.5mm)  Rear ports* (Opt.) Optional: 2x USB 2.0, 1x parallel (25-pin), additional video ports available on optional graphics card  * Depending on many factors, actual data transfer speed may be lower than theoretical speed * only available on the models with integrated graphics  Audio support High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt)  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Accessories  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 3: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 4: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1  Slot 2: low-profile (length < 150mm, height < 68mm), PCle	Maritanahla	are only available of displays, works alor Max resolution: 409 Some: AMD Radeo two DisplayF Max resoluti	n the mo ng with A 6x2160 ( on™ <b>520</b> , Port, 30 v ion: 4096	dels with inte MD discrete DP)@60Hz; DirectX 12, vatts (Max); x2160 (DP)@	egrated grap graphics to 2GB GDDF 960Hz	phics), suppo support moi	orts 3 independent re displays; x8 adapter,		Toolless cover, disk, optical, and extension card removal Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1				
Front ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x microphone (3.5mm), 1x headphone (3.5mm) Front ports* (Opt.) Optional: 1x media reader Rear ports* (Std.) 2x USB 3.1 Gen1 (one support Smart Power-On), 2x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA**, 2x DisplayPort**, 2x PS/2 ports (keyboard / mouse); 1x line-in (3.5mm), 1x line-out (3.5mm), 1x microphone (3.5mm) Rear ports* (Opt.) Optional: 2x USB 2.0, 1x parallel (25-pin), additional video ports available on optional graphics card  *Depending on many factors, actual data transfer speed may be lower than theoretical speed *Depending on many factors, actual data transfer speed may be lower than theoretical speed *Ome: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Unitel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Unitel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Unitel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Card, Card, Card, Card, Card, Card, Card, Card, Card,		·		DVI-D (single	link), DP to	dual DP, or	DP to HDMI 1.4						
Front ports (Opt.) Optional: 1x media reader   Floor Stand   Samm   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Samm   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Floor Stand   Optional system floor stand for vertical orientation   Floor Stand   Floor Stand   Floor Stand   Samm   Floor Stand   Flo				1 Gen1 1v	microphone	(3.5mm) 1:	y headnhone	-	Slot 4: low-profile (length < 150mm, height < 68mm), PCI 3.0				
ethernet (RJ-45), 1x VGA**, 2x DisplayPort**, 2x PS/2 ports (keyboard / mouse); 1x line-in (3.5mm), 1x line-out (3.5mm), 1x microphone (3.5mm)  Rear ports* (Opt.) Optional: 2x USB 2.0, 1x parallel (25-pin), additional video ports available on optional graphics card  * Depending on many factors, actual data transfer speed may be lower than theoretical speed ** only available on the models with integrated graphics  Audio support  High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt )  WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 15c	Front ports* (Opt.	໌ (3.5mm) .) <i>Optional:</i> 1x media⊣	reader		·	,	·	Floor Stand	M.2 card slots: two (one for WLAN, one for SSD)				
optional graphics card  * Depending on many factors, actual data transfer speed may be lower than theoretical speed  ** Depending on many factors, actual data transfer speed may be lower than theoretical speed  ** Only available on the models with integrated graphics  Audio support  High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt.)  ** Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  ** Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2		ethernet (RJ-45), 1x line-in (3.5mm), 1x	‹ VGA**, line-out (	2x DisplayPo 3.5mm), 1x r	ort**, 2x PS nicrophone	/2 ports (key (3.5mm)	board / mouse); 1x	Power supply	Some: 210 watts, autosensing, 85% PSU				
*Depending on many factors, actual data transfer speed may be lower than theoretical speed  **Only available on the models with integrated graphics  Audio support  High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt )  **One: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  **Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2	Rear ports* (Opt.	) Optional: 2x USB 2 optional graphics ca	!.0, 1x pa ard	rallel (25-pin	), additiona	l video ports	available on	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available				
WLAN  Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Some: Windows 10 IoT Enterprise Some: Linux Ubuntu  Environment ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant, WEEE  Accessories  For compatible accessories, please go to http://smartfind.lenovo.com		1 0 1							Some: Windows 10 Pro 64-bit				
Some: 11ac Wireless, M.2 Card, Healtek H1L8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Healtek H1L8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: Linux Ubuntu Environment ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant, WEEE Accessories For compatible accessories, please go to http://smartfind.lenovo.com	Audio support	High Definition (HD)	High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1 watt )				peaker (1 watt )						
Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2  Environment ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant, WEEE  Accessories For compatible accessories, please go to http://smartfind.lenovo.com	WLAN					E (dual band	d),						
Wi-Fi + Bluetooth 5.0 combo adapter, 2x2		Some: 11ac wirele: Wi-Fi + Blue	ss, M.2 Cetooth 4.2	Card, Qualco 2 combo ada	mm Atheros pter, 2x2		, , ,	Environment					
	Pluotooth™	Wi-Fi + Bluetooth 5.0 combo adapter, 2x2					,,	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com				
Bluetooth™ Some: Bluetooth 4.2 / 5.0 wireless, integrated in Wi-Fi + BT combo adapter  Note: The specifications above may not be available in all regions.  Lenovo, Septem						-LI + DI COM	ibo adapter		Lenovo, September 201				



















#### ThinkCentre M90n-1 Nano Platform Specifications

Processor	Intel® 8th Generation	Intel Core	e™ i3 / i5 / i7 Pro	cessor			Manageability	Intel vPro technology	on some models	(require choosing	a vPro-support Wi-Fi
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Security chip	adapter to enable vP Discrete TPM 2.0, TO	Pro function through CG Certified		
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620	Security features	• Security slot (in rea	control		
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		Kensington® Micro	yboard and mouse		
	Core i5-8365U	4/8	1.6G / 4.1G	6 MB	DDR4-2400	UHD 620		<ul><li>Chassis intrusion s</li><li>Power-on passwor</li></ul>	port disablement tection, allows keyboard/		
	Core i7-8665U	4/8	1.9G / 4.8G	8 MB	DDR4-2400	UHD 620		Administrator pass			cks all storage devices
Memory	8GB or 16GB / DDR4 * System automatica						Keyboard	Hard disk password     Some: Lenovo Calliope Keyboard (USB connector), black			
Storage	Support up to two M. Some: M.2 2280 SS Some: M.2 2242 SS Some: Intel Optane	2 SSD D / PCle I D / PCle I M Memory	NVMe, PCIe 3.0 NVMe, PCIe 3.0	x 4* x 2 State St			Mouse	Some: Lenovo Calliope Wireless Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
RAID Optical	* M.2 SSD / Optane with RAID 0/1 support (R. None	h SSD in Po AID prese	Cle 3.0 x 2 M.2 slot t only available v	t can only ia speci	al bid model)		Mechanical	Nano (0.35L), black color; metal case Three M.2 slots: two for M.2 SSD (one PCle 3.0 x4 and one PCle 3.0 x2) and on for WLAN			
Graphics	Intel UHD Graphics	<b>620</b> in pro	ocessor, uses ma	ain mem	ory, DirectX® 12,	one			Dimension	ns (WxDxH)	Weight (Approx.)
	DisplayPort™, one Usidisplays;  Max resolution: 4096	,,		' '	, ·	ndependent		M90n-1 Nano (with fan, 0.35L)	7.05" X 3.4	46" X 0.87" 3mm X 22mm	1.11 lb (0.505 kg), vary by config
Monitor cable	Optional DP to VGA HDMI dongle, Type-C	dongle,`Dl	P to HDMI dongle			, Type-C to	Mounting	Some: VESA mount bracket kit, supports VESA 75mm Some: VESA mount bracket kit with adaper holder, supports VESA 75mm Some: DIN rail mount bracket kit None			
Chipset	Intel SoC (System of	171					Floor Stand				
Front ports (Std.)	* 2x USB 3.1 Gen2, 1x jack (3.5mm)	USB 3.1	Type-C Gen 2, c	ne head	lphone / microph	one combo	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (Not for TIO models)			
Rear ports (Std.)	* 2x USB 3.1 Gen2, 1> power-in [20V and >4 * Depending on many f	45W]), 1x	eťhernet (RJ-45)	, 1x Dis	pláyPort ´ '		Limited warranty	Some: 1-year, limited onsite service / service upgrades available Some: 3-year, limited onsite service / service upgrades available			
Audia augaset	Realtek ALC233VB /			eeu may	be lower than theor	elicai speed	Preload	Preloaded operating system  Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit			
Audio support WLAN	Some: 11ac wireless	s, M.2 Car	d, Realtek RTL8		(dual band),						
	Some: 11ac wireless	s, M.2 Cai	combo adapter, 1 rd, Realtek RTL8 combo adapter, 2	822CE	(dual band),		Environment	ENERGY STAR® 7.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO 8.1 TUV ultra low noise verified (on some models), RoHS, WEEE, REACH			
	Some: 11ac wireless Wi-Fi + Bluet	s, M.2 Car cooth 5.0 c	d, Intel Wireless ombo adapter, 1	-AC 946 x1	,		MIL-SPEC test	MIL-STD-810H (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Solar Radiation)			
	Some: 11ac wireles: Wi-Fi + Bluet	s, M.2 Car cooth 5.0 c	d, Intel Wireless ombo adapter, 2	-AC 956 x2			Accessories	For compatible acces	•		
		ooth 5.0 c	ombo adapter, li	ntel vPro	tèchnology supp	port, 2x2					
Bluetooth Ethernet	Some: Bluetooth 5.0 Gigabit ethernet, Inte					e on LAN®					
Note: The specifics	ations above may not be	available	in all regions								Lenovo, July 2019



















# ThinkCentre M90n-1 Nano IoT Platform Specifications

Processor	Intel® Celeron® or 8th	h Generati	on Intel Core™ i3	Proces	ssor		Manageability	None			
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	Security chip	Discrete TPM 2.0, TCG Certified			
	Celeron 4205U	Threads 2/2	Base/Max(GHz)	2 MB	(Up to) DDR4-2133	Graphics UHD 610	Security features	Security slot (in rear for optional Kensington® MicroSaver® cable)     Boot sequence control     Boot without keyboard and mouse			
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2133 DDR4-2400	UHD 620		Chassis intrusion switch     Individual USB port disablement			
NA						0110 020	1	Power-on password			
Memory	4GB / DDR4-2666* / * System automatica					ory controlle		Administrator password     Hard disk password			
Storage	Some: M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4* Some: M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 Some: Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 (not support Celeron)  * M.2 SSD / Optane with SSD in PCIe 3.0 x 2 M.2 slot can only run at PCIe 3.0 x2						Keyboard Mouse	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
RAID Optical	RAID 0/1 support (R. None	AID prese	t only available v	ia speci	al bid model)		Mechanical	Nano (fanless 0.55L), black color; metal case			
Graphics	Intel UHD Graphics 610/620 in processor, uses main memory, DirectX <sup>®</sup> 12, one DisplayPort™, one USB 3.1 Type-C Gen2 with display function, up to 2 independe						1	Four M.2 slots: two for M.2 SSD (one PCle 3.0 x4 and one PCle 3.0 x2), one for WLAN, and one for WWAN			
	displays;	3D 3.1 1y	De-C Genz with C	iispiay ii	unction, up to 2 i	пиерепиет		Dimensions (WxDxH) Weight (Approx. )			
Monitor cable	Max resolution: 4096x2304 (DP) @ 60Hz; 4096x2304 (Type-C) @ 60Hz; Optional DP to VGA dongle, DP to HDMI dongle, Type-C to VGA dongle, Type-C to							M90n-1 Nano IoT (fanless, 0.55L)         7.05" X 3.46" X 1.36" 179mm X 88mm X 34.5mm         1.58 lb (0.72 kg), vary by config			
Object	HDMI dongle, Type-C						Mounting	Some: VESA mount bracket kit, supports VESA 75mm			
Chipset	Intel SoC (System o							Some: VESA mount bracket kit with adaper holder, supports VESA 75mm Some: DIN rail mount bracket kit			
. , ,	* 2x USB 3.1 Gen2, 1x jack (3.5mm), 2x seri	ial					Floor Stand	None			
Rear ports (Std.)*	<i>With Celeron:</i> 1x US	SB 2.0, 1x	USB 3.1 Type-C	Gen 2 (	with display funct	tion, suppor	Power supply	Some: 65 watts AC/DC adapter, autosensing, 88% PSU			
	With Core i3: 1x US	er-in (20v, : SB 3.1 Ger	> 45vvj), 1x etne 12, 1x USB 3.1 Tv	rnet (RJ /pe-C G	-45). TX DISDIAVE	y function,		Some: 65 watts AC/DC adapter (wide temperature), autosensing, 88% PSU ( for Machine Type 11AS)			
	* Depending on many f	factors, actu	ial data transfer spe	ed may	be lower than theor	etical speed	Limited warranty				
Audio support	Realtek ALC233VB /	/ internal s	peaker (1watt)				<u></u>	Some: 3-year, limited onsite service / service upgrades available			
WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2						Preload	Preloaded operating system  Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise (only available via special bid model)			
		tooth 5.0 c	combo adapter, 1	x1	,,,		Environment	ENERGY STAR® 7.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO 8. TUV ultra low noise verified (on some models), RoHS, WEEE, REACH			
	Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),						MIL-SPEC test	MIL-STD-810H (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Solar Radiation			
					60 (dual band), 5 technology sup	port. 2x2	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Bluetooth Ethernet	Some: Bluetooth 5.0 With Celeron: Gigab With Core i3: Two g	O wireless, oit etherne	integrated in Wi t, Realtek RTL81	Fi + BT 11K, 1x	combo adapter RJ-45, Wake on	LAN®					
Note: The enecified	ations above may not be	o ovoiloble	in all regions				·	Lenovo July 2			













# ThinkCentre M910 SFF Platform Specifications

Processor	Intel® Celeron®. Int	tel Pentiur	m®, or 6/7th Gen	eration Ir	ntel Core™ i3 / i5 /	/ i7 Processor	Security features	Security slot (in rear for optional     Power-on password			
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)			Kensington® MicroSaver® cable)  • Padlock loop  • Administrator password  • Hard disk password			
	Core i5-6500	4 / 4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		<ul> <li>Smart USB protection, allows keyboard/</li> <li>Boot sequence control</li> </ul>			
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		<ul> <li>mouse only, blocks all storage devices</li> <li>Optional cable lock to physically lock</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>			
	Core i3-7300	2/4	4.0G /	4 MB	DDR4-2400	HD 630		<ul> <li>Optional cable lock to physically lock both keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>			
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	rtcyboard	Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	Mauro	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
Memory	64GB max, UDIMN dual-channel capa * System automatic	bĺe	'		,	•	Mechanical	<ul> <li>SFF (8.4L), black color, metal case</li> <li>(WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 11.92 lb (5.4 kg), weight may vary by configuration</li> </ul>			
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	e Drive (St State Driv	SD) / SATA 6.0G e (SSD) / PCIe N	b/s, 2.5" IVMe, P	Cle 3.0 x 4, 32Gb	/s		<ul> <li>Toolless cover, disk, optical, graphic card removal</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> </ul>			
Optical	Some: Intel Optan Some: DVD-ROM Some: DVD Burne	1 SATA 1.5 er (DVD±l	5Gb/s Drive, slim RW). SATA 1.5G	(9.0mm b/s Drive	) . slim (9.0mm)			Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16*			
Onboard SATA	Four onboard SATA available via specia	A 6.0Gb/s al bid mod	connectors, RAI del)	ID 0/1 su	pport (RAID pres	et only		Slot 2: low-profile (length < 150mm, height < 68mm), PCle 3.0 x1* Slot 3: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 (x4 signal)*			
Media reader	Optional 7-in-1 media reader  Intel HD Graphics 510/530/610/630 in processor, uses main memory, DirectX® 12 one VGA, two DisplayPort™, supports 3 independent displays, works along with discrete graphics to support more displays;						-	Slot 4: no slot, only bracket for optional port extension* M.2 card slots: Two (one for WLAN, one for SSD/Optane) * Optional 2 front USB3.1 Type-C ports module occupies PCle x16 (x4 signal) sloptional rear 2x USB2.0 / parallel / 2nd serial / cable lock / Wi-Fi antenna occupi one expansion slot			
Graphics											
	Max resolution: 4096x2304 (DP)@60Hz; 2048x1536 (VGA)@50Hz Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB, PCIe 2.0 x8 adapter, two DisplayPort, 35 watts;					or	Floor Stand	Optional system floor stand for vertical orientation			
						ei,	Power supply	Some: 180 watts, autosensing, 85% PSU			
Monitor cable	Max resolution: 3840x2160 (DisplayPort) @ 60Hz; Optional DP to VGA, DP to DVI-D (single link), DP to dual DP, or DP to HDMI 1.4				Hz; dual DP, or DP to	HDMI 1.4	Tower suppry	Some: 210 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 92% PSU (only available via special bid)			
Chipset	Intel Q270 Chipse	et									
Front ports*	Four USB 3.1 Gen				en 2 (only availabl	e via special		Some: 1-year or 3-year, limited onsite service / service upgrades available			
Rear audio ports	bid), microphone (3 Four USB 3.1 Gen optional parallel (2 PS/2 ports (keyboa additional DisplayF Line-in (3.5mm), lir	11, optiona 5-pin), eth ard/mouse Port on op	al two USB 2.0, s nernet (RJ-45), o e); tional graphics o	eríal (9-p ne VGA, n some l	two DisplayPort, models	serial (9-pin), optional two	Preload	Preloaded operating system  Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel processes)  Preloaded applications (only some listed)  Microsoft Office preloaded; purchase a product key to activate - Only for Window 10			
IEEE 1394*	None * Depending on many					retical speed		some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Lenovo Companion - Only for Window 7  Lenovo Companion - Only for Window 7  Lenovo Solution Center			
Audio support					<u> </u>	<u> </u>	-	<ul> <li>Lenovo ThinkVantage Tools</li> </ul>			
WLAN <sup>13</sup>	High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1.5 watt.)  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377A (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 2x2							<ul> <li>Create Recovery Media</li> <li>Adobe® Reader®</li> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>			
	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 ( uetooth 4.	Card, Intel Dual E 1 combo adapte	Band Wir r, 1x1				ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant,			
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.1 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.1 combo adapter, Intel vPro technology support, 2x2							TUV low noise verified (on some models)  For compatible accessories, please go to http://www.lenovoquickpick.com			
							, 1000001100	. o. ospanore accessorios, piedes go to international ordinational			
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.1 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN None										
Manageability Security chip	Intel Active Manag Intel vPro technolo adapter to enable v TPM (Trusted Platf * Downgrade to TP	ogy on sor vPro funct form Mod	ne models (requition through wire ule) 2.0, TCG Ce	ire choos less con ertified	sing a vPro-suppo nection)	ort Wi-Fi					













# ThinkCentre M910 Tiny Platform Specifications

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Processor	Intel® Celeron®, Intel Pentium®, or 6/7th Generation Intel Core™ i3 / i5 / i7 Processor	Security features	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Administrator password</li> <li>Hard disk password</li> </ul>			
	Processor Cores / Threads Base/Max(GHz) Cache Memory Support Integrated Graphics		Smart USB protection, allows keyboard/     Boot sequence control     mouse only, blocks all storage devices     Boot without keyboard and mouse			
	Core i5-6500T         4 / 4         2.5G / 3.1G         6 MB         DDR4-2133         HD 530		Power-on password     Individual USB port disablement			
	Core i7-6700T         4 / 8         2.8G / 3.6G         8 MB         DDR4-2133         HD 530		<ul> <li>Chassis intrusion switch</li> </ul>			
	Core i5-7500T 4 / 4 2.7G / 3.3G 6 MB DDR4-2400 HD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i5-7600T 4 / 4 2.8G / 3.7G 6 MB DDR4-2400 HD 630		Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i7-7700T   4 / 8   2.9G / 3.8G   8 MB   DDR4-2400   HD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black			
Memory	32GB max, DDR4-2400*, two 260-pin SO-DIMM sockets, non-ECC, dual-channel capable  * System automatically clocks down for the processors with lower memory controller	Mechanical	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Tiny (1L), black color; metal case			
Storage	Some: Hard Drive / SATA 6.0Gb/s, 2.5", 5400 rpm or 7200 rpm, APS	Moonanioa	Toolless chassis open     Toolless HDD, SSD, memory removal			
C	Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5"  Some: M.2 Solid State Drive (SSD) / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s  Some: Intel Optane™ Memory (models with 7th gen Core processor), M.2		Optional toolless chassis screw     Optional dust filter			
Optical	Some: DVD-ROM, slim (9.0mm), via USB external ODD box		Dimensions (WxDxH) Weight (Approx. )			
Onboard SATA	Some: DVD Burner (DVD±RW), slim (9.0mm), via USB external ODD box One onboard SATA 6.0Gb/s connector		M910 Tiny only 7.05" X 7.20" X 1.36" 2.91 lb (1.32 kg), vary by config			
Media reader Graphics	None Intel HD Graphics 510/530/610/630 in processor, uses main memory, DirectX® 12,	_	With VESA mount & 7.42" X 7.30" X 2.48" 3.66 lb (1.66 kg), ODD box 188.4mm X 185.38mm X 63mm vary by config			
	two DisplayPort™, one optional video port (HDMI, VGA, 3rd DP, or USB 3.1 Type-C with DisplayPort Alternate Mode), up to 3 independent displays;		With VESA mount & 7.42" X 7.30" X 2.62" 3.66 lb (1.66 kg),			
	Max resolution: 4096x2304 (DP) @ 60Hz; 4096x2304 (Type-C) @ 60Hz; 4096x2160 (HDMI) @ 24Hz; 1920x1200 (VGA) @ 60Hz		I/O box 188.4mm X 185.38mm X 66.6mm vary by config			
Monitor cable	Optional DP to VGA, DP to DVI-D (single link), DP to dual DP, or DP to HDMI 1.4	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation			
Chipset	Intel Q270 Chipset	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)			
Front ports*	Two USB 3.1 Gen1 (one is Always On and fast charge), one microphone (3.5mm),		90 watts AC/DC adapter, autosensing, 88% PSU (only for models with I/O box)			
Rear ports*	one headphone / microphone combo jack (3.5mm) Four USB 3.1 Gen1 (optional external optical box or external I/O box occupies one or two specific USB 3.1 Gen1 on some models), ethernet (RJ-45), two DisplayPort,	Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
	two optional ports (Port 1 for VGA / 3rd DP / HDMI / serial / USB 3.1 Type-C Gen 1 (with DisplayPort Alternate Mode), Port 2 for serial)	Preload	Some: Windows® 7 Professional 32/64 Preloaded applications (only some preinstalled through downgrade listed)			
I/O box*	Optional external I/O box, extends two USB 2.0, two USB 3.1 Gen1, and one serial on rear, two USB 2.0 on front, via USB cable (occupy two specific USB 3.1 Gen1 of		rights in Windows 10 Pro 64-bit Microsoft Office preloaded; (not available with 7th Gen Intel			
	Tiny)  * Depending on many factors, actual data transfer speed may be lower than theoretical speed		processor)  Some: Windows 10 Pro 64-bit  - Only for Window 10  Lenovo Companion			
Audio support	High Definition (HD) Audio, Realtek ALC294 / optional internal speaker (1w or 2w)	-	Some: Windows 10 Home 64-bit  Intel Unite download link			
WLAN <sup>13</sup>	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377A (dual band),	1	(vPro models only)			
WLAIN	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		- Only for Window 7			
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),		<ul><li>Lenovo Solution Center</li><li>Lenovo ThinkVantage Tools</li></ul>			
	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,		Create Recovery Media			
	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		Adobe® Reader®     Cyberlink PowerDVD Create			
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		(ĎVD±RW)			
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,	Environment	Intel Unite (vPro models only)  ENERGY STAR® 6.1, EPEAT™ Gold rating (North America),			
Bluetooth™	Wi-Fi + Bluetooth 4.2 combo adapter, Intel vPro technology support, 2x2 Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter * Hardware supports BT 4.2, but Win10 RS3 and earlier only supports BT 4.1	ENVIRONMENT	ErP Lot 3, GREENGUARD®, RoHS-compliant, TUV low noise verified (on some models)			
Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,			
Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)			
Security chip	adapter to enable vPro function through wireless connection) TPM (Trusted Platform Module) 2.0*, TCG Certified  * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com			

See footnotes for more detailed information (M910 Tiny-Spec) February 2017













# ThinkCentre M910 Tower Platform Specifications

			® 0/711 O				le	0: 1: 1		
Processor	Intel® Celeron®, Int			eration In	i i		Ethernet Modem	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN None		
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0);		
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530	Security chip	adapter to enable vPro function through wireless connection) TPM (Trusted Platform Module) 2.0, TCG Certified		
	Core i3-7300	2/4	4.0G /	4 MB	DDR4-2400	HD 630		* Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS		
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	Security features	Security slot (in rear for optional     Power-on password		
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		Kensington® MicroSaver® cable) • Administrator password		
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		<ul> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/</li> <li>Hard disk password</li> <li>Boot sequence control</li> </ul>		
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630		mouse only, blocks all storage devices  • Boot sequence control  • Boot sequence control		
Memory	64GB max, UDIMM, DDR4-2400*, four 288-pin DIMM sockets, non-ECC, dual-channel capable  * System automatically clocks down for the processors with lower memory controll							<ul> <li>Optional cáble lock to physically lock both keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>		
Otawa	Some: Hard Drive / SATA 6.0Gb/s, 2.5" or 3.5", 5400 rpm or 7200 rpm						Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
Storage	Some: Hard Drive Some: Solid State	Drive (S	SD) / SATA 6.0G	.5", 5400 h/s. 2.5"	rpm or 7200 rpm			Some: Lenovo Traditional Keyboard (USB connector), black		
	Some: M.2 Solid State Drive (SSD) / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s Some: Intel Optane™ Memory (models with 7th gen Core processor), M.2 Some: Front accessible and removable HDD, 3.5", lockable via physical key						Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black		
								Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black		
Optical	Some: Pront acces	SSIDIE AND	5Gb/s 5 25" or	), 3.5", 10 slim (9 Ni	ckable via priysic: mm)	агкеу	Mechanical	Tower (18L), black color, metal case		
Optioai	Some: DVD-ROM, SATA 1.5Gb/s, 5.25" or slim (9.0mm) Some: DVD Burner (DVD±RW), SATA 1.5Gb/s, 5.25" or slim (9.0mm) Four onboard SATA 6.0Gb/s connectors (1x eSATA and 3x SATA), RAID 0/1 support							• (WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm		
Onboard SATA								<ul> <li>Approx. 15.45 lb (7 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, graphic card removal</li> </ul>		
Media reader	(RAID preset only available via special bid model) Optional 7-in-1 media reader  Intel HD Graphics 510/530/610/630 in processor, uses main memory, DirectX® 12							Optional carry handle, dust filter		
Graphics						DirectY® 12		Bay 1: Slim external ODD bay		
Graphics	one VGA, two DisplayPort™, supports 3 independent displays, works along with discrete graphics to support more displays;  Max resolution: 4096x2304 (DP)@60Hz; 2048x1536 (VGA)@50Hz  Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB, PCle 2.0 x8 adapter, two DisplayPort, 35 watts;  Max resolution: 3840x2160 (DisplayPort)@60Hz;  Some: AMD Radeon™ R7 350, DirectX 11, 2GB, PCle 3.0 x8 adapter,							Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD Bay 3: 3.5", 1" high, internal, HDD/SSD		
								Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)		
								Bay 5: 2.5", internal, HDD/SSD (optional bay)		
								Notes: M910 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and 1 eSATA device (front access HDD)		
								Slot 1: full-length full-height (length < 268mm, height < 112mm), PCIe 3.0 x16*		
			3 <b>50</b> , DirectX 11, 2 75 watts, occup					Slot 2: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x1*		
					1015, 148x1536 (VGA)@	985Hz		Slot 3: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x16 (x4 signal)*		
	Some: NVIDIA Ge	force GT	<b>X™ 1080</b> (onlý a	vailable v	ia special bid mo			Slot 4: no slot, only bracket for optional port extension*		
			le 3.0 x16 adapt 0 watts, occupie		VI-D, one HDMI,			M.2 card slots: Two (one for WLAN, one for SSD/Optane)		
					096x2160 (HDMI)	@60Hz		* Optional 2 front USB3.1 Type-C ports module occupies PCle x16 (x4 signal) slo optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slot		
Manitan Calala		7680	x4320 (with Sing	gle DP)@	60Hz		Danis	· · · · · · · · · · · · · · · · · · ·		
Monitor Cable	Optional DP to VG		DVI-D (single link	(), DP to	dual DP, or DP to	HDMI 1.4	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 250 watts, autosensing, 85% PSU		
Chipset					0 / 1 111			Some: 400 watts, autosensing, 92% PSU (only available via special bid)		
Front ports*  Rear ports*	Four USB 3.1 Gen bid), microphone (3 Four USB 3.1 Gen	3.5mm), h	eadphone (3.5m	im)	` ,	·	Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
ricai porto	optional parallel (2)	5-pin), eth	nernet (RJ-45). o	ne VGA.	two DisplayPort.	optional two	Preload	Preloaded operating system		
	PS/2 ports (keyboa	ard/mouse	e);			•		Some: Windows® 7 Professional 32/64 listed)		
Rear audio porto	additional VGA, Dis	spiayPort,	טעו-ט, or HDMI	on optio	nai graphics on s	ome models		preinstalled through downgrade • Microsoft Office preloaded;		
IEEE 1394*	Line-in (3.5mm), lir None	ne-out (3.	omm), microphoi	ne-in (3.5	инт)			rights in Windows 10 Pro 64-bit purchase a product key to activate (not available with 7th Gen Intel - Only for Window 10		
	* Depending on many factors, actual data transfer speed may be lower than theoretical spe				be lower than theo	retical speed		processor) • Lenovo Companion		
Audio support	High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1.5 watt				l internal speaker	(1.5 watt )		Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit - Only for Window 7 • Lenovo Solution Center		
WLAN	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377A (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 1x1					band),		Lenovo Think Vantage Tools     Create Recovery Media		
	Some: 11ac wirele	ess, M.2 C	Card, Qualcomm	Atheros	QCA6174A (dual	band),		<ul> <li>Adobe® Reader®</li> </ul>		
	Wi-Fi + Blu Some: 11ac wirele		1 combo adapter		Nocc-∆C 2165			Cyberlink PowerDVD Create     (DVD - DW)		
			ard, inter Duar E 1 combo adapter		51535-AC 3103,		Cardina a const	(DVD±RW)		
	Some: 11ac wirele	ess, M.2 C	Card, Intel Dual E	and Wire	eless-AC 8265,		Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant,		
			1 combo adapter		Noce AC 9965			TUV low noise verified (on some models)		
	Some: 11ac wirele Wi-Fi + Blu	ະວຣ, ເທ.∠ ເ uetooth 4∵	zaru, iritei Dual E 1 combo adaptei	and wife . Intel vP	eiess-AC 8265, ro technology su	oport. 2x2	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com		
Bluetooth™	Some: Bluetooth									





















# ThinkCentre M920 SFF Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	, or 8th / 9th Ger	Intel Co	ore™ i3 / i5 / i7 / i9	Processor	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )	
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support		WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),	
	Celeron G4900	2/2	3.1G	2 MB	(Up to) DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),	
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2	
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,	
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1	
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2	
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Some: 11ac wireless, M.2 Card, Intel Wireless-AC 9560 (dual band),	
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630		Wi-Fi + Bluetooth 5.0 combo adapter, Intel vPro technology support, 2x2	
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Bluetooth	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter	
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN® Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4	
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630		Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)	
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);	
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi	
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Coourity obio	adapter to enable vPro function through wireless connection)	
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified	
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security features	<ul> <li>Security slot (in rear for optional Kensington® MicroSaver® cable)</li> <li>Power-on password</li> <li>Administrator password</li> </ul>	
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Padlock loop     Administrator password     Hard disk password	
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Optional cable lock to physically lock    Boot sequence control	
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse	
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Optional chassis E-Lock (special bid)</li> <li>Smart USB protection, allows keyboard.</li> </ul>	
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices	
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black	
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	,	Some: Lenovo Traditional Keyboard (USB connector), black	
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black	
Memory	64GB max, DDR4-26 * System automatical						Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid) Some: Lenovo Calliope Mouse (USB connector), black	
Storage	Some: Hard Drive / Some: Solid State D Some: M.2 Solid Sta	SATA 6.00 rive (SSD	Gb/s, 2.5" or 3.5" 0) / SATA 6.0Gb/s	, 5400 rp	om or 7200 rpm	•		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)	
Optical	* 128GB SSD M.2 (2: Some: Intel Optane <sup>T</sup> Some: DVD-ROM, S Some: DVD Burner	242) PCI Memory  SATA 1.5€	e NVMe only sup / (not support Ce ab/s Drive, slim (	ports PC eleron / P 9.0mm)	Cle 3.0 x 2, 16Gb/ Pentium Processo	's	Mechanical	<ul> <li>SFF (8.4L), black color, metal case</li> <li>(WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm</li> <li>Approx. 13.23 lb (6 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, extension card removal</li> </ul>	
Onboard SATA	Four onboard SATA 6 available via special b	6.0Gb/s co	onnectors, RAID			only		Optional dust filter     Bay 1: Slim external ODD bay	
Media reader	Optional 7-in-1 media		,					Bay 2: 3.5", 1" high, internal, HDD/SSD	
Graphics	Intel UHD Graphics 610/630 in processor, uses main memory, DirectX® 12, one VGA, two DisplayPort™, supports 3 independent displays, works along with discrete graphics to support more displays;  Max resolution: 4096x2304 (DP) @ 60Hz; 2048x1536 (VGA) @ 50Hz  Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB, PCle 2.0 x16 adapter, two DisplayPort, 35 watts;  Max resolution: 3840x2160 (DisplayPort) @ 60Hz;						Slot 2: low-profile (length < 150mm, height < 68 Slot 3: low-profile (length < 150mm, height < 68 Slot 4: no slot, only bracket for optional port ext M.2 card slots: Two (one for WLAN, one for SSI	Bay 3: 2.5", internal, HDD/SSD (optional bay) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 3.0 x1 Slot 3: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 (x4 signal) Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane) Optional system floor stand for vertical orientation	
Monitor cable	Optional DP to VGA of Display with intel inte	dongle, D	P to DVI-D dong	e, DP to	dual DP dongle (	for Collage	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU 260 watts, autosensing, 85% PSU (only qualifylia via special bid)	
Chipset	Intel Q370 Chipset						I the transfer of the second	Some: 260 watts, autosensing, 92% PSU (only available via special bid)	
Front ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x USB 3.1 Type-C Gen1 (15W charging), 1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)						Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
Front ports* (Opt.) Optional: 1x media reader Rear ports* (Std.) 4x USB 3.1 Gen1, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort,						Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit		
1x line-out (3.5mm)  Rear ports* (Opt.) Optional: 2x USB 2.0, 2x USB 3.1 Gen1 via PCle x1, 2x USB 3.1 Type-C Gen2 via PCle x4 (special bid only), 1x 2nd serial (9-pin), 4x serial (9-pin) via PCle x1,						Gen2	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant	
	via PCle x4 (special I 1x parallel (25-pin), 2 USB3.1 Type-C Gen additional RJ-45 and * Depending on many fa	oid only), xx PS/2 po 2 / Displa video poi	1x 2nd serial (9- orts (keyboard/m yPort) via PCIe o ts available on c	pin), 4x s ouse), 1x (4 (availa ptional g	serial (9-pin) via F x Thunderbolt 3 (o able on 09/30/201 graphics or ethern	PCIe x1, combo 8), et card	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com	



















# ThinkCentre M920 Tiny Platform Specifications

Processor	Intel® Celeron®, Intel F	Pentium®.	or 8th / 9th Gen	Intel Co	ore™ i3 / i5 / i7 / i	9 Processor	Bluetooth	Some: Bluetooth 4.2	2/5.0 wireless, inte	grated in Wi-Fi + B	combo adapter
	Processor	Cores /	Frequency		Memory Support	Integrated	Ethernet (Opt.)	Gigabit ethernet, Inte	el Ethernet Conne	ction I219-LM(Jacks	sonville), Wake on LAN® rnet, 4x RJ-45, PCIe x4
	Celeron G4900T	Threads 2 / 2	Base/Max(GHz) 2.9G	2 MB	(Up to) DDR4-2400	Graphics UHD 610	L		-		illet, 4x hJ-45, PGIE X4
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610	Manageability	Intel Active Manager Intel vPro technology	v on some models	(require choosing a	vPro-support Wi-Fi
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610		adapter to enable vP	ro function through	h wireless connection	on)
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TO	CG Certified		
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630	Security features	Security slot (in rear for optional     Boot sequence control			
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610		<ul> <li>Kensington® Micros</li> <li>Chassis intrusion s</li> </ul>		<ul><li>Boot without key</li><li>Individual USB p</li></ul>	
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630		Power-on passwor			ection, allows keyboard/
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630		<ul> <li>Administrator pass</li> </ul>	sword		cks all storage devices
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630		<ul> <li>Hard disk passwor</li> </ul>			
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calli			
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Tradi Some: Lenovo Calli	itional Keyboard (L	JSB connector), bla	CK ISB rocciver) black
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calli	ope Mouse (USB (	connector), black	ob receiver), black
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Finge	erprint Mouse (US	B connector), Wind	ows Hello support, black
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630	]	Some: Lenovo Calli	ope Wireless Mou	se (2.4GHz via USE	3 receiver), black
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color			
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630		Toolless chassis or			rew)
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		<ul> <li>Toolless HDD, SSE</li> <li>Optional dust filter</li> </ul>		ll	
	Core i7-9700T						<ul> <li>Optional dust filter</li> <li>one 2.5" bay for HDD/SSD, one PCle 3.0 x8 slot (low-profile), two M.2 slots (one</li> </ul>				
	Core i9-9900T						for WLAN, one for M.2 SSD), 2.5" HDD/SSD and PCIe card are mutually exclusive				
Memory	32GB max, DDR4-2666*, two 260-pin SO-DIMM sockets, dual-channel capable					1		Dimension	ns (WxDxH)	Weight (Approx.)	
Storage	* System automatically clocks down for the processors with lower memory controlle Some: Hard Drive / SATA 6.0Gb/s, 2.5", 5400 rpm or 7200 rpm					ory controller		Tiny only	7.05" X 7.	20" X 1.36" 9mm X 34.5mm	2.91 lb (1.32 kg), vary by config
· ·	Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 4*, 32Gb/s * 128GB SSD M.2 (2242) PCIe NVMe only supports PCIe 3.0 x 2, 16Gb/s					n/s		With VESA mount & ODD box	7.42" X 7.	30" X 2.48" 5.38mm X 63mm	3.66 lb (1.66 kg), vary by config
Optical	Some: Intel Optane™ Some: DVD-ROM, sli Some: DVD Burner (I	Memory m (9.0mr	(not support Ce n), via USB exte	leron / P rnal ODI	Pentium Processo D box	or), M.2	VESA mount Floor Stand	Optional VESA mour Optional system floo			nd 100mm
Onboard SATA	One onboard SATA 6.	0Gb/s co	nnector	via OSD	external ODD t	, OX	Power supply	Some: 65 watts AC/DC adapter, autosensing, 88% PSU			
Graphics	Intel HD Graphics 61 DisplayPort™, one HD	MI, one o	optional video po	ort (2nd F	HDMÍ, VGA, 2nd	DP,		Some: 90 watts AC/DC adapter, autosensing, 88% PSU Some: 135 watts AC/DC adapter, autosensing, 88% PSU			
	or USB 3.1 Type-C Ge Max resolution: 4096x	2304 (DF	P)@60Hz; 4096x	2304 (Ty	/pe-C)@60Hz;		Limited warranty	Some: 1-year or 3- Some: 1-year or 3-			
Monitor cable	Optional DP to VGA d Display with intel integ	ongle, DF		e, DP to	dual DP dongle		Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit			
Chipset	Intel Q370 Chipset	gratou gre	(prii00), 01 D1 to	TIDIVII I	.+ dorigio		-	Some: Windows 10 Preloaded applicati		isted)	
	* one USB 3.1 Gen1 (A							<ul> <li>Lenovo Vantage</li> <li>Microsoft Office pr</li> </ul>		iotouj	
Rear norts (Std.)	one microphone (3.5n * 2x USB 3.1 Gen2, 2x							purchase a produc	ct key to activate		
	* Two optional ports (mi	utually ex	clusive with PCI	e càrd):	Port 1 for VGA /	2nd DP /		Cyberlink PowerD	VD (only for model	Is with DVD / DVD±	RW)
	2nd HDMI / serial / US	SB 3.1 Ty	pe-C Gen 1 with	DP func	ction); Port 2 for s	serial;		<ul><li>Cyberlink Power20</li><li>LinkedIn</li></ul>	30 (only for mode	is with DVD±RW)	
	Optional ports via PCI	le card: 2	x USB 3.1 Gen1	via PCI	e x1, 4x serial (9	I-pin) via		Intel Unite (Machin	ne Type 10V8 mod	lels only)	
	PCIe x1, 1x Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DisplayPort) via PC * Depending on many factors, actual data transfer speed may be lower than theoretical sp						Environment	ENERGY STAR® 7.0	). FPFAT™ Silver r	rating (North Americ	a), FrP Lot 3, TCO.
Audio support	Realtek ALC233VB2 / optional internal speaker (1.5 watt or 2 watt)				F 7 7 7		TUV ultra low noise	verified (coming so	oon, on some mode	ls), RoHS-compliant	
WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),						MIL-SPEC test				e], High Temperature,
	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,							Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration Fungus, Solar Radiation)			
							Accessories	For compatible acces	ssories, please go	to http://smartfind	l.lenovo.com
			ombo adapter, 2		O (dual band)						
	Some: 11ac wireless Wi-Fi + Blueto		d, intel vvireless ombo adapter, li			port, 2x2					





















# ThinkCentre M920 Tower Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 8th /9th Gen	Intel Co	re™ i3 / i5 / i7 / i9	Processor		USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018),
	Processor	Cores /	Frequency	Cache	Memory Support			additional RJ-45 and video ports available on optional graphics or ethernet card
		Threads	Base/Max(GHz)		(Up to)	Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 1x1
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, 2x2
	Pentium Gold G5400 Pentium Gold G5500	2/4	3.7G 3.8G	4 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 630		Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),
	Pentium Gold G5600	2/4	3.8G 3.9G	4 MB 4 MB	DDR4-2400 DDR4-2400	UHD 630		Intel vPro technology support, 2x2
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400 DDR4-2400	UHD 610	Bluetooth™	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400 DDR4-2400	UHD 630	Ethernet	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCle x4
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing a vPro-support Wi-Fi
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Security chip	adapter to enable vPro function through wireless connection) Discrete TPM 2.0, TCG Certified
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	, ,	s • Security slot (in rear for optional • Power-on password
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security leatures	Kensington® MicroSaver® cable)  • Administrator password
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Padlock loop     Hard disk password
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Optional cable lock to physically lock     Boot sequence control
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		<ul> <li>both keyboard and mouse</li> <li>Optional chassis intrusion switch</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630	1	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i9-9900	Core i9-9900 8 / 16 3.1G / 5.0G 16 MB DDR4-2666 UHD 630						Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
Memory	64GB max, DDR4-26 * System automatical						Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black
Storage	Some: Hard Drive / Some: Solid State D	rive (SSD	) / SATA 6.0Gb/s	s, 2.5"	·			Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
	* SSD M.2 (2242) PC Some: Intel Optane	Cle NVMe	only supports P	Cle 3.0 x	2, 16Gb/s		Mechanical	<ul> <li>Tower (18L), black color, metal case</li> <li>(WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm</li> </ul>
Optical	Optional DVD-ROM of	or DVD Bu	rner (DVD±RW)	. SATA 1	.5Gb/s Drive. slin	n (9.0mm)		<ul> <li>Approx. 15.45 lb (7 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, extension card removal</li> </ul>
Onboard SATA	Four onboard SATA 6	6.0Gb/s co	nnectors, RAID					Optional carry handle, dust filter
Madia raadar	available via special b	bid model	)					Bay 1: Slim external ODD bay
Media reader	Optional 7-in-1 media				D: 174%	10	_	Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD Bay 3: 3.5", 1" high, internal, HDD/SSD
Graphics	Intel UHD Graphics one VGA, two Display	610/630 I	n processor, use	s main n	nemory, DirectX®	12, na with		Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)
	discrete graphics to s			nacm an	spiays, works alo	ing with		Bay 5: 2.5", internal, HDD/SSD (optional bay)
	Max resolution: 4096:	x2304 (DI	P)@60Hz;2048x	1536 (V	GA)@50Hz			Notes: M920 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and
	Some: NVIDIA Gefor			2GB, PC	le 2.0 x16 adapte	er,		1 eSATA device (front access HDD) Slot 1: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x16
	two DisplayPo		สร; :160 (DisplayPor	t)@60Hz				Slot 2: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x1
	Some: NVIDIA Gefor	rce GTX	1060 (DisplayFor	l only). D	, irectX 12. 6GB. F	Cle 3.0		Slot 3: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x16 (x4 signal)
	x16 adapter, 1	1x DVI-D,	1x HDMI, 3x DP,	120 wat	ts, occupies two	slots;		Slot 4: no slot, only bracket for optional port extension
				)Hz; 409	6x2160 (HDMI)@	060Hz		M.2 card slots: Two (one for WLAN, one for SSD/Optane)
Monitor Cable	5120x3200 (DP)@60Hz					(for Collago	Power supply	Some: 180 watts, autosensing, 85% PSU
World Gablo	Display with intel integrated graphics), or DP to HDMI 1.4 dongle					(ioi collage		Some: 250 watts, autosensing, 85% PSU Some: 400 watts, autosensing, 92% PSU (only available via special bid)
Chipset	Intel Q370 Chipset	<u> </u>					l insite al community	
Front ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x USB 3.1 Type-C Gen1 (15W charging),						Limited warranty	Some: 1-year or 3-year, limited onsite service / service upgrades available	
1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm)  Front ports* (Opt.) Optional: 1x media reader  Bear ports* (Std.) 4x USB 3.1 Good 1x coriol (9 pip.) 1x otherpot (PL45), 1x VGA 2x DisplayPort						Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit	
	Rear ports* (Std.) 4x USB 3.1 Gen1, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort, 1x line-out (3.5mm)  Rear ports* (Opt.) Optional: 2x USB 2.0, 2x USB 3.1 Gen1 via PCIe x1, 2x USB 3.1 Type-C Gen2 via						Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant
. ισαι ροι ισ (Ορι.	PCIe x4 (special bid ( 1x parallel (25-pin), 2	only), 1x 2	2nd serial (9-pin)	, 4x seria	al (9-pin) via PCI	e x1,	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
	paranor (20 pin), 2	, O, _ pc	(noyboard/iii	5 400/, 17		00.1100		



















# ThinkCentre M920x Tiny Platform Specifications

Processor	Intel® Celeron®, Intel Pen	tium®. or 8	th / 9th Gen Intel C	Core™ i3	/ i5 / i7 / i9 Process	or		4x Mini DisplayPort, up to 4 independent display	vs. works along with
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	1	onboard DP and HDMI to support up to 6 indepe Max resolution: 5120x2880@60Hz ((up to 2 M	endent displays;
		Threads	Base/Max(GHz)		(Up to)	Graphics	4	4096x2160@60Hz ((up to 4 M	lini DisplayPort)
	Celeron G4900 Celeron G4920	2/2	3.1G 3.2G	2 MB 2 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 610	Monitor cable	Optional DP to VGA dongle, DP to DVI-D dongle, DP to d with intel integrated graphics), or DP to HDMI 1.4 dongle,	lual DP dongle (for Collage Display
	Celeron G4930	2/2	3.2G 3.2G	2 MB	DDR4-2400 DDR4-2400	UHD 610	Chipset	Intel Q370 Chipset	, Will il Di to Di
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610	1∟	<u>'</u>	
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Front ports (Std.)*	one USB 3.1 Gen1 (Always On and fast charge), one US one microphone (3.5mm), one headphone / microphone (	B 3.1 Type-C Gen 1,
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Rear ports (Std.)*	2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x ethernet (RJ-45)	), 1x DP, 1x HDMI
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Rear ports (Opt.)*	Two optional ports (mutually exclusive with PCIe card): F	Port 1 for VGA / 2nd DP / 2nd HDMI /
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	1	serial / USB 3.1 Type-C Gen 1 with DP function); Port´2 fo Optional ports via PCIe card: 2x USB 3.1 Gen1 via PCIe	or serial; x1. 4x serial (9-pin) via PCIe x1. 1x
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	1	Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DP) via Po	Cle x4
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	1	* Depending on many factors, actual data transfer speed	,
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Audio support	Realtek ALC233VB2 / optional internal speaker (1.5 watt	or 2 watt)
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL882	
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL882 Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band	P2BE (dual band), 2x2
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band	
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-Al	
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Bluetooth	Intel vPro technology support, 2x2  Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi +	BT combo adapter
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jack	sonville), Wake on LAN®
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit eth	nernet, 4x RJ-45, PCIe x4
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12);	D
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Intel vPro technology on some models (require choosing adapter to enable vPro function through wireless connect	a vPro-support vvi-Fi
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified	,
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Security features		uence control
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610	]	Kensington® MicroSaver® cable)  • Chassis intrusion switch  • Individual	out keyboard and mouse I USB port disablement
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610	]	<ul> <li>Power-on password</li> <li>Smart US</li> </ul>	SB protection, allows keyboard/
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		<ul> <li>Administrator password mouse or</li> </ul>	nly, blocks all storage devices
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Hard disk password	
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), bla Some: Lenovo Traditional Keyboard (USB connector), b	ick
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630	1	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via	uSB receiver), black
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black	
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630	1	Some: Lenovo Fingerprint Mouse (USB connector), Will Some: Lenovo Calliope Wireless Mouse (2.4GHz via U	ndows Hello support, black
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Machaniaal	,	OB receivery, black
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color; metal case  Toolless chassis open (need optional toolless chassis s	screw)
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	4	<ul> <li>Toolless HDD, SSD, memory removal</li> </ul>	,
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630	4	<ul> <li>Optional dust filter</li> <li>one 2.5" bay for HDD/SSD, one PCIe 3.0 x8 slot (low-pro</li> </ul>	file) three M 2 slots (one for WI AN
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630	4	two for M.2 SSD), 2.5" HDD/SSD and PCIe card are muti	
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	4	Dimensions (WxDxH)	
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630	4		Weight (Approx.)
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630	4	Tiny only 7.05" X 7.20" X 1.36" 179mm X 182.9mm X 34.5r	2.91 lb (1.32 kg), mm vary by config
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666 DDR4-2666	UHD 630	4	With VESA mount & 7.42" X 7.30" X 2.48"	3.66 lb (1.66 kg),
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630	<u> </u>	ODD box 188.4mm X 185.38mm X 63	
Memory	32GB max, DDR4-2666* * System automatically c	locks down	for the processors	s with low	er memory control	ler	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm Optional system floor stand for vertical orientation	and 100mm
Storage	Some: Hard Drive / SA	TA 6.0Gb/s	, 2.5", 5400 rpm o	r 7200 rp	m		Power supply	135 watts AC/DC adapter, autosensing, 88% PSU	
	Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" Some: M.2 SSD (support up to two M.2 SSD) / PCIe NVMe, PCIe 3.0 x 4*, 32Gb/s,						- '''		
	RAID 0/1 support (RAID preset only available via special bid model) * 128GB SSD M.2 (2242) PCIe NVMe only supports PCIe 3.0 x 2, 16Gb/s						Limited warranty	Some: 1-year or 3-year, depot service / service upgra Some: 1-year or 3-year, limited onsite service / serv	
	* 128GB SSD M 2 (2242	) PCIe NVI	vie only supports F	7CIE 3 0 1	(2 16Gh/s		Preload	Some: Windows® 10 Pro 64-bit	ieo apgiados arailabio
Optical	Some: Intel Optane™ N Some: DVD-ROM, slim	(9.0mm).	via USB external C	/ Penliun DDD box	1 Processor), IVI.2		Teload	Some: Windows 10 Home 64-bit	
Onboard SATA	Some: DVD Burner (DVD±RW), slim (9.0mm), via USB external ODD box One onboard SATA 6.0Gb/s connector						Environment	ENERGY STAR® 7.0, EPEAT™ Silver rating (North America), ErP Lot 3, TCO, TUV ultra low noise verified (coming soon, on some models), RoHS-compliant	
Graphics	Intel HD Graphics 610/6	30 in proc	essor. uses main n	nemory, [	DirectX® 12, one Di	splayPort™,	MIL ODEO : :	<u> </u>	
·	one HDMI, one optional video port (2nd HDMI, VGA, 2nd DP, or USB 3.1 Type-C Gen1 with DisplayPort function), up to 3 independent displays; Max resolution:c4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz;						MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitu Low Temperature, Temperature Shock, Humidity, Sand ar Solar Radiation)	dej, High Temperature, nd Dust, Vibration, Shock, Fungus,
		216Ò (ońbo	ard HDMI)@24Hz	: 2048x1	536 (VGA)@50Hz		Accessories	For compatible accessories, please go to http://smartfin	d.lenovo.com













# ThinkSmart Hub 500 Platform Specifications

Positioning	Purpose-built Skype Room Systems device	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified
Processor	7th Gen Intel Core™ i5 Processor with vPro  Processor Cores / Frequency Base/Max(GHz) Cache (Up to) Graphics  Core i5-7500T 4 / 4 2.7G / 3.3G 6 MB DDR4-2400 HD 630	Security features	optional Kensington® MicroSaver® cable; • Boot sequence control Kensington lock also locks chassis) • Secure cable management door  • Boot without keyboard and mouse • USB port disablement
Memory	4GBx2, DDR4-2400, two 260-pin SO-DIMM sockets, dual-channel capable	Keyboard Mouse	None None
Storage	128GB M.2 Solid State Drive (SSD) / PCle NVMe, PCle 3.0 x 4, 32Gb/s	Mechanical	Business black color
Graphics Display	Intel HD Graphics 630 in processor, uses main memory, DirectX® 12 11.6" (294.64mm) Full HD 1080p (1920x1080) TFT color, wide viewing angle (+/-85°), LED backlight, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, anti-glare, smudge resistant Supports 10-point touch, OGS		<ul> <li>(WxDxH) 7.60" X 10.98" X 7.02"; 193.25mm X 278.9mm X 178.45mm</li> <li>Approx. 5.51 lb (2.5 kg)</li> <li>Secure Cable Management Door, secures physical ports and prevents cables being accidentally disconnected</li> <li>360 degree rotatable Display</li> </ul>
Sensor	IR Presence/Motion sensor, automatically dim / brighten display	Power supply	90 watts adapter, autosensing, 88% efficiency
LED indicators	(Detection angle: +/- 45% (from display); detection distance: 3 meters at minimum) 360 degree LED ring on hinge neck, indicates Skype status for all users in the	Limited warranty <sup>3</sup>	3-year, limited onsite service / service upgrades available
	room; power LED on power button	Preload	Preloaded operating system
Chipset	Intel Q270 Chipset		Windows® 10 IoT Enterprise CBB X64 (RS3)
Ports*	Four USB 3.1 Gen1(Type A), two HDMI-out, one HDMI-in (1920x1080@60Hz at maximum), one ethernet (RJ-45), one headphone / microphone combo jack		Preloaded applications Microsoft Skype Room Systems App
	(3.5mm), one power connector	Certification	Skype for Business Group Certified
M.2 card slot	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Two M.2 Card slots (one for WLAN, one for SSD)	Environment	ErP Lot 26, GREENGUARD® certified, RoHS, WEEE
		Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
Audio support	Dual 4W speakers, 2 omnidirectional microphones for 360 degree audio capture		
WLAN <sup>13</sup>	11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,Wi-Fi + Bluetooth 4.1* combo adapter, Intel vPro technology support, 2x2		
Bluetooth™	combo adapter, Intel vPro technology support, 2x2 Bluetooth 4.1* wireless, integrated in Wi-Fi + Bluetooth combo adapter * Hardware supports Bluetooth 4.2, but Win10 RS3 only supports Bluetooth 4.1		
Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®		
Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0), Intel vPro technology	]	

See footnotes for more detailed information

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# ThinkSmart Hub 500 for Zoom Platform Specifications

Positioning	Purpose-built Zoom Rooms device	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified		
Processor	7th Gen Intel Core™ i5 Processor with vPro  Processor Cores / Frequency Base/Max(GHz)  Core i5-7500T 4 / 4 2.7G / 3.3G 6 MB DDR4-2400 HD 630	Security features	<ul> <li>Security slot (in rear for attachment of optional Kensington® MicroSaver® cable;</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> <li>USB port disablement</li> </ul>		
Memory	4GBx2, DDR4-2400, two 260-pin SO-DIMM sockets, dual-channel capable	Keyboard Mouse	None None		
Storage	128GB M.2 Solid State Drive (SSD) / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s	Mechanical	Business black color		
Graphics Display	Intel HD Graphics 630 in processor, uses main memory, DirectX® 12 11.6" (294.64mm) Full HD 1080p (1920x1080) TFT color, wide viewing angle (+/-85°), LED backlight, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, anti-glare, smudge resistant Supports 10-point touch, OGS		<ul> <li>(WxDxH) 7.60" X 10.98" X 7.02"; 193.25mm X 278.9mm X 178.45mm</li> <li>Approx. 5.51 lb (2.5 kg)</li> <li>Secure Cable Management Door, secures physical ports and prevents cables being accidentally disconnected</li> <li>360 degree rotatable Display</li> </ul>		
Sensor	IR Presence/Motion sensor, automatically dim / brighten display	Power supply	90 watts adapter, autosensing, 88% efficiency		
LED indicators	(Detection angle: +/- 45% (from display); detection distance: 3 meters at minimum) 360 degree LED ring on hinge neck, indicates Skype status for all users in the	Limited warranty <sup>3</sup>	3-year, limited onsite service / service upgrades available		
	room; power LED on power button	Preload	Preloaded operating system		
Chipset	Intel Q270 Chipset		Windows® 10 IoT Enterprise SAC X64 (RS5)		
Ports*	Four USB 3.1 Gen1(Type A), two HDMI-out, one HDMI-in (1920x1080@60Hz at maximum), one ethernet (RJ-45), one headphone / microphone combo jack		Preloaded applications Zoom Rooms Application Zoom Recommended Hardware		
	(3.5mm), one power connector	Certification			
M.2 card slot	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Two M.2 Card slots (one for WLAN, one for SSD)	Environment	ErP Lot 26, GREENGUARD® certified, RoHS, WEEE		
		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
Audio support	Dual 5W speakers, 2 omnidirectional microphones for 360 degree audio capture				
WLAN <sup>13</sup>	11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,Wi-Fi + Bluetooth 4.1*				
Bluetooth™	combo adapter, Intel vPro technology support, 2x2 Bluetooth 4.1* wireless, integrated in Wi-Fi + Bluetooth combo adapter * Hardware supports Bluetooth 4.2, but Win10 RS3 only supports Bluetooth 4.1				
Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®				
Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0), Intel vPro technology				

See footnotes for more detailed information

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# ThinkCentre Tiny-in-One (TIO) 22

Model	10LKPAR6++ / 10L	KPAT6++		Ī
Form factor			e when optional Tiny slots into	1
Commontible Time		clean cabling and effortle		
Compatible Tiny:	M53 Tiny, Chromet		y*, M83 Tiny, M73 Tiny*, or	
	* Non-TIO models	can't be turned on by pres	sing power button of TIO 22	
Panel	TFT-LCD, In-Plane	Switching (IPS), White LE	D backlight	]
Viewable image size Max view area (W x H)	18.74" x 10.54" / 47	agonal 76.06mm x 267.79mm		
Bezel Width	Top / Side: 2mm, B	ottom: 16.3mm		
Optimum resolution Aspect ratio	<b>1920x1080</b> 16:9			
Pixel pitch (mm)	0.24795mm			
Dot/Pixel per Inch Brightness	102.4 dpi 250 nits or cd/m² (t	ypical)		
Contrast ratio	1000:1 (typical)	,		
Pixel response time Color gamut	7ms 72%			
Anti-reflective	Anti-glare		-1	
Preset resolutions		ontal, 178° (+/- 89°) vertic	aı	1
Freser resolutions	640x350 @ 70Hz 640x480 @ 60Hz,	66Hz, 72Hz, 75Hz		
	720x400 @ 70Hz	70U- 75U-		
	800x600 @ 60Hz, 1024x768 @ 60Hz.			
	1152x864 @75Hz			
	1280x800 @ 60Hz 1280x1024 @ 60H			
	1366x768 @ 60Hz			
	1440x900 @ 60Hz 1600x1200 @ 60Hz			
	1680x1050 @ 60H	_		
Presets / user settings	1920x1080 @ 60H Presets: 25; user se			
On screen display	On screen display	with digital user controls (8	3 languages)	1
Control features		O mode / standalone mon sources) / Back button, Lef	itor mode, switches video /	
		Selection button / Menu bu		
Tiny-in-One Power On			ver button positioned on TIO	
Front ports		o USB 2.0 (when M73 or N	y support, see compatible list) 1/1/3 installed or USB 2.0	
·		upstream port), one head	Iphone / microphone combo	
	jack (3.5mm) * The USB ports ar	e only available when a Ti	ny is istalled or a PC is	
Oide mente	connected via USB	upstream port		
Side ports Rear ports		oy installed Tiny (optional) 2 port, one USB upstream	port, one power connector	
3-in-1 Cable	Undetachable 3-in-	1 cable (Power connecter,	USB 3.0 [supports USB 3.0/	
Internal Speaker	USB 2.0], DisplayP 1.5 watt x1	ort 1.2), only for connecting	g to Tiny installed (optional)	
Security	Security keyhole fo		able lock (Kensington® lock	1
	compatible), locks offered by Tiny inst	optional Tiny with TIO 22 to	ogether, more security features	1
Mechanical	Dimensions	TIO 22 without stand	TIO 22 with stand	1
	W x D x H (inch)	19.25 x 2.65 x 12.47	19.25 x 9.90 x 14.02 - 18.35	
	W x D x H (mm)			1
	** Y D Y U (IIIIII)	489.06 x 67.2 x 316.78	489.06 x 251.4 x 356.07 - 466.07	
	Weight (approximately)	11.27 lb /5.1	1 kg (with stand)	

Mounting features	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Adjustable stand	Tilt: 35° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°
Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 15.57 watts typical, 35 watts maximum, <0.5 watts standby / suspend
Limited warranty <sup>3</sup>	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service
VESA-compliant <sup>2</sup> Ergonomics Emission standards Environmental Windows certifications	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307 FCC Class B TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0 EPEAT™ Gold rating, ULE Gold, TUV, VOC Windows 7, Windows 8/8.1, and Windows 10 certified
Ship group	TIO 22 (Monitor), detachable stand, AC/DC power adapter, power cord, user's guide and driver CD, quick start and safety poster
Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com

ThinkCentre Tiny-in-One 22 Compatible list						
Model	M900 Tiny, M700 Tiny, M600 Tiny,	M93/p Tiny,	Chromebox			
	M83 Tiny, M53 Tiny	M73 Tiny				
Turn on TIO and						
Tiny together via	All models	All models	Not support			
Alt + P on USB KB						
Turn on TIO and						
Tiny together via	All models	TIO models	All models			
TIO Power Button						













# ThinkCentre Tiny-in-One (TIO) 22 Gen3

Model	Non-touch model: Touch model:	10R1PAR1++/10R1PAR1++/10R0PAR1++/10R0PAR1		ı			
Form factor	Tiny-in-One, offers a full All-In-One experience when optional Tiny slots into the back of TIO, clean cabling and effortless setup						
Compatible Tiny:		-	ess setup 15 / M93/p* / M83 / M73* / M53 /				
,	Chromebox Tiny * Non-TIO models can't be turned on by pressing power button of TIO						
Denel			<u> </u>	F			
Panel	Notes: In-Plane Sv	witching may refer to V	**, White LED backlight A, PLS, and IPS panels	L			
Viewable image size	21.5" (546.1mm) d	iagonal		}			
Max view area (W x H) Bezel Width	Top / Side: 2mm, B	76.1mm x 267.8mm					
Native resolution	1920x1080	ottom: LL: min		Ì			
Multi-touch		nulti-touch, supports W	lake on Touch	١.			
Aspect ratio	16:9 0.24795mm			١			
Pixel pitch (mm) Dot/Pixel per Inch	102.4 dpi			1			
Brightness	250 nits or cd/m² (t	typical)					
Contrast ratio	1000:1 (typical)			1			
Pixel response time		er drive to 4ms, 6ms					
Color gamut Anti-reflective	72% Anti-glare						
Viewing angle at 10:1 Cl		zontal, 178° (+/- 89°) ve	ertical				
Preset resolutions	640x350 @ 70Hz						
	640x480 @ 60Hz,	66Hz, 72Hz, 75Hz					
	720x400 @ 70Hz 800x600 @ 60Hz,	72Hz 75Hz					
	1024x768 @ 60Hz						
	1152x864 @75Hz						
	1280x800 @ 60Hz						
	1280x1024 @ 60H 1366x768 @ 60Hz						
	1440x900 @ 60Hz						
	1600x1200 @ 60Hz, 70Hz, 75Hz						
	1680x1050 @ 60H						
Procests / user cottings	1920x1080 @ 60H Presets: 25; user s						
Presets / user settings			la (9 languages)	ł			
On screen display Control features		with digital user contro n	g button (TIO / monitor mode),				
Common locatorios	Right / Br	ightness button, Enter	/ Menu button, Power button				
	Bottom: Volume up	p button, Volume down	button				
Tiny-in-One Power On			Power button positioned on TIO				
Side ports (TIO)			e Tiny support, see compatible list) B or M53 installed or USB 2.0				
Oldo porto (110)	connected via USE		of Mod motalied of GGB 2.0				
			en a Tiny is istalled or a PC is				
Cido porto (Tipu)		via USB upstream por					
Side ports (Tiny) Rear ports		by installed Tiny (optio	nai) am port, one power connector				
3-in-1 Cable	Undetachable 3-in-	-1 cable (Power conne	cter, USB [supports USB 3.1 Gen1				
	/ USB 2.01. Display	Port), only for connect	ing to Tiny installed (optional)				
Camera	720p camera with dual microphone for VOIP, LED indicator						
Internal Speaker	2 watt x2			ł			
Security	Security keyhole for attachment of optional cable lock (Kensington® lock compatible), locks optional Tiny with TIO together, more security features offered by Tiny installed (optional)						
Mechanical	Dimensions	TIO without stand	TIO with stand				
	W x D x H (inch)	19.26 x 2.85 x 13.35	19.26 x 10.76 x 14.59 - 18.93				
	W x D x H (mm)	489.3 x 72.5 x 339	489.3 x 273.3 x 370.7 - 480.7				
	Weight (Approx.)	7.01 lb / 3.19 kg	11.77 lb / 5.34 kg				

	Mounting features	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)		
,	Adjustable stand	Tilt: 30° back, -5° forward;  lift: 4.3" (110mm);  swivel: +/-45°;  Pivot: clockwise 0° to 90°		
4	Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 19 watts typical, 32 watts maximum, <0.5 watts standby / suspend		
Limited warranty 3-years, Customer Carry-In or Mail-In via Rapid Replacement Service				
VESA-compliant Ergonomics Emission standards Environmental  VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307, TUV Eye Comfort certified FCC Class B TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0, EPEAT™ Silver rating, ULE Gold, TUV, VOC				
Windows certifications Windows 7 and Windows 10 certified				
Ship group  TIO (Monitor), detachable stand, AC/DC power adapter, power cord, us guide and driver CD, quick start and safety poster				
Accessories For compatible accessories, please go to http://www.lenovoquickpick.co				
1				

ThinkCentre Tiny-in-One 22 Gen3 Compatible list							
Model	M910 / M710 / M900 / M700 /	M93/p Tiny,	Chromebox				
	M600 / M715 / M83 / M53 Tiny	M73 Tiny					
Turn on TIO and							
Tiny together via	All models	All models	Not support				
Alt + P on USB KB							
Turn on TIO and							
Tiny together via	All models	TIO models	All models				
TIO Power Button							













# ThinkCentre Tiny-in-One (TIO) 24

Model	10LLPAR6++ / 10L	LPAT6++					
Form factor	Tiny-in-One, offers a full All-In-One experience when optional Tiny slots int the back of TIO 24, clean cabling and effortless setup						
Compatible Tiny:		•	y*, M83 Tiny, M73 Tiny*, or				
	M53 Tiny, Chromet		oing power button of TIO 24				
Panel	* Non-TÍO models can't be turned on by pressing power button of TIO 24 TFT-LCD, In-Plane Switching (IPS), White LED backlight						
Viewable image size	23.8" (604.7mm) diagonal						
Max view area (W x H) Bezel Width	21.06" x 12.32" / 53 Top / Side: 2mm, B	35.0mm x 313.0mm ottom: 16.3mm					
Optimum resolution	1920x1080						
Aspect ratio Pixel pitch (mm)	16:9 0.2745mm						
Dot/Pixel per Inch Brightness	92.6 dpi 250 nits or cd/m <sup>2</sup> (t	vnical)					
Contrast ratio	1000:1 (typical)	ypicai)					
Pixel response time Color gamut	7ms 72%						
Anti-reflective	Anti-glare		-1				
		ontal, 178° (+/- 89°) vertic	al				
Preset resolutions	640x350 @ 70Hz 640x480 @ 60Hz,	66Hz, 72Hz, 75Hz					
	720x400 @ 70Hz 800x600 @ 60Hz,	79Hz 75Hz					
	1024x768 @ 60Hz						
	1152x864 @75Hz 1280x800 @ 60Hz						
	1280x1024 @ 60H	z, 72Hz, 75Hz					
	1366x768 @ 60Hz 1440x900 @ 60Hz	, 75Hz					
	1600x1200 @ 60H: 1680x1050 @ 60H						
5	1920x1080 @ 60Hz						
Presets / user settings	Presets: 25; user settings: 25 On screen display with digital user controls (8 languages)						
On screen display Control features	Mode-switching (TI	O mode / standalone mon	itor mode, switches video /				
		sources) / Back button, Lef Selection button / Menu bu					
Tiny-in-One Power On	Pressing Alt + P or	keyboard or pressing Pov	ver button positioned on TIO				
Front ports	Two USB 3.0 or two	O and Tiny (only some Tin o USB 2.0 (when M73 or N	y support, see compatible list) 153 installed or USB 2.0				
•	connected via USB		lphone / microphone combo				
	jack (3.5mm)  * The USB ports ar	e only available when a Ti	ny is istalled or a PC is				
Side ports	connected via USE Side ports offered I	supstream port by installed Tiny (optional)					
Rear ports	One DisplayPort 1.	2 port, one USB upstream	port, one power connector				
3-in-1 Cable			USB 3.0 [supports USB 3.0/ ig to Tiny installed (optional)				
Internal Speaker	1.5 watt x1	,, : <b>,</b> ::: :::::::::::::::::::::::::::					
Security			able lock (Kensington® lock				
compatible), locks optional Tiny with TIO 24 together, more security featuoffered by Tiny installed (optional)							
Mechanical	Dimensions	TIO 24 without stand	TIO 24 with stand				
	W x D x H (inch)	21.24 x 2.7 x 13.64	21.24 x 9.90 x 15.16 - 19.46				
	W x D x H (mm)	539.6 x 68.2 x 346.45	539.6 x 251.4 x 385.08 - 495.08				
	Weight (approximately)	12.25 lb /5.5	7 kg (with stand)				
		l					

Mounting features	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Adjustable stand	Tilt: 35° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°
Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 16.7 watts typical, 35 watts maximum, <0.5 watts standby / suspend
Limited warranty <sup>3</sup>	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service
VESA-compliant <sup>2</sup> Ergonomics Emission standards	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307 FCC Class B
Environmental Windows certifications	TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0 EPEAT™ Gold rating, ULE Gold, TUV, VOC Windows 7, Windows 8/8.1, and Windows 10 certified
Ship group	TIO 24 (Monitor), detachable stand, AC/DC power adapter, power cord, user's guide and driver CD, quick start and safety poster
Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com

ThinkCentre Tiny-in-One 24 Compatible list						
Model	M900 Tiny, M700 Tiny, M600 Tiny,	M93/p Tiny,	Chromebox			
	M83 Tiny, M53 Tiny	M73 Tiny				
Turn on TIO and						
Tiny together via	All models	All models	Not support			
Alt + P on USB KB						
Turn on TIO and						
Tiny together via	All models	TIO models	All models			
TIO Power Button						













# ThinkCentre Tiny-in-One (TIO) 24 Gen3

Model	Non-touch model: Touch model:	10QYPAR1++/10QYPA 10QXPAR1++/10QXPA	_ ′					
Form factor	Tiny-in-One, offers a full All-In-One experience when optional Tiny slots into							
Competible Tipy:	the back of TIO, clean cabling and effortless setup M910 / M710 / M900 / M700 / M600 / M715 / M93/p* / M83 / M73* / M53 /							
Compatible Tiny:	Chromebox Tiny							
	* Non-TIO models can't be turned on by pressing power button of TIO							
Panel	TFT-LCD, In-Plane	Switching technology**	, White LED backlight					
Vioughla imaga siza		vitching may refer to VA	, PLS, and IPS panels					
Viewable image size Max view area (W x H)	23.8" (604.7mm) diagonal 21.06" x 12.32" / 535.0mm x 313.0mm							
Bezel Width `	Top / Side: 2mm, B							
Native resolution Multi-touch	1920x1080	nulti-touch, supports Wa	ke on Touch					
Aspect ratio	16:9	nulli-touch, supports wa	ike off fodelf					
Pixel pitch (mm)	0.2745mm							
Dot/Pixel per Inch Brightness	92.6 dpi 250 nits or cd/m² (t	vnical)						
Contrast ratio	1000:1 (typical)	ypicai)						
Pixel response time		er drive to 4ms, 6ms						
Color gamut Anti-reflective	72% Anti-glare							
Viewing angle at 10:1 CI		ontal, 178° (+/- 89°) ver	tical					
Preset resolutions	640x350 @ 70Hz							
	640x480 @ 60Hz,	67Hz, 72Hz, 75Hz						
	720x400 @ 70Hz 800x600 @ 60Hz,	72Hz. 75Hz						
	1024x768 @ 60Hz							
	1152x864 @75Hz 1280x800 @ 60Hz							
	1280x800 @ 60Hz 1280x1024 @ 60H							
	1366x768 @ 60Hz							
	1440x900 @ 60Hz, 75Hz							
	1600x1200 @ 60Hz, 70Hz, 75Hz 1680x1050 @ 60Hz							
	1920x1080 @ 60Hz							
Presets / user settings	Presets: 25; user se							
On screen display Control features		with digital user controls	(8 languages) g button (TIO / monitor mode),					
Control leatures			Menu button, Power button					
	Bottom: Volume u	ip button, Volume down	button					
Tiny-in-One Power On	can turn on both TI	i keyboard or pressing F O and Tiny (only some	Power button positioned on TIO Finy support, see compatible list)					
Side ports (TIO)			or M53 installed or USB 2.0					
	connected via USB		n a Timuia istallad an a DO is					
		ort is only available whe via USB upstream port	n a Tiny is istalled or a PC is					
Side ports (Tiny)	Side ports offered by	by installed Tiny (optiona	al)					
Rear ports			n port, one power connector					
3-in-1 Cable			er, USB [supports USB 3.1 Gen1 a to Tiny installed (optional)					
Camera	/ USB 2.0], DisplayPort), only for connecting to Tiny installed (optional) 1080p camera with dual microphone for VOIP, LED indicator							
Internal Speaker	2 watt x2							
Security	Security keyhole fo compatible), locks offered by Tiny inst	optional Tiny with TIO to	cable lock (Kensington® lock gether, more security features					
Mechanical	Dimensions	TIO without stand	TIO with stand					
	W x D x H (inch)	21.25 x 2.85 x 14.47	21.25 x 11.11 x 15.72 - 20.06					
	W x D x H (mm)	539.8 x 72.5 x 367.6	539.8 x 282.3 x 399.4 - 509.4					
	Weight (Approx.)	7.96 lb /3.61 kg	12.92 lb /5.86 kg					
	J (11 /		·					

to	Mounting features Adjustable stand	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)  Tilt: 30° back, -5° forward;  lift: 4.3" (110mm);  swivel: +/-45°;  Pivot: clockwise 0° to 90°
	Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 19 watts typical, 32 watts maximum, <0.5 watts standby / suspend
	Limited warranty	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service
	VESA-compliant Ergonomics Emission standards Environmental	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307, TUV Eye Comfort certified FCC Class B TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0, EPEAT™ Silver rating, ULE Gold, TUV, VOC
	Windows certifications	Windows 7 and Windows 10 certified
	Ship group	TIO 24 (Monitor), detachable stand, AC/DC power adapter, power cord, user's guide and driver CD, quick start and safety poster
	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com

ThinkCentre Tiny-in-One 24 Gen3 Compatible list						
Model	M910 / M710 / M900 / M700 /	Chromebox				
	M600 / M715 / M83 / M53 Tiny	M73 Tiny				
Turn on TIO and						
Tiny together via	All models	All models	Not support			
Alt + P on USB KB						
Turn on TIO and						
Tiny together via	er via All models TIO models		All models			
TIO Power Button						













# ThinkCentre Tiny-in-One (TIO) 27

Form factor	Tiny-in-One, offers a full All-In-One experience when optional Tiny slots into the back of TIO, clean cabling and effortless setup	Mechanical			TIO without	stand	TI	O with stand	
Compatible Tiny:	ThinkCentre Tiny, ThinkCentre Nano, and ThinkStaion Tiny		Dimensions	614.0 x 72.00	V 410 1	6140 x 20	9.0 x 444.25 - 554.25		
Panel	TFT-LCD, In-Plane Switching technology**, White LED backlight **Notes: In-Plane Switching may refer to IPS, PLS, ADS, AHVA, and AA			(W x D x H mm / inch)	614.0 x 73.89 / 24.17 x 2.91			12.95 x 17.49 - 21.82	
Viewable image size Max view area (W x H)	27" (685.8mm) diagonal 23.49" x 13.22" / 596.7mm x 335.7mm			Weight (Approx.)	4.91 kg / 10	).82 lb	7.9	5 kg / 17.53 lb	
Bezel Width Native resolution	Top / Side: 2mm, Bottom: 23.3mm 2560x1440	Mounting feature		Wall or desk moun meeting the VESA	FPMPMI® (100	extend ar 0mm mou	m or third-p unt)	party accessories	
Multi-touch Aspect ratio Pixel pitch (mm) Dot/Pixel per Inch	None 16:9 0.2331mm 109 dpi	Adjustable stand T		Tilt: 35° back, -5° forward; \ lift: 4.3" (110mm); \ swivel: +/-45°; \ Pivot: clockwise -5° to 90°					
Brightness Contrast ratio Pixel response time	350 nits or cd/m² (typical) 1000:1 (typical) 14ms (default), over drive to 4ms, 6ms	Power supply Power consumpt	ion	170 watts adapter, 37 watts typical, 57			watts stand	by / suspend	
Color gamut Anti-glare	99% sRGB Yes (25%)	Limited warranty		3-years, Product E Service (EMEA)	xchange Serv	ice (US a	and EMEA)	or Customer Carry-In	
	R178° (+/- 89°) horizontal, 178° (+/- 89°) vertical	VESA-compliant Ergonomics		VESA DDC/CI. VE	SA DPMS-con	npliant			
Preset resolutions	Preset resolutions 640x350 @ 70Hz 640x480 @ 60Hz, 66Hz, 72Hz, 75Hz 720x400 @ 70Hz		rds	ISO 9241-307, TU' FCC Class B TCO 8.0, TCO Edg	ge 2.0, WEEE,	RoHS, E	NERGY ST	ʿAR® 7.0,	
	800x600 @ 60Hz, 72Hz, 75Hz 1024x768 @ 60Hz, 70Hz, 75Hz	Windows certification	ations	EPEAT™ Silver rati Windows 7 and Wi					
	1152x864 @75Hz 1280x768 @ 60Hz			TIO 27 (Monitor), detachable stand, power adapter, power cord, reference and driver CD					
	1280x800 @ 60Hz 1280x1024 @ 60Hz, 72Hz, 75Hz	Accessories For compatible accessories, please go to http://smartfind.lenovo.com							
	1366x768 @ 60Hz 1440x900 @ 60Hz, 75Hz 1600x1200 @ 60Hz, 70Hz, 75Hz			ThinkCentre Tiny	in One 07 Co.	maatibla	Motrix		
	1680x1050 @ 60Hz	Model		P320 / P330 / M920			p Tiny,	Chromebox	
	1920x1080 @ 60Hz 2560x1440 @ 60Hz	I Woodo!		//910(x) / М710 / М9	` '	1	3 Tiny	Omomosox	
Presets / user settings	Presets: 27; user settings: 25			M600 / M715 / M83	3 / M53 Tiny				
On screen display Control features	On screen display with digital user controls (8 languages)  Ftont: Exit button, Left / Mode-switching button (TIO / monitor mode), Right / Brightness button, Enter / Menu button, Power button	Turn on TIO a Tiny together Alt + P on US	via	All mode	ls	All r	models	Not support	
Tiny-in-One Power On	Bottom: Volume up button, Volume down button Pressing Alt + P on keyboard or pressing Power button positioned on TIO can turn on both TIO and Tiny (only some support, see Compatible Matrix)	Turn on TIO a Tiny together	via	All mode	ls	TIO	models	All models	
Side ports (TIO)	Two USB 3.1 Gen1 (downgrade to USB 2.0 when installing M73 or M53 or connecting USB 2.0 via USB upstream port), one headphone / microphone combo jack Notes: The USB ports are enabled by installing a Tiny or connecting USB upstream port; the audio port is enabled by installing a Tiny or connecting	TIO Power Bu	utton						
Side ports (Tiny) Rear ports	USB upstream, DisplayPort(in), or HDMI(in) port Side ports offered by the installed Tiny (optional) One DisplayPort(in) port, one HDMI(in) port, one USB (Type-B) upstream								
3-in-1 Cable	port, one power connector Undetachable 3-in-1 cable, connecting to the power connecter, one USB, and one DisplayPort of the installed Tiny (optional)								
Camera	RGBIR camera with dual microphone, supports Window Hello and Facial Recognition, Think Shutter for Privacy Security, LED indicator								
Internal Speaker	2 watt x2								
Security	Security keyhole for attachment of optional cable lock (Kensington® lock compatible), locks optional Tiny with TIO together, more security features offered by Tiny installed (optional)								
								Lenovo, Feb 201	

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If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit http://psref.lenovo.com/ for the latest version of Product Specifications Reference.

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U.S. EMEA

# **Summary of Changes**

This section describes the changes made in this version of ThinkStation PSREF and in previous version. This edition might also include minor corrections and editorial changes which are not identified.

#### August 7, 2019 - Version 546

▶ Update processor information on Thinktation P330 Tiny

#### July 17, 2019 - Version 545

► Update EPEAT rating to Silver on most ThinkStation

## June 26, 2019 - Version 544

► Add ThinkStation P330 Tower Gen 2/P330 SFF Gen 2 CPU Async update

## May 15, 2019 - Version 542

- New ThinkStation P330 Tower Gen 2/P330 SFF Gen 2 announced on April 2019
- ► Update ThinkStation P920/P720/P520 specifications, add Quadro RTX 8000, DDR4-2933, Xeon Scalable Gen 2

#### March 13, 2019 - Version 539

► Add Intel vPro information on ThinkStation P330 Tower/P330 SFF/P520c/P520/P720/P920

## February 20, 2019 - Version 538

- ▶ New ThinkStation P330 Tower models announced on February 2019
- ► Update ThinkStation P920/P720/P520/P520c specifications, add Quadro RTX4000/5000/6000

### August 22, 2018 - Version 529

- ▶ New ThinkStation P330 Tower/SFF/Tiny models announced on August 2018
- ► Update ThinkStation P920/P720 specifications, update flex bay and graphics adapter section

#### August 1, 2018 - Version 528

- ▶ New product ThinkStation P330 Tower/SFF/Tiny announced on July 2018
- ▶ Update ThinkStation P920/P720/P520/P520c, add Refresh 2.0 information
- ▶ Remove all MTM PNs from PDF version

### June 20, 2018 - Version 526

- ▶ New ThinkStation P320 Tower models announced on June 2018
- ▶ Update ThinkStation P720 and P920 models, remove EOL models for US
- ▶ Update Windows 10 Pro 64 for Workstations for some ThinkStation P720/P920 models

## May 30, 2018 - Version 525

► Added ThinkStation P720/P920 EMEA May 2018 models

#### **April 18, 2018 - Version 523**

New ThinkStation P320 Tower/ P320 SFF/P520c/P520/P720/P920 models announced on April 2018

#### March 28, 2018 - Version 522

► New ThinkStation P320 Tower/ P320 SFF/P520c/P520/P920 announced on March 2018

#### March 7, 2018 - Version 521

▶New ThinkStation P320 Tower/ P320 SFF/P720/P920 announced on February 2018

#### January 30, 2018 - Version 519

- ▶ New ThinkStation P520c and P520 announced on January 2018
- ► New ThinkStation P320 Tower/P320 SFF announced on January 2018

#### **December 20, 2017 - Version 517**

- ▶ New ThinkStation P920 models announced on December 2017
- ► Add Optional Ports on ThinkStation P320 Tiny

#### **September 29, 2017 - Version 513**

- New ThinkStation P920 and P720 announced on September 2017
- ► New ThinkStation P320 Tower/P320 SFF/P410/P510/P710/P910 announced on September 2017

#### **September 12, 2017 - Version 512**

▶ New ThinkStation P320 Tower and P320 SFF models announced on August 2017

#### August 23, 2017 - Version 511

▶ New ThinkStation P320 Tiny models announced on August 2017

## August 2, 2017 - Version 510

▶ New ThinkStation P320 Tiny/P320 Tower/ P320 SFF/P410/P510 models announced on July 2017

#### June 21, 2017 - Version 508

► New ThinkStation P320 Tiny announced on June 2017

## May 26, 2017 - Version 507

► Add ThinkStation P410/P510/P710/P910 Refresh 3.0 Wave 1 models and update platform specifications

#### **April 19, 2017 - Version 505**

- ► New ThinkStation P320 Tower announced on April 2017
- ► New ThinkStation P320 SFF announced on April 2017

### March 29, 2017 - Version 504

- ► Added ThinkStation P310 Tower and SFF models announced on March 2017
- ► Added ThinkStation P410 models announced on March 2017

#### January 25, 2017 - Version 501

▶ Update quantity of PCle SSD adapter in ThinkStation P510/P910

## **January 4, 2017 - Version 500**

► Added ThinkStation P310 models announced on December 2016

#### **December 14, 2016 - Version 499**

- ► Added ThinkStation P410/P510/P710/P910 EMEA models
- ► Added 1TB M.2 PCIe SSD, Quadro P5000, Quadro P6000 support on ThinkStation P510/P710/P910
- ► Added Quadro P5000 support on ThinkStation P410
- ► Added 6TB 7.2K SATA6Gbs HDD support on ThinkStation P410/P510/P710/P910
- ► Added ThinkStation P410/P510/P710/P910 models announced on December 2016

### November 23, 2016 - Version 498

- ▶ Removed ThinkStation P500/P900 due to EOL
- ▶ Added ThinkStation P310 Tower and SFF models announced on November 2016

#### October 12, 2016 - Version 496

- ► Removed flash option on ThinkStation P510/P710/P910
- ► Added ThinkStation P310/P410/P510/P710/P910 models announced on September 2016

## August 3, 2016 - Version 493

- ▶ Removed ThinkStation P500/P700/P900 Windows 7 DG from Win8.1 U.S. models
- ► Added keyboard and mouse features on all ThinkStation

#### July 13, 2016 - Version 492

- ▶ Added ThinkStation P500, P700, and P900 Windows 10 downgrade to Windows 7 models
- ▶ Updated Maximum configuration weight of ThinkStation P410
- ► Added ThinkStation P710 and P910 models announced on on July 2016
- ► Added "Maximum drives in 3.5" bay" feature on ThinkStation P500/P510/P700/P710/P900/P910

#### June 22, 2016 - Version 491

- ► Added new product ThinkStation P410/P510
- ► Added NVIDIA Quadro M2000 on ThinkStation P310 Tower
- ▶ Added keyboard and mouse information on ThinkStation P710/P910
- ► Added internal USB information on ThinkStation P710/P910

#### June 2, 2016 - Version 490

- ► Added ThinkStation P710/P910 US models
- ► Updated ThinkStation P710/P910 processor information

## May 19, 2016 - Version 489

- ► Added NVIDIA Quadro M2000 on compatible product
- ► Updated maximum weight on ThinkStation P710
- ► Removed 30AT000BUS

## **April 27, 2016 - Version 488**

- ► Added ThinkStation P710 and P910 models for EMEA, announced on April 2016
- ▶ Updated Energy star information on ThinkStation P500/P700/P710/P900/P910

## April 6, 2016 - Version 487

► New ThinkStation P710 and P910, announced April 5, 2016 (specification only)

#### March 23, 2016 - Version 486

► Added processors specifications for P310/P500/P700/P900

## February 24, 2016 - Version 485

- ► Added ThinkStation P310 and P700 models for US, announced on February 2016
- ► Added ThinkStation P700 and P900 models for EMEA, announced on February 2016

### December 9, 2015 - Version 482

▶ New ThinkStation P310 Tower and SFF, announced November 24, 2015

### November 18, 2015 - Version 481

- ► Combines ThinkStation PSREF United States version and Western Europe version.
- ► Extends the supported GEO into Europe, Middle East and Africa.
- ► Covers all TopSeller and Relationship models for US and all focus models for EMEA









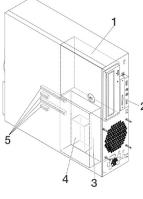




<b>ThinkStation</b>	P320	SFF	<b>Platform</b>	<b>Specifications</b>
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Components	Specification	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0.00			
Chipset	Intel C236 Chipset						
Intel AMT	Intel Active Management Technology 11 on Xeon models, Intel Standard Manageability on other models						
Processor	One Intel "Kabylak "Kaby Lake"						
	Xeon E3-1280 v6 Xeon E3-1275 v6 Xeon E3-1270 v6 Xeon E3-1240 v6 Xeon E3-1240 v6 Xeon E3-1230 v6 Xeon E3-1220 v6 Xeon E3-1220 v6 Core i7-7700 Core i5-7600 Core i5-7500 Core i5-7400 Core i3-7300 Core i3-7300 Core i3-7100	4C 4C 4C 4C 4C 4C 4C 4C 4C 4C 2C 2C	%3.8GHz/8 %3.7GHz/8 %3.7GHz/8 %3.5GHz/8 %3.3GHz/8 %3.6GHz/8 %3.5GHz/6 %3.4GHz/6 %34GHz/6M %4GHz/4M	MB/72W/D MB/73W/D MB/73W/D MB/73W/D MB/72W/D MB/73W/D MB/65W/D MB/65W/D MB/65W/D MB/65W/D MB/51W/DD MB/51W/DD	DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 BR4-2400 BR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 BR4-2400 BR4-2400 BR4-2400		
	"Skylake"						
	Xeon E3-1245 v5 Xeon E3-1240 v5 Xeon E3-1230 v5 Xeon E3-1225 v5 Xeon E3-1220 v5 Core i7-6700 Core i5-6500 Core i3-6400 Core i3-6100	4C 4C 4C 4C 4C 4C	2/3.5GHz/8 2/3.4GHz/8 2/3.3GHz/8 2/3.4GHz/8 2/3.4GHz/8 2/3.2GHz/6 2/2.7GHz/6	MB/80W/D MB/80W/D MB/80W/D MB/80W/D B/80W/DD MB/65W/D MB/65W/D MB/65W/D MB/51W/D	DR4-2133 DR4-2133 DR4-2133 R4-2133 DR4-2133 DR4-2133 DR4-2133		
Memory DIMM slots	4 DIMM slots, 2-ch	annel	(integrate	d memor	y controller in processor)		
Memory type/capacity	Up to 64GB ECC/non-ECC (4 x 16GB), DDR4-2400. UDIMM. "Skylake" processor supports up to DDR4-2133. Core i7 and i5 processors cannot support ECC.						
Intel HD Graphics in processor	Integrated Intel HD P530 in Xeon E3-12x5 v5 processors, or Intel HD P630 in Xeon E3-12x5 v6 processors, or Intel HD 530 in Core i7, i5, or i3 6000 processors. or Intel HD 630 in Core i7, i5, or i3 7000 processors. Works along with discrete graphics to support multi-display, enables three display connectors (2 DP, 1 VGA) on rear.						
	Two PCI Express 3.0 x16 slots for graphics adapters. Up to two NVIDIA Quadro P1000. Supports the following NVIDIA graphic adapters:						
	Adapter	Cores	Memory	Power	Connector		
D:	NVS 310	48	1GB	19.5W	2xDP		
Discrete graphics	NVS 315	48	1GB	19.5W	2xDVI-I SL/2xDP		
	NVS 510	192	2GB	33.4W	4xmini DP		
	Quadro P400	256	2GB	30W	3xminiDP		
	Quadro P600	384	2GB	40W	4xminiDP		
Onboard drive controller	Quadro P1000   640   4GB   47W   4xminiDP     Five onboard SATA 6.0Gb/s connectors for optical and disk drives plus one SATA connector for optional eSATA. RAID 0, 1, 5* support						
Drive Bays	* RAID 5 needs three 2.5" S'SD drives.  One external 5.25" bay, one internal 3.5" bay (see right).  Up to one 9mm optical + 2 x 3.5" disk drive bays + 1 x 2.5" disk drive bay + two M.2 NVMe SSD						
Supporting disk drives	3.5" SATA HDD (7.2K 6Gbs)   1TB/2TB/4TB/1TB hybrid/2TB hybrid   2.5" SATA SSD (6Gbs)   256GB Opal/512GB/512GB Opal/1TB Opal/2TB opal   M.2 NVMe SSD, via PCIe   256GB Opal/512GB Opal/1TB Opal, via PCIe 3.0 x4 adapter, up   adapter   to 2; or 16GB Intel Optane Memory, PCIe 3.0 x2						
Max internal storage	10TB (2 x 4TB 3.5	" HDD:	s + 1 x 2T	B 2.5" SS	SD) plus two 1TB M.2 NVMe S	SD	
Media reader	· · · · · · · · · · · · · · · · · · ·				der on selected models		
Power supply	210 watts with variable speed fan, autosensing, Climate Savers Computing Bronze, 80 PLUS Bronze qualified						
Onboard Ethernet							
HD Audio	One onboard gigabit ethernet, Intel I219LM, supports Wake-on-LAN Realtek ALC662 codec						
TPM	Standard, TCG 2.0		liant				
1 1 141	Jordinadia, 100 Z.C	Comp	пап				

	,			
Components	Specification			
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)			
Rear ports	1 VGA and 2 DisplayPort (for Intel HD Graphics models only), two USB 2.0, four USB 3.0, one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)			
Mechanical	<ul> <li>Raven black color; metal case</li> <li>4.02"W x 15.53"D x 13.31"H</li> <li>102mm W x 394.5mm D x 338mm H</li> <li>17.2 lb (7.9kg) max configuration</li> <li>12.9-liter</li> </ul>			
Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ ENERGY STAR 6.1 qualified			
Limited warranty	1 or 3-year limited onsite service with 9x5/NBD. Some parts are Customer Replaceable Units.			
ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>			



#### **Drive Bays and PCIe Slots**

2 2				
Bay 1	5.25", supports one of the following: HH optical/flex module***/9mm optical+3.5" HDD bay/ 3.5" HDD bay/Front Access Storage Enclosure ****Flex module supports one or more of the following: 9mm optical/ 29-in-1 reader/front IEEE 1394/front eSATA. Up to one flex module is supported per system.			
Bay 2	Optional 9-in-1 single slot reader			
Bay 3	Standard 3.5" HDD bay			
Bay 4	Optional 2.5" HDD bay (under Bay 3)			
5 -Slots	Four PCIe slots (top-down): Slot 1: Low Profile, PCIe 3.0 x16 (near CPU) Slot 2: Low Profile, PCIe 3.0 x1 Slot 3: Low Profile, PCIe 3.0 x16 (x4 elec) Slot 4: Low Profile, PCIe 3.0 x1			









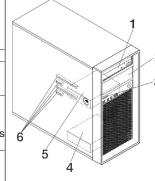


ThinkStation P32	ThinkStation P320 Tower Platform Specifications									
Components	Specification									
Chipset	Intel C236 Chipset									
Intel AMT	Intel Active Manage Intel Standard Man									
	One Intel "Kaby La "Kaby Lake"	ke" or	"Skylake	" processo	or as listed:					
Processor	Xeon E3-1280 v6 Xeon E3-1275 v6 Xeon E3-1270 v6 Xeon E3-1240 v6 Xeon E3-1240 v6 Xeon E3-1220 v6 Xeon E3-1220 v6 Xeon E3-1220 v6 Core i7-7700K Core i7-7700 Core i5-7600 Core i5-7400 Core i3-7300 Core i3-7300 Core i3-7300	4C 4C 4C 4C 4C 4C 4C 4C 4C 4C 4C 4C 4C 4	;/3.8GHz/8 ;/3.8GHz/8 ;/3.7GHz/8 ;/3.7GHz/8 ;/3.3GHz/8 ;/3.3GHz/8 ;/3.3GHz/8 ;/3.6GHz/8 ;/3.5GHz/6 ;/3.5GHz/6 ;/3.5GHz/6 ;/3.4GHz/6 ;/3.6GHz/4M	MB/72W/DDR4-2400 MB/73W/DDR4-2400 MB/73W/DDR4-2400 MB/73W/DDR4-2400 MB/73W/DDR4-2400 MB/72W/DDR4-2400 MB/73W/DDR4-2400 MB/73W/DDR4-2400 MB/73W/DDR4-2400 MB/65W/DDR4-2400 MB/51W/DDR4-2400 MB/51W/DDR4-2400 MB/51W/DDR4-2400						
	"Skylake"									
	Xeon E3-1245 v5 Xeon E3-1240 v5 Xeon E3-1230 v5 Xeon E3-1225 v5 Xeon E3-1220 v5 Core i7-6700 Core i5-6500 Core i5-6400 Core i3-6100	DR4-2133 DR4-2133 DR4-2133 DR4-2133 DR4-2133 DR4-2133 DR4-2133 DR4-2133 DR4-2133 DR4-2133								
Memory DIMM slots	4 DIMM slots, 2-ch	annel	(integrate	ed memory	y controller in processor)					
Memory type/capacity	Up to 64GB ECC/n	on-EC	C (4 x 16	GB), DDF	R4-2400. UDIMM. "Skylak i7 and i5 processors can	e" not				
Intel HD Graphics in processor	in Xeon E3-12x5 ve processors. or Intel	6 proce HD 6 ics to s	essors, o 30 in Cor	r Intel HD e i7, i5, or	5 processors, or Intel HD 530 in Core i7, i5, or i3 60 i3 7000 processors. Worl ay, enables three display o	000 ks along				
	Two PCI Express 3 Up to two Quadro I	3.0 x16 P1000 ro P20	on 250 v 00, or up	vatts mode to one Qu	els. uadro P4000 on 400 watts	s models.				
	Adapter	Cores		Power	Connector					
	NVS 310	48	1GB	19.5W	2xDP	-				
Discrete graphics	NVS 315 NVS 510	48 192	1GB 2GB	19.5W 33.4W	2xDVI-I SL/2xDP 4xmini DP	-				
	NVS 810	1024	4GB	68W	8xmini DP	-				
	Quadro P400	256	2GB	30W	3xminiDP					
	Quadro P600	384	2GB	40W	4xminiDP					
	Quadro P1000	640	4GB	47W	4xminiDP					
	Quadro P2000	1024	5GB	75W	4xDP					
	Quadro P4000	1792	8GB	105W	4xDP					
Onboard drive controller	SATA connector for	option	nal eSATA	A. RAID 0,		s one				
Drive Bays	Two external 5.25" Up to one 9mm op				ays (see right). ve bays plus two M.2 NVN	le SSD				
	3.5" SATA HDD (7.2K 6									
Supporting disk drives	2.5" SATA SSD (6Gbs) M.2 NVMe SSD, via PO adapter	Cle 2	56GB Opal	/512GB Opa	GB Opal/1TB Opal/2TB opal al/1TB Opal, PCIe 3.0 x4, up to ory, PCIe 3.0 x2	2; or				
Max internal storage	16TB (4 x 4TB 3.5'	' HDDs	s) plus 27	B (2 x 1T	B) M.2 NVMe SSD					
221 211 211 211 212 212 212	1 1 2 1 1 1 1 2 0.0		, p	\- \\ · ·	,					

9-in-1 card reader. Optional 29-in-1 card reader on selected models

Media reader

Components	Specification
Power supply	One 250 watts with variable speed fan, autosensing, Climate Savers Computing Bronze, 80 PLUS Bronze qualified. Or one 400 watts with variable speed fan, autosensing, Climate Savers Computing Platinum, 80 PLUS Platinum qualified.
Onboard Ethernet	One onboard gigabit ethernet, Intel I219LM, supports Wake-on-LAN
HD Audio	Realtek ALC662 codec
TPM	Standard, TCG 2.0-compliant
Front ports	Two USB 3.0, microphone (3.5mm), headphone (3.5mm)
Rear ports	1 VGA and 2 DisplayPort (for Intel HD Graphics models only), two USB 2.0, four USB 3.0, one serial (9-pin), one ethernet (RJ-45), three analog audio ports (line-in, line-out, mic-in)
Mechanical	<ul> <li>Raven black color; metal case</li> <li>6.89"W x 16.77"D x 14.8"H</li> <li>175mm W x 426mm D x 376mm H</li> <li>28.66 lb (13kg) max configuration</li> <li>25-liter</li> </ul>
Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ ENERGY STAR 6.1 qualified
Limited warranty	1 or 3-year limited onsite service with 9x5/NBD. Some parts are Customer Replaceable Units.
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/



#### Drive Bays and PCIe Slots

2	Bay 1 and	5.25", support one of the following: HH optical/flex module/9mm optical+3.5" HDD bay/ 3.5" HDD bay/Front Access Storage Enclosure (FASE) Note:  1. Flex module supports one or more of the following: 9mm optical/ 29-in-1 reader/front IEEE 1394/front eSATA. 2. Up to one flex module/FASE per system.
3	Bay 3	Optional 9-in-1 single slot reader
	Bay 4	Standard 3.5" HDD bay
	Bay 5	Standard 3.5" HDD bay
	6 -Slots	Four PCle slots (top-down): Slot 1: Half length, full height, PCle 3.0 x16 (near CPU) Slot 2: Half length, full height, PCle 3.0 x1 Slot 3: Half length, full height, PCle 3.0 x16 (x4 elec) Slot 4: Half length, full height, PCle 3.0 x1 Note: 1. Both discrete graphics adapter and M.2 NVMe SSD should be installed on slot 1 or slot 3, the maximum quantity of discrete graphics adapter and M.2 NVMe SSD is 2. 2. When two discrete graphics adapters are used, no other PCle card can be used.







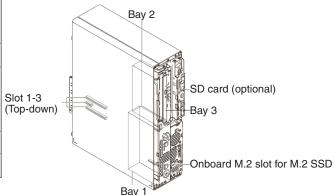




#### **ThinkStation P330 SFF Platform Specifications**

Components	Specification								
Machine Type	MT 30C7 for Transactional model and MT 30C8 for Relationship model. For configuration of all 30C7 EMEA and US models, please visit: http://psref.lenovo.com/Product/ThinkStation/ThinkStation_P330_SFF								
Form factor	3.4L mini-tower								
Dimensions	Height: 343.5 mm (13.5 in). Width: 92.5 mm (3.6 in). Depth: 305.6 mm (12 in)								
Weight	Maximum configuration: 13.23 lb (6.0kg)								
Processor	Up to one Intel Xeon E-2100 family processor, up to 80W, up to 6 cores at 3.7GHz, up to 3.8GHz with 4 cores, up to 12MB cache, DDR4-2666 memory speed. Or up to one 8th Intel Core family processor, i7, i5, or i3, up to 65W, up to 6 cores at 3.2GHz, up to 3.7GHz with 4 cores, up to 12MB cache, up to DDR4-2666 memory speed. Or up to one Intel Pentium G5400 via Special Bids, 58W, 2 cores at 3.7GHz, 4MB cache, DDR4-2400 memory speed								
Chipset	Intel C246 Chipset								
Memory	4 DIMM sockets. DDR4-2666. UDIMM. ECC and non-ECC are supported, but memory types cannot be intermixed								
Memory capacity	Up to 64GB with 4x 16GB, both ECC and non-ECC								
Memory protection	ECC with ECC UDIMM. Core i7 and i5 processors cannot support ECC UDIMM								
	Three PCIe 3.0 slots as following:								
Expansion slots	Slot 1 PCle 3.0 x16, full height, half length, links to CPU								
	Slot 2 PCIe 3.0 x1, full height, full length, links to PCH								
	Slot 3 PCle 3.0 x16 (negotiable link width x4), full height, half length, links to PCH								
Graphics - Processor graphics	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD Graphics 630 in Core i7, i5, or i3 processors, or Intel UHD Graphics 610 in Pentium Gold G5400.  Works along with discrete graphics to support multi-display, enables three display connectors (2x DP, 1x HDMI, HDMI is optional) on rear								
	Up to two PCle 3.0 x16 slots for discrete graphics adapter (Slot 1 and 3). Supports the following graphics adapters:								
Graphics - Discrete graphics card	Quadro P400         256         2GB GDDR5         30W         3x miniDP         2           Quadro P620         512         2GB GDDR5         40W         4x miniDP         2								
	Quadro P1000 640 4GB GDDR5 47W 4x miniDP 2								
Storage controllers	Integrated Intel SATA AHCI/RAID controller in chipset, 6Gbps SATA, RAID 0/1. Four onboard SATA ports for max 4 SATA HDD/SSD/ODD								
	Up to 3 bays with two disk bays and one slim optical bay:								
Internal storage	Bay 1 Primary 3.5" SATA bay								
bay	Bay 2 2.5" SATA bay (Optional)								
	Bay 3 9mm Slim ODD bay								
Disks	3.5" HDD supports up to 4TB each, 6Gbps SATA, 7.2K. 2.5" SSD supports up to 1TB each, 6Gbps SATA								
M.2 slot for SSD	Up to 3x M.2 SSD with one dedicated onboard M.2 slot plus two PCle to M.2 adapters. PCle to M.2 adapter uses slot 1 or 3.  Supports RAID 0/1 with PCH, When used as RAID, M.2 SSD should be installed in onboard M.2 slot and slot 3.  Up to one Optane memory per system; Optane memory must work with a HDD or SSD; Optane memory cannot supported on Pentium G5400 models								
M.2 SSD	M.2 SSD supports up to 1TB each, PCle 3.0 x4, NVMe, Opal. Optane memory supports 32GB, PCle 3.0 x2, NVMe, 3D Xpoint								
M.2 slot for Wi-Fi and Bluetooth	One dedicated onboard M.2 slot for optional Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps								

Components	Specification
Media reader	Optional SD card reader on most models
Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, cable lock, Kensington lock, and pad lock
Intel vPro	Supports Intel vPro on Xeon models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed
Intel AMT	Intel Active Management Technology 12 on Xeon models, Intel Standard Manageability on other models
Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD.  1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs
HD Audio	Intel HD Audio interface with Realtek ALC233 Codec
Front ports	2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack
Rear ports	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP. 1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor
Optional rear ports	2x USB 3.1 Type-C. 1x COM. PS/2. 1x Parallel. 1x Thunderbolt. 1x IEEE1394. 1x HDMI. 1x Audio line-out Notes: HDMI needs Core, Pentium, or -G suffix Xeon processor
Temperature	Operating: 41 °F to 104 °F (10 °C to 35 °C) Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing
Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified
Power supply	Supports one 210W or 260W power supply. 210W is 100V - 240V, 85% PSU, Climate Savers Computing Bronze and 80 PLUS Bronze qualified. 260W is 100V - 240V, 92% PSU, Climate Savers Computing Platinum and 80 PLUS Platinum qualified
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/









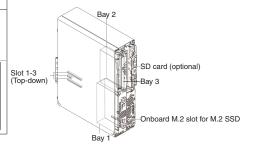




#### ThinkStation P330 SFF Gen 2 (30D1 and 30D2) Platform Specifications

Components	Specification				-						
Form factor	8.4L mini-tower										
Dimensions	Height: 343.5 mm (	12 5 in\ \//id	th. 02	5 mm	/2 6 in	Donth:	205 6 mm	(12 in)			
					1 (3.0 111	, Бериі.	303.0 111111	(12111)			
Weight	Maximum configura										
	• • •	Supports one of the following processor:    Xeon E-2278G   8C/16T/3.4GHz/16MB/80W/DDR4-2666   (260W PSU needed)									
	Xeon E-2278G							U needed)			
	Xeon E-2276G	6C/12T/3.8					i				
	Xeon E-2274G	4C/8T/4.00									
	Xeon E-2246G	6C/12T/3.6					)				
	Xeon E-2244G Xeon E-2236	4C/8T/3.80 6C/12T/3.4									
	Xeon E-2234	4C/8T/3.60					,				
	Xeon E-2226G	6C/6T/3.40									
	Xeon E-2224G	4C/4T/3.50			-						
	Xeon E-2224	4C/4T/3.40									
Processor	Xeon E-2174G	4C/8T/3.8C									
1 10063301	Core i9-9900	8C/16T/3.1	GHz/	16MB/	65W/DE	R4-2666	5				
	Core i7-9700	8C/8T/3.00	3Hz/12	2MB/6	5W/DDF	R4-2666					
	Core i7-8700	6C/12T/3.2	GHz/	12MB/	65W/DE	R4-2666	3				
	Core i5-9600	6C/6T/3.10									
	Core i5-9500	6C/6T/3.00									
	Core i5-9400	6C/6T/2.90									
	Core i5-8500	6C/6T/3.00									
	Core i3-9300	4C/4T/3.70									
	Core i3-9100 Core i3-8300	4C/4T/3.60 4C/4T/3.70									
	Core i3-8100	4C/4T/3.7C									
	Pentium Gold G5620										
Chipset	Intel C246 Chipset	20/+1/+.00	AI 12/ TI	VID/OT	VV/DDIT	7 2 700	-				
Memory Sockets	4 DIMM sockets with	2 channels									
,	8GB/16GB DDR4-26		CC or								
Memory Types	4GB/8GB/16GB/32G				n-ECC						
Memory Capacity	64GB with 4 x 16GB	for UDIMM E	CC or	128G	B with 4	x 32GB	UDIMM noi	n-ECC			
Memory Protection	ECC on models with	UDIMM ECC	mem	eory							
,	Three PCIe 3.0 slot	s as followin	g:								
	Slot 1 PCle 3.0 x16, low profile, links to CPU										
Expansion slots											
	Slot 2 PCle 3.0 x1, low profile, links to PCH										
	Slot 3 PCIe 3.0 x16 (negotiable link width x4), low profile, links to PCH										
	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD										
Processor graphics	Graphics 630 in Core i5 or i3 processors.										
	display connectors	Works along with discrete graphics to support multi-display, enables three rear display connectors (2 DP standard, 1 DP or HDMI optional)									
	Up to two PCIe 3.0							3) Supports			
	the following graphi	cs adapters:	uiscit	cic gi	aprilos c	ισαρισι (	Olot I alla	o). Oupports			
Discrete graphics	3 0 1	ores Memo	rv I	Power	Con	nectors	Max qty				
card		56 2GB GDI		30W		niniDP	2				
		12 2GB GDI		40W		niniDP	2				
		40 4GB GDI		47W		niniDP	2				
	Storage Controller			Inter	rface	Disl	к Туре	RAID			
Storage Controller	Onboard Intel RST S	SATA RAID	Std	SATA	6Gb/s	HDD	or SSD	0/1			
Storage Controller	Onboard Intel RST F				NVMe		Cle SSD	0/1			
	Notes: M.2 SSD support is	s limited, please	see Sto	rage ba	y section	for more inf	ormation				
		nterface RPI	_		Offerina			v Otv			
		TA 6Gb/s 7.2			3/2TB/41	TB.	ivia	x Qty 1			
		TA 6Gb/s 7.2			OGB FIP			2			
Storage Support		TA 6Gb/s			3/512GE			2			
		le NVMe			32GB		1, used wi	th HDD/SSD			
		le NVMe	1	256GE	3/512GE	/1TB		3			

	Components	Specification					
		Up to 3 bays with two disk bays and one slim optical bay:					
		Bay 1 Primary 3.5" SATA bay					
	Storage bay	Bay 2 2.5" SATA bay (Optional)					
		Bay 3 9mm Slim ODD bay					
}		M.2 3x M.2 SSD (1 onboard. 2 via PCIe to M.2 adapter) Notes: Support 1x M.2 SSD at present, 3x M.2 SSD support is pending availability					
	M.2 slot for Wi-Fi and Bluetooth	One dedicated onboard M.2 slot for optional Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps					
	Media reader	Optional SD card reader on most models					
	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available					
	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, cable lock, Kensington lock, and pad lock					
	Intel vPro	Supports Intel vPro on Xeon models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed					
	Intel AMT	Intel Active Management Technology 12 on Xeon models, Intel Standard Manageability on other models					
	Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD. 1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs					
	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec					
	Front ports	2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack					
	Rear ports	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP. 1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor					
]	Optional rear ports	Supports the following via cable: 1x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0 Supports the following via PCle adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.0. 1x Thunderbolt. Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor					
	Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C)  Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)  Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)					
	Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)					
-	Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing					
	Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified					
3	Power supply	Supports one 210W or 260W power supply. 210W is 100V - 240V, 85% PSU, Climate Savers Computing Bronze and 80 PLUS Bronze qualified. 260W is 100V - 240V, 92% PSU, Climate Savers Computing Platinum and 80 PLUS Platinum qualified					
	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/					
	Note:						















#### ThinkStation P330 Tiny Platform Specifications - I of II

Components	Specification							Components	Specification				
	Out the at the anatom of the constitution of the state of				ESA 75mm and 1	00mm.	Chipset	Intel Q370 Chipset					
Form factor	Optional floor stand for vertical orientation. Optional tool-less chassis open. Optional dust filter Height: 179 mm (7.0 in). Width: 36.5 mm (1.437 in). Depth: 182.9 mm (7.2 in)	Memory	2 DIMM sockets. DDR4-2666. SoDIMM. Non-ECC										
	Optional tool-less chassis open. Optional dust filter Height: 179 mm (7.0 in). Width: 36.5 mm (1.437 in). Depth: 182.9 mm (7.2 in)			One PCIe slot via specific riser card:									
Dimensions	Height: 179 mn	า (7.0	in). Width	: 36.5 mm	(1.437	in). Depth: 182.9 r	nm (7.2 in)	Expansion slots	PCIe 3.0 x16 (negotiable link width x8) and low profile for discrete graphics card:				
Weight	Maximum confi			b (1.4kg)					PCIe 3.0 x4 and low profile for i350-T4 adapter and quad COM ports adapter				
Supported TIO	Tiny-in-One 23 (MT: 10DQ). Tiny-in-One 22 (MT: 10LK). Tiny-in-One 24 (MT: 10LL).							Graphics	65W or 62W processor models supports processor graphics only. 35W processor models come with processor graphics plus a discrete graphic adapter				
monitors								Graphics - Processo graphics	r Integrated Intel UHD Graphics 630. Works along with discrete graphics to				
	Tiny-in-One24	n-One24 Gen3 (MT: 10QY).							support multi-display  One of the following discrete graphics cards on 35W processor models:				
	Tiny-in-One24							Ohim Diameter	Adapter Cores Memory Pow- Connectors				
Recommended monitors	Lenovo recommends ThinkVision P series monitors for best display performa and productivity		y performance	Graphics - Discrete graphics card	er								
	Supports one of the following:			Quadro P620 512 2GB GDDR5 40W 4x miniDP									
	Processor	Coros	Threads	Base	Cache	TDD Memory	Processor		Quadro P1000   640   4GB GDDR5   47W   4x miniDP   Integrated Intel SATA AHCI controller in chipset, 6Gbps SATA, one onboard				
	Number		illeaus	Frequency		Types	Graphics Intel UHD	Storage controllers	SATA port for 2.5" HDD				
	Core i9-9900T	8	16	2.1GHz	16MB	35WDDR4-2666	Graphics 630	Internal storage bay	Up to one 2.5" HDD				
	Core i7-9700T	8	8	2.0GHz	12MB	35WDDR4-2666	Intel UHD Graphics 630	Disks	2.5" HDD supports up to 1TB, 6Gbps SATA, 7.2K or 5.4K				
	Core i5-9600T	6	6	2.3GHz	OMB	35WDDR4-2666	Intel UHD	M.2 slot for SSD	Two onboard M.2 slots for M.2 SSD, one for M.2 2280 SSD, one for M.2 2280 or 2242 SSD				
		-	-				Graphics 630 Intel UHD	M.2 SSD	M.2 2280 SSD supports up to 1TB each, PCle 3.0 x4, NVMe, optional Opal.				
	Core i5-9600	6	6	3.1GHz	9MB	65WDDR4-2666	Graphics 630	IVI.Z GOD	M.2 2242 SSD supports up to 128GB, PCle 3.0 x2, NVMe				
	Core i5-9500T	6	6	2.2GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	Optane memory	Up to one 16GB Optane memory per system. Optane memory must work with a 2.5" HDD				
	Core i5-9500	6	6	3.0GHz	9MB	65W DDR4-2666	Intel UHD Graphics 630		One dedicated M.2 2230 slot for optional Wi-Fi card, supports one of the following:				
	Core i5-9400T	6	6	1.8GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	M.2 slot for Wi-Fi and Bluetooth	Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps.				
	Core i5-9400	6	6	2.9GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630	and bluetooth	Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps.				
	Core i3-9320	4	4	3.7GHz	8MB	62WDDR4-2400	Intel UHD Graphics 630	Wi-Fi antenna	Note: Wi-Fi card, or specific functions of Wi-Fi- card may not be supported in some countries  Optional Tiny 2.4GHz/5GHz SMA antenna kit				
	Core i3-9300T	4	4	3.2GHz	8MB	35WDDR4-2400	Intel UHD Graphics 630	Optical	Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW. VESA mount is required				
	Core i3-9300	4	4	3.7GHz	8MB	62WDDR4-2400	Intel UHD	Media reader	None. Using USB adapter				
Processor	Core i3-9100T	4	4	3.1GHz	6MB	35WDDR4-2400	Graphics 630 Intel UHD Graphics 630	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional Intel i350-T4 for 4x GbE ports, using PCle slot				
	Core i3-9100	4	4	3.6GHz	6MB	65WDDR4-2400	Intel UHD Graphics 630	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Optional Kensington lock				
	Core i7-8700T	6	12	2.4GHz	12MB	35WDDR4-2666	Intel UHD Graphics 630	Intel vPro	Supports vPro on models with the following processors: Core i7-8700T, Core				
	Core i7-8700	6	12	3.2GHz	12MB	65WDDR4-2666	Intel UHD Graphics 630	Technology	i7-5700, Core i5-8600T, Core i5-8600, Core i5-8500T, Core i5-8500. vPro also requires Wireless-AC 9560 if Wi-Fi is needed				
	Core i5-8600T	6	6	2.3GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	Systems management	Intel Active Management Technology 12 on vPro models, Intel Standard Manageability on other models				
	Core i5-8600	6	6	3.1GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630	Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD.  1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs				
	Core i5-8500T	6	6	2.1GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec				
	Core i5-8500	6	6	3.0GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630	Front standard ports	1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack				
	Core i5-8400T	6	6	1.7GHz	9MB	35WDDR4-2666	Intel UHD Graphics 630	Rear standard ports	2x USB 3.1 Gen 2 Type A. 2x USB 3.1 Gen 1 Type-A. 1x RJ-45. 1x DP. 1x HDMI				
	Core i5-8400	6	6	2.8GHz	9MB	65WDDR4-2666	Intel UHD Graphics 630		Up to two optional rear ports via punch out cable.				
	Core i3-8300T	4	4	3.2GHz	8MB	35WDDR4-2400	Intel UHD Graphics 630	Ontional	Port 1 supports one of the following: 1x USB 3.1 Gen 1 Type-C, also supports DP function.				
	Core i3-8300	4	4	3.7GHz	8MB	62WDDR4-2400	Intel UHD Graphics 630	Optional rear ports - via punch out cable	1x COM. 1x VGA. 1x DP.				
	Core i3-8100T	4	4	3.1GHz	6MB	35WDDR4-2400	Intel UHD Graphics 630		1x HDMI. Port 2 supports one COM				
	Core i3-8100	4	4	3.6GHz	6MB	65WDDR4-2400	Intel UHD Graphics 630		I OIL & SUPPOILS OILE OOM				

### ThinkStation P330 Tiny Platform Specifications - II of II

Components	Specification
Optional rear ports - via punch out cable	Up to two optional rear ports via punch out cable. Port 1 supports one of the following: 1x USB 3.1 Gen 1 Type-C, also supports DP function. 1x COM. 1x VGA. 1x DP. 1x HDMI. Port 2 supports one COM
Optional rear ports - via PCIe adapter	Supports one of the following: 4x miniDP with Quadro P620 or P1000, 35W processor models only 2x USB 3.1 Gen 1. 4x RJ-45 GbE with Intel I350-T4. 4x COM Note: Punch out cable and PCIe adapter are mutually exclusive
Temperature	Operating: 50 °F to 95 °F (10 °C to 35 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 20%~80%, non-condensing Storage (with package): 20%~90%, non-condensing
MIL-SPEC	Certified
Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified
Power supply	Supports one 135W power adaper, 100V - 240V, 88% PSU
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/









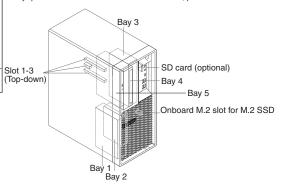




#### **ThinkStation P330 Tower Platform Specifications**

Components	Specification								
Machine Type	MT 30C5 for Transactional model and MT 30C6 for Relationship model. For configuration of all 30C5 EMEA and US models, please visit: http://psref.lenovo.com/Product/ThinkStation/ThinkStation_P330_Tower								
Form factor	18L Tower								
Dimensions	Height: 376 mm (14.	8 in). \	Nidth: 165 mr	n (6.5 i	n). Depth: 328 mm (12.9 in)				
Weight	Maximum configurat				, , ,				
Processor	Up to one Intel Xeor 12MB cache, up to I Or up to one 8th Inte at 3.7GHz, up to 12N	Jp to one Intel Xeon E family processor, up to 95W, up to 6 cores at 3.8GHz, up to 12MB cache, up to DDR4-2666 memory speed.  Dr up to one 8th Intel Core family processor, i7, i5, or i3, up to 95W, up to 6 cores at 3.7GHz, up to 12MB cache, up to DDR4-2666 memory speed.  Dr up to one Intel Pentium Gold G5400 via Special Bids, 54W, 2 cores at 3.7GHz,							
Chipset	Intel C246 Chipset	. 100 11	iomory opece						
Memory		R4-26	66. UDIMM. Entermixed	CC ar	d non-ECC are supported, b	out			
Memory capacity	Up to 64GB with 4x			d non-	ECC				
Memory protection					ors cannot support ECC UD	IMM			
	Three PCIe 3.0 slots								
Evanacion alata	Slot 1 PCIe 3.0 x16,	full he	eight, half leng	ıth, link	s to CPU				
Expansion slots	Slot 2 PCle 3.0 x1, f	ull hei	ght, full length	, links	to PCH				
	Slot 3 PCIe 3.0 x16	(nego	iable link widt	h x4),	ull height, half length, links t	o PCH			
Graphics - Processor graphics	Gold G5400. Works along with dis connectors (2x DP, 1	Works along with discrete graphics to support multi-display, enables three display connectors (2x DP, 1x HDMI. HDMI is optional) on rear							
	Up to two PCIe 3.0 x16 slots for discrete graphics card (Slot 1 and 3). Supports the following graphics adapters:								
	Adapter Quadro P400	Cores 256		Power 30W	Connectors 3x miniDP	Max qty 2			
Graphics - Discrete	Quadro P620	512	2GB GDDR5 2GB GDDR5	40W	4x miniDP	2			
graphics card	Quadro P1000	640	4GB GDDR5	47W	4x miniDP	2			
	Quadro P2000		5GB GDDR5	75W	4x DP	2			
	Quadro P4000		8GB GDDR5		4x DP	1			
Storage controllers	Notes: Quadro P4000 and Integrated Intel SATA Four onboard SATA	AHC	I/RAID contro	ller in d	chipset, 6Gbps SATA, RAID (	0/1/10/5			
	Up to five bays with four disk bays plus one slim optical bay, supports up to 3x 3.5" HDD plus 1x 2.5" SSD, or 4x 2.5" SSD								
	Bay 1 Primary disk	nav 3	5" or 2.5"						
				e whe	n 2nd Quadro P2000 is used				
	Bay 3 Secondary di								
Internal storage	Bay 4 5.25" Flex bar			e follo	wina.				
bay	'				hunderbolt/IEEE1394				
,	<ul> <li>3rd disk bay</li> </ul>	, 3.5"		able, v	ria Front Access Storage End	closure,			
			or 2.5",via 5.2						
					closure, also occupies slot 1	or 3			
	Bay 5 9mm Slim OE				•				
Disks	3.5" HDD supports u 2.5" SSD supports u	ip to 4	TB each, 6Gb						

Components	Specification
M.2 slot for SSD	Up to 3x M.2 SSD with one dedicated onboard M.2 slot plus two PCle to M.2 adapters. PCle to M.2 adapter uses slot 1 or 3.  Supports RAID 0/1 with PCH, When used as RAID, M.2 SSD should be installed in onboard M.2 slot and slot 3.  Up to one Optane memory per system; Optane memory must work with a HDD or SSD; Optane memory cannot supported on Pentium G5400 models
M.2 SSD	M.2 SSD supports up to 1TB each, PCIe 3.0 x4, NVMe, Opal. Optane memory supports 32GB, PCIe 3.0 x2, NVMe, 3D Xpoint
M.2 slot for Wi-Fi and Bluetooth	One dedicated onboard M.2 slot for optional Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps
Media reader	Optional SD card reader on most models
Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Optional chassis intrusion switch, cable lock, Kensington lock, and pad lock
Intel vPro	Supports Intel vPro on Xeon models. vPro also requires Wireless-AC 9560 if Wi-Fi is needed
Intel AMT	Intel Active Management Technology 12 on Xeon models, Intel Standard Manageability on other models
Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD.  1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs
HD Audio	Intel HD Audio interface with Realtek ALC233 Codec
Front ports	2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x Combo jack
Rear ports	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP. 1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor
Optional front ports (on flex module)	2x Thunderbolt (USB Type-C), one of two ports supports video-out. 1x eSATA. 1x IEEE1394
Optional rear ports	2x USB 3.1 Type-C. 1x COM. PS/2. 1x Parallel. 1x Thunderbolt. 1x IEEE1394. 1x HDMI.  Notes: HDMI needs Core, Pentium, or -G suffix Xeon processor
Temperature	Operating: 41 °F to 104 °F (10 °C to 35 °C) Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing
Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified
Power supply	Supports one 250W or 400W power supply, 100V - 240V, 92% PSU. Climate Savers Computing Platinum and 80 PLUS Platinum qualified. 400W PSU supports one 6+2-pin aux power connector.
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/
Note:	















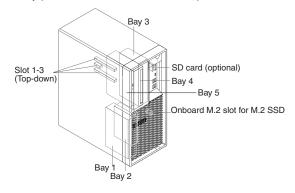
#### ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - I of II

Note: 2x Quadro P2000, Quadro P4000, Quadro P5000, or Quadro RTX 4000 needs 400W PSU

Components	Specification			Components	Specification	1					
Form factor	18L Tower				Storage Contr	oller	Type	Interface	Disk Type	RAID	
Dimensions	Height: 376 mm (14.8	8 in). Width: 165 mm (6.5 in). Depth: 32	8 mm (12.9 in)	Storage Controller  Storage Support  Storage Support  Storage Bays  Storage Bays  Storage Bays  Storage Bays  Media reader Network interfaces WLAN + Bluetooth Security features Controller  Intel vPro Intel AMT Ir Base warranty HD Audio Front ports The Population of the ports Optional front ports (on flex module)  Temperature  Note The Population of the ports Optional rear ports  Temperature  Storage Support  Storage Support  A  B  B  B  M  Control  Storage Bays  B  B  B  M  Control  Storage Bays  B  B  B  M  Control  Storage Bays  B  B  B  B  Control  Storage Bays  B  B  B  B  Control  Storage Bays  B  B  B  B  Control  Storage Bays  B  B  B  B  B  Control  Storage Bays  B  B  B  Control  Storage Bays  B  B  B  Control  Storage Bays  B  B  B  Control  Storage Bays  B  B  B  Control  Storage Bays  B  B  B  Control  Storage Bays  B  B  B  B  Control  Storage Bays  B  B  B  B  Control  Storage Bays  B  B  B  B  B  Control  Storage Bays  B  B  B  B  B  Control  Storage Bays  B  B  B  B  B  B  Control  Storage Bays  B  B  B  B  B  B  B  B  B  B  B  B  B		RST SATA RAID			HDD or SSD	0/1/10/5	
Weight	Maximum configurati	, , , , ,	- ( - /	1	Onboard Intel	RST PCIe RAID	Std	PCIe NVMe	M.2 PCle SSD	0/1	
rroigin		following processors:			Disk Type	Interface F	RPM	Offering	HDD or SSD 0/1/10 M.2 PCIe SSD 0/1 M.2 PCIe SSD 0/1    Max Qty	Qtv	
	Xeon E-2286G		400W DCI I recoded			D SATA 6Gb/s 7		1TB/2TB/41	В 3		
	Xeon E-2278G	6C/12T/4.0GHz/12MB/95W/DDR4-2666 8C/16T/3.4GHz/16MB/80W/DDR4-2666				D SATA 6Gb/s 7	7.2K	500GB FIP			
	Xeon E-2276G	6C/12T/3.8GHz/12MB/80W/DDR4-2666		Storage Support	2.5" SATA SSI	D SATA 6Gb/s		256GB/512GB			
	Xeon E-2274G	4C/8T/4.0GHz/8MB/83W/DDR4-2666			Optane Memo	ry PCIe NVMe		32GB			
	Xeon E-2246G	6C/12T/3.6GHz/12MB/80W/DDR4-2666			M 2 PCIe SSE	PCIe NVMe		256GB/512GB			
	Xeon E-2244G	4C/8T/3.8GHz/8MB/71W/DDR4-2666					h a				
	Xeon E-2236	6C/12T/3.4GHz/12MB/80W/DDR4-2666			3 5" HDD nlue	s with four disk i s 1x 2.5" SSD, o	bays   r 4 v 2	pius one siim d 5 5" HDD/SSD	pticai bay, support	is up to 3x	
	Xeon E-2234	4C/8T/3.6GHz/8MB/71W/DDR4-2666									
	Xeon E-2226G Xeon E-2224G	6C/6T/3.4GHz/12MB/80W/DDR4-2666			,	y disk bay, 3.5"					
Processor	Xeon E-2224	4C/4T/3.5GHz/8MB/71W/DDR4-2666 4C/4T/3.4GHz/8MB/71W/DDR4-2666						nd Quadro P2000	is used		
	Xeon E-2186G	6C/12T/3.8GHz/12MB/95W/DDR4-2666	400W PSU needed			dary disk bay, 3.					
	Xeon E-2174G	4C/8T/3.8GHz/8MB/71W/DDR4-2666	Storage Bays		lex bay, support						
	Pentium Gold G5620	2C/4T/4.0GHz/4MB/54W/DDR4-2400									
	Core i9-9900	8C/16T/3.1GHz/16MB/65W/DDR4-2666		• 3rd d	isk bay, 3.5" or 2	2.5", r	emovable, via	Front Access Store	age		
	Core i7-9700K										
	Core i7-9700	8C/8T/3.0GHz/12MB/65W/DDR4-2666				isk bay, 3.5" or 2	2.5", ∖	via 5.25" to 3.5	" HDD Kit		
	Core i7-8700 Core i5-9600K	6C/12T/3.2GHz/12MB/65W/DDR4-2666 6C/6T/3.7GHz/9MB/95W/DDR4-2666	400W PSU needed			Bay 5 9mm Slim ODD bay					
	Core i5-9600	6C/6T/3.1GHz/9MB/65W/DDR4-2666	HOOVY I SO Heeded			SSD (1 onboard.			apter)		
	Core i5-9500	6C/6T/3.0GHz/9MB/65W/DDR4-2666			Optional SD card reader on most models						
	Core i5-9400	6C/6T/2.9GHz/9MB/65W/DDR4-2666			One onboard	GbE port via int	egrat	ed gigabit ethe	rnet Intel i219LM,	supports	
	Core i5-8500	6C/6T/3.0GHz/9MB/65W/DDR4-2666		interfaces							
	Core i3-9300	4C/4T/3.7GHz/8MB/62W/DDR4-2400		WLAN + Bluetooth							
	Core i3-9100	4C/4T/3.6GHz/6MB/65W/DDR4-2400									
	Core i3-8300 Core i3-8100	4C/4T/3.7GHz/8MB/62W/DDR4-2400 4C/4T/3.6GHz/6MB/65W/DDR4-2400		Security features							
Chipset	Intel C246 Chipset	4C/41/3.6GHZ/6WB/63W/DDR4-2400		-	pad lock	olo il ili dololi ovi	1011, 0	roadit, dabid it	on, nononigion lo	ort, arra	
Memory Sockets	4 DIMM sockets with 2	2 channels		Intel vPro		l vPro on Xeon i					
	8GB/16GB DDR4-266			- Interview	vPro also requires Wireless-AC 9560 if Wi-Fi is needed						
Memory Types	4GB/8GB/16GB/32GE	B DDR4-2666 UDIMM non-ECC		Intel AMT		anagement Tech			models,		
Memory Capacity		or UDIMM ECC or 128GB with 4 x 32GB	UDIMM non-ECC						ce with 9x5/NRD		
Memory Protection	ECC on models with U	,		Base warranty	1 or 3-year lin	nited onsite serv	ice w	ith 9x5/NBD in	EMEA or other GI	EOs	
	Three PCIe 3.0 slots			HD Audio	Intel HD Audio	o interface with F	Realte	ek ALC233 Cod	dec		
Expansion slots		full height, half length, links to CPU ull height, full length, links to PCH		Front ports				3.1 Gen 2 Type	e A. 1x USB 3.1 Ge	en 1	
		uii neigni, iuii iengin, iinks to PCH (negotiable link width x4), full height, ha	olf longth links to DCH			c-in. 1x Combo en 1 Type A 2x		2.0 Type-A. 1x	BJ-45. 1x COM. 2	x DP.	
		, , , , , , , , , , , , , , , , , , , ,		Rear ports	1x Audio line-	out			110 10. 17 00111. 2	х Б	
		Graphics P630 in -G suffix Xeon proce i7, i5, i3, or Pentium processors.	essors, or intel UHD	0 11 11	Notes: DP needs (	Core, Pentium, or -G	suffix X	eon processor			
Processor graphics		crete graphics to support multi-display,	enables three rear				, one	of two ports su	pports video-out.		
	display connectors (2	2 DP standard, 1 DP or HDMI optional)		module)	1x eSATA. 1x	IEEE1394		·			
	Up to two PCIe 3.0 x	16 slots for discrete graphics card (Slo	t 1 and 3). Supports the	- Intodutor	Supports the	following via cab	ole:				
	following graphics ad	lapters:	, , ,	Ontional rear	1x COM. 1x P	arallel. Žx PS/2.	1x D		2x USB 2.0		
	Graphics	Memory Power Connector	Max Qty		Supports the	following via PC	le ada	apter:			
		2GB GDDR5 30W 3x miniDP	2		4x COM. 2x U	ISB 3.1 Type-C. Il needs Core, Pentiu	2x US	SB 3.0. 1x Thur	iderbolt.		
D:		2GB GDDR5 40W 4x miniDP	2			°F to 95 °F (10			3001		
Discrete Graphics Offering		AGB GDDR5 50W 4x miniDP	2	Temperature	Non operating	(no package):	14 ° F	to 140°F (-10	°C to 60 °C)		
J.ioinig		GGB GDDR5         75W         4x DP           GB GDDR5X         75W         4x DP	2		Non operating	(with package)	: -40 °	°F to 140 °F (-	40 °C to 60 °C)		
		3GB GDDR5 105W 4x DP	1								
		GGB GDDR5X 180W DVI-D DL + 4x DP	1								
	Quadro RTX 4000 8	GB GDDR6 160W 3x DP, 1x VirtualLink	1								

#### ThinkStation P330 Tower Gen 2 (30CY and 30D0) Platform Specifications - II of II

Components	Specification
Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)
Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing
Environmental certification	RoHS-compliant. GREENGUARD. EPEAT Silver rating and ENERGY STAR 7 qualified
Power supply	Supports one 250W or 400W power supply, 100V - 240V, 92% PSU. Climate Savers Computing Platinum and 80 PLUS Platinum qualified. 400W PSU supports one 6+2-pin aux power connector.
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/





#### ThinkStation P520 Platform Specifications

IninkStation		rılı əp	ecilic	ations	)				
	33L Tower								
	165mm/6.5" W x				n/17.3"	H (with fe	eet)		
Weight	Maximum config			<del>,                                    </del>					
	Processor	# of	# of	Bas		Cache	Т	DP	Memory
	Xeon W-2195	Cores 18	Threads	Freque 2.3G		24.75ME		10W	Types DDR4-2666
	Xeon W-2175	14	<u>36</u> 28	2.5G		19MB		40W	DDR4-2666
	Xeon W-2175	10	20	3.3G		13.75ME	_	40W	DDR4-2666
Dragger Cumpert	Xeon W-2145	8	16	3.7G		11MB			DDR4-2666
Processor Support	Xeon W-2135	6	12	3.7G		8.25MB		40W	DDR4-2666
	Xeon W-2133	6	12	3.6G		8.25MB		40W	DDR4-2666
	Xeon W-2125	4	8	4.0G		8.25MB			DDR4-2666
	Xeon W-2123 Xeon W-2104	4	<u>8</u> 4	3.6G 3.2G		8.25MB 8.25MB		20W   20W	DDR4-2666 DDR4-2400
	Xeon W-2102	4	4	2.9G		8.25MB		20W	DDR4-2400
Processor Sockets				2.00	112	O.ZOIVID	1 12		DDTH ZHOO
	Intel C422 Chips	eat							
	8 DIMM sockets		nannale						
	DDR4-2666 RDI		larificis						
	256GB with 8 x 3		OIMMs						
Memory Protection									
		DCI^ 3 U	vQ full l	ooiaht fu	II lonati	n, 25W, o	non o	ndod	
						th, 75W,			1
						th, 25W, c			1
						th, 75W,			,
	, ,	PCI, full h	,	0 /		iii, 75vv,	uoubi	e-wiati	'
						th, 25W, o	non e	habne	
									/ M Ob-
	Graphics	IVI	emory	Pow-	Co	nnector	١	SLI / N' link	V- Max Qty
	NVS 810	4G	B DDR3	er 68W	8v	mini DP		IIIIK	2
	Quadro P400		GDDR			miniDP			2
	Quadro P600		GDDR			miniDP			2
	Quadro P620		GDDR:			miniDP			2
	Quadro P1000		GDDR:			<u>miniDP</u>			2
Discrete Graphics	Quadro P2000		GDDR:			4xDP			2
Offering	Quadro P4000 Quadro P5000		GDDR:	5 120W 5X 180W		<u>4xDP</u> ) DL+4xD	D	SLI	2 2
	Quadro P6000					DL+4xD		SLI	1
	Quadro RTX 40		GDDR			1xVirtualL			2
	Quadro RTX 50					1xVirtualL			1
	Quadro RTX 60	00 24GI	3 GDDF	R6 295W	4xDP,	1xVirtualL	ink		1
	Quadro RTX 80					1xVirtualL			1
	Quadro GP100		B HBM2			D DL, 4x	DP	NVLin	k 2
	Quadro GV100		B HBM			4xDP			
	Storage Control			Interface		0/1/10/	-		Cache
	Onboard Intel R	Sie Sia		ATA 6Gb 12Gb/s,					
	9440-8i PCle	Opt	SAS	6Gb/s	SAIA	0/1/10/	5		
Storage Controller	0400 40' DOL-	01	SAS	12Gb/s,	SATA	0/4/40/5	10 41	20.00	D4 0 0
	9460-16i PCIe	Opt		6Gb/s		0/1/10/5		ab DD	R4, SuperCap
	NVMe Basic	Opt	P	Cle NVN	1e	0/1/10			
	NVMe Premium	Opt		Cle NVN		0/1/10/			
	NVMe for Intel S	SSD  Opt	P	Cle NVN	1e	0/1/10/	5		
	Disk Type	Interface	RPM	(	Offering			Ma	ax Qty
	3.5" SATA	SATA	7.2K	1TB/2	TB/4TI	3/6TB			6
	HDD	6Gb/s	7.12.1	, _	,	2,0.2			
	2.5" SATA HDD	SATA 6Gb/s	7.2K	500GE	/500GI	B FIPS			6
Storage Support	2.5" SATA	SATA							
	SSD	6Gb/s		256GB/5	12GB/	1TB/2TB			6
		PCle		0500D/5	1000/	4 TD /0 TD			9
	M 2 PCIA CCD			'J ムム( - ロ / L					
	M.2 PCIe SSD	NVMe		256GB/5	12GB/	118/218			
	M.2 PCIe SSD PCIe AIC SSD				12GB/ 480GB		2		en quad M.2 ter used)

	Bay	N	Maximum Drives Qty							
	Type	Ov M 2 SSD (2 ophoard, 7	via PCIa to M.2 adaptor\							
	IVI.2 SIOL	9x M.2 SSD (2 onboard, 7 2 flex bays. Supports the fo								
		<ul> <li>2x half-height optical dri</li> </ul>								
	2x 5.25" 9.0mm optical drives									
			drive + 2x 3.5"/2.5" SATA SSD/HDD							
Storage Bays	Flav. Dav.	• 1x 3.5"/2.5" SATA SSD/I	HDD with Front Access Storage Enclosure							
	Flex Bay 1x flex module for the following options:									
	Tray 1: 9.0mm optical Tray 2: 15-in-1 USB 3.0 reader, 2x Thunderbolt, or 4-digit diagnostic									
		display	roador, Ex Triandorbott, or 1 digit diagnostic							
		Port 1 and 2: Front USB								
			nt Removable Drive Enclosures							
	Disk bay	ontional)	with 4 disk bays (2 bays standard, 2 bays							
]			5" HDD/6x 2.5" SATA disks/4x 2.5" SAS HDD +	$\dashv$						
Man Otamana		AIC SSD.	TIDD/0x 2.3 OATA dishortx 2.3 OAOTIDD +							
Max Storage		36TB using 6x 3.5" HDD								
]	All SSD:	30.48TB using 6x 2.5" SAT	A SSD, 9x M.2 SSD, and 1x PCIe AIC SSD							
		one of the following:								
Power supply	One fixe	ed 690W, autosensing, 92%	6, 80 PLUS Platinum qualified							
			6, 80 PLUS Platinum qualified odels. Optional UHS-II 15-in-1 USB 3.0 reader	on						
Media reader	flex modu		odeis. Optional Ons-II 15-III-1 03B 3.0 leader	OH						
Network		-	l i219LM), supports Wake-on-LAN. Optional PC	Cle						
interfaces		or wireless adapters are av								
WLAN +		Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to								
Bluetooth	867Mbps									
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, switch									
Intel vPro	to 1.2 via UEFI setting. Optional access panel lock, Kensington lock, and pad lock Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed									
Intel AMT	Intel Active Management Technology 11									
IIICI AWII	Front panel warning LED. ThinkStation Diagnostics for Windows. Photo-audio transfer									
Diagnostic	with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic									
		n flex module	, , ,							
		ar limited onsite service wit	th 9x5/NBD							
HD Audio		ALC662 codec								
			ging), 1x combo audio/microphone jack (3.5mm							
	2x USB 2 2x PS/2	2.0, 4x USB 3.0, 1x RJ-45,	3x analog audio ports (line-in, line-out, mic-in),							
	Front:			$\dashv$						
		nderbolt ports (USB Type-C	c) on flex module, one of two ports							
		ts video-out	, ,							
	<ul> <li>1x eSA</li> </ul>	TA on flex module								
Optional ports	• 1X USE	3 Type-C on flex module, U	SB 3.1 gen 1							
	• 1x CON	M port								
			apter, USB 3.1 gen 2. One 15W, one 5W							
	Internal:									
		nal USB 3.0 port		_						
		e - operating	50 °F to 95 °F (10 °C to 35 °C)	41						
		e - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)	$\dashv$						
Environmental	_	e - storage (with package)	-40 °F to 140 °F (-40 °C to 60 °C)	+						
specification	Altitude - op Humidity - o		(Unpressurized): -50ft-10000ft (-15.2m-3048m)	+						
		storage (with package)	10%~80%, non-condensing	$\dashv$						
<u> </u>			, ,	ᆜ						
Environmental Certifications	RoHS-co qualified	ompliant. GREENGUARD. E on model 30BE0008US ar	EPEAT Silver rating. ENERGY STAR 6.1 and 30BE0009US							
ISV certifications	Please v	isit www.thinkworkstations.	com/isv-certifications/							
Note:	any factors	natual data transfer and d martings	d on this nage may be lower than theoretical anead							
2. To support the ma	aximum expa	andability, 900W power supply may b	d on this page may be lower than theoretical speed. De needed.							
3. Any questions or	advice on Th	ninkStation PSREF, please contact 1	hinkStation PSREF developer Lenovo, September 201	9						
				-						





#### **ThinkStation P520c Platform Specifications**

Form factor	25L Tower									_][.		
Dimensions	175mm/6.89" W	/ x 426n	nm/16.7	" D x 376r	mm/14.8	" H (with	feet)					
Weight	Maximum config	guration	: 31.97 lb	(14.5kg)						_ا		
	Processor	# of	# of	Base		Cache	TE	)P	Memory	F.		
	Xeon W-2195	Cores	Threads		icy	4.75MB	140		Types DR4-2666	1		
	Xeon W-2175	<u>18</u> 14	36 28	2.3GF 2.5GF		<u>4.75МВ</u> 19МВ	140		DR4-2666			
	Xeon W-2175	10	20	3.3GF		3.75MB	140		DR4-2666	i		
	Xeon W-2145	8	16	3.7GF		3.75MB 11MB	140		DR4-2666	Ī		
Processor Support	Xeon W-2135	6	12	3.7GF		3.25MB	140		DR4-2666	E		
	Xeon W-2133	6	12	3.6GF		3.25MB	140		DR4-2666			
	Xeon W-2125	4	8	4.0GH		3.25MB	120		DR4-2666	5		
	Xeon W-2123											
	Xeon W-2104											
	Xeon W-2102	4	4	2.9GF	lz   8	3.25MB	120	)W   DI	DR4-2400	_		
Processor Sockets	1x FCLGA2066	i										
Chipset	Intel C422 Chip	set										
Memory Sockets	4 DIMM sockets	s with 4	channels									
Memory Types	DDR4-2666 RD	MMI										
Memory Capacity	128GB with 4 x	32GB F	RDIMMs									
Memory Protection	ECC									T F		
,	Slot 1 (CPU)	PCIe 3.	0 x16. ful	I height, f	ull lenati	n. 75W.				F		
	Slot 2 (CPU)			height, ful			en ei	nded		II.		
Expansion slots	Slot 3 (CPU)	PCle 3	0 x0, idii 0 x16 ful	l height f	ull lenati	75W	,011 01	laca				
	Slot 3 (CPU) PCIe 3.0 x16, full height, full length, 75W Slot 4 (PCH) PCIe 3.0 x4, full height, half length, 25W, open ended											
	, ,								Maria	-1		
	Graphics		Memory	Power	Col	nnector	;	SLI / NV- link	- Max Qty			
	NVS 810		GB DDR3		8xr	nini DP			1	]   C		
	Quadro P400		B GDDR			<u>miniDP</u>			2	<b>-</b>		
Discrete Graphics	Quadro P600		B GDDR			miniDP_			2	4		
Offering	Quadro P620		B GDDR		<del> </del>	miniDP			2			
	Quadro P1000	4G	<u>B GDDR</u> B GDDR	5 50W 5 75W		<u>miniDP</u> IxDP			2 2			
	Quadro P2000 Quadro P4000		B GDDR			IxDP			2	$\exists \Vdash$		
	Quadro P5000			5X 180W		DL+4xD	Р		1	<del>-</del>		
	Quadro RTX 40					xVirtualL			1	7		
	Storage Contro		Type		nterface			RAID	Cache	TI.		
	Onboard Intel F		Štd		ATA 6Gb		-	0/1/10/5	-	E		
Storage Controller	9440-8i PCle		Opt	SAS 12G				0/1/10/5	-	s		
	NVMe Basic		Opt		Cle NVN			0/1/10	-	1		
	NVMe for Intel	SSD	Opt	P(	Cle NVN	1e	(	0/1/10/5	-			
	Disk Type		Interface	RPM	(	Offering			Max Qty			
	3.5" SATA HDD	S	ATA 6Gb		1TB/2	TB/4TB/	6TB		4	_  E		
Storage Support	2.5" SATA HDD	S	ATA 6Gb	/s 7.2K	500GB	/500GB I	FIPS		4			
	2.5" SATA SSD	S	ATA 6Gb	/s 2	256GB/5	12GB/1T	B/2T	В	4			
	M.2 PCIe SSD	l P	Cle NVM	e 2	256GB/5	12GB/1T	B/2T	В	5	╝╖		
	Bay			Maxim	um Driv	es Otv				1.		
	Type			Wickini	ann Biiv	oo aty				2		
	M.2 slot 5x M.2	2 SSD (2	2 onboard	d, 3 via PC	Cle to M	.2 adapte	er)					
	0 41	bays. Si	ipports th	ne followin	g:	•						
	∥ ≥ nex	2 flex bays. Supports the following:  2x half-height optical drives										
	• 2x h	nalf-heig	nt opticai	arryco	<ul> <li>2x 5.25" 9.0mm optical drives</li> </ul>							
	• 2x h • 2x 5	5.25" 9.0	mm option	al drives		<b></b>						
Store de Doue	• 2x h • 2x 5 • 1x 5	5.25" 9.0 5.25" 9.0	mm option	cal drives cal drive +								
Storage Bays	• 2x f • 2x 5 • 1x 5 • 1x 3	5.25" 9.0 5.25" 9.0 3.5"/2.5"	mm option mm option SATA SS	cal drives cal drive + SD/HDD w	ith Fron	t Access			osure			
Storage Bays	• 2x f • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod	mm option Omm option SATA SS ule for the	cal drives cal drive + SD/HDD w e following	ith Fron	t Access			osure			
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f Tray	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod / 1: 9.0n	mm option omm option SATA SS ule for the omm optica	cal drives cal drive + SD/HDD w e following l	ith Fron poptions	t Access s:	Stora	age Enc				
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f Tray Tray	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod / 1: 9.0n / 2: 15-ir	mm option omm option SATA SS ule for the omm optica	cal drives cal drive + SD/HDD w e following	ith Fron poptions	t Access s:	Stora	age Enc				
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 3 Flex Bay • 1x f Tray Tray displa	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod / 1: 9.0n / 2: 15-ir y	omm option  SATA SS  ule for the optica  notice of the optica  1-1 USB 3	cal drives cal drive + SD/HDD w e following l	vith Frong g options g, 2x Thu	t Access s: nderbolt,	Stora	age Enc				
Storage Bays	• 2x h • 2x 5 • 1x 5 • 1x 5 • 1x 6 • 1x f Tray Tray displa	5.25" 9.0 5.25" 9.0 3.5"/2.5" lex mod 7 1: 9.0n 7 2: 15-ir 9 1 1 and 2 M.2 SSE	mm option mm option SATA SS ule for the mm optica n-1 USB 3 2: Front U ) with 2x	cal drives cal drive + cal dri	vith From g options r, 2x Thu vpe-C or novable	t Access s: nderbolt, eSATA	Stora	age Encl				

	Max Storage	Supports up to 5x M.2 SSD + 4x 3.5" HDD/4x 2.5" SSD/4x 2.5" HDD All HDD: 24TB using 4x 3.5" HDD								
		All SSD: 18TB using 4x 2.5" SATA S								
	Power supply	One fixed 500W, autosensing, 92%, 80 PLUS Platinum qualified								
	Media reader	SD USB 2.0 card reader on most models. Optional UHS-II 15-in-1 USB 3.0 reader on flex module								
	Network interfaces	Integrated one gigabit ethernet (Inte PCIe ethernet or wireless adapters	el i219LM), supports Wake-on-LAN. Optional are available							
	WLAN + Bluetooth	to 867Mbps	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps							
	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, switch to 1.2 via UEFI setting. Optional access panel lock, Kensington lock, and bad lock								
	Intel vPro	Intel vPro technology supported. vP needed	Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is							
	Intel AMT	Intel Active Management Technolog								
	Diagnostic	ThinkStation Diagnostics for Windows. Optional front 4-digit diagnostic display on flex module								
	Base warranty	1 or 3-year limited onsite service with 9x5/NBD								
	HD Audio	Realtek ALC662 codec								
	Front ports	2x USB 3.0, microphone (3.5mm), headphone (3.5mm)								
	Rear ports	2x USB 2.0, 4x USB 3.0, 1x RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2								
		s: C) on flex module, one of two ports								
	Optional ports	supports video-out  1x eSATA on flex module	orts video-out							
	Optional ports	Rear:  1x COM port	0D 0.1 g011 1							
		<ul> <li>2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W Internal:</li> <li>1x internal USB 3.0 port</li> </ul>								
1		Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)							
7		Temperature - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)							
	Environmental	Temperature - storage (with package)	-40 °F to 140 °F (-40 °C to 60 °C)							
	specification	Altitude - operating	(Unpressurized): -50ft-10000ft (-15.2m- 3048m)							
		Humidity - operating	10%~80%, non-condensing							
7		Humidity - storage (with package)	10%~90%, non-condensing							
	Environmental Certifications	RoHS-compliant. GREENGUARD. E qualified on model 30BX0008US ar	EPEAT Silver rating. ENERGY STAR 6.1 and 30BX0009US							
	ISV certifications	· ·								













Slot 1 (CPU2)	PCIe 3.0 x16, full height, full length, 75W
Slot 2 (CPU1)	PCIe 3.0 x16, full height, full length, 75W, double-width
Slot 3 (CPU1)	PCle 3.0 x8, full height, full length, 25W, open ended
Slot 4 (CPU1)	PCIe 3.0 x16, full height, full length, 75W, double-width
Slot 5	PCI, full height, full length, 25W
	PCIe 3.0 x4, full height, half length, 25W, open ended

900W PSU supports two 6+2-pin aux power connectors. 690W PSU supports one 6+2-pin aux power connector.

### ThinkStation P720 Platform Specifications

Form factor	36L Tower								
Dimensions	175mm/6.89" W x 485mm/19.1" D x 446mm/17.6" H (with feet)								
Weight	Maximum configuration: 52.25 lb (23.7kg)								
Processor Sockets	ets 2x FCLGA3647								
Processor Support	Processor Support Up to two 150 W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, Gold, or Platinum								
	Processor	# of Cores	# of Threads	Ba Freq	ase uency	Cache	TDP	Memory Ty	pes
	Xeon Gold 6242	16	32		GHz	22MB	150W	DDR4-293	
	Xeon Gold 6238T	22	44		GHz	30MB	125W	DDR4-293	
	Xeon Gold 6234	8	16		GHz	25MB	130W	DDR4-290 DDR4-290	
	Xeon Gold 6230 Xeon Gold 5222	20 4	40 8		<u>GHz</u> GHz	28MB 17MB	125W 105W	DDR4-290 DDR4-290	
	Xeon Gold 5218	16	32		GHz	22MB	125W	DDR4-290	
	Xeon Gold 5217	8	16		GHz	11MB	115W	DDR4-266	
	Xeon Gold 5215	10	20		GHz	13.75MB	85W	DDR4-266	
	Xeon Silver 4216	16	32		GHz	22MB	100W	DDR4-240	
	Xeon Silver 4215	8	16		GHz	11MB	85W	DDR4-240	
	Xeon Silver 4214	12	24		GHz	17MB	85W	DDR4-240	00
	Xeon Silver 4210	10	20		GHz	14MB	85W	DDR4-240	
	Xeon Silver 4209T	8	16		GHz	11MB	70W	DDR4-240	
Dragger Offering	Xeon Silver 4208	8	16	2.1	GHz	11MB	85W	DDR4-240	
Processor Offering	Xeon Bronze 3204	24	6		GHz	8.25MB	85W	DDR4-213	
	Xeon Platinum 8160T Xeon Gold 6142	16	48 32		GHz GHz	33MB 22MB	150W 150W	DDR4-266 DDR4-266	
	Xeon Gold 6136	12	24			24.75MB	150W	DDR4-266	
	Xeon Gold 6134	8	16			24.75MB	130W	DDR4-266	
	Xeon Gold 6128	6	12		GHz	19.25MB	115W	DDR4-266	
	Xeon Gold 5122	4	8		GHz	16.5MB	105W	DDR4-266	
	Xeon Gold 5120T	14	28		GHz	19.25MB	105W	DDR4-240	
	Xeon Gold 5118	12	24		GHz	16.5MB	105W	DDR4-240	00
	Xeon Gold 5115	10	20		GHz	13.75MB	85W	DDR4-240	
	Xeon Silver 4116	12	24		GHz	16.5MB	85W	DDR4-240	
	Xeon Silver 4114T	10	20		GHz	13.75MB	85W	DDR4-240	
	Xeon Silver 4114	10	20		GHz	13.75MB	85W	DDR4-240	
	Xeon Silver 4112 Xeon Silver 4110	8	8 16		GHz GHz	8.25MB 11MB	85W 85W	DDR4-240 DDR4-240	
	Xeon Silver 4109T	8	16		GHz	11MB	70W	DDR4-240	
	Xeon Silver 4108	8	16		GHz	11MB	85W	DDR4-240	
Chipset	Intel C621 Chipset				<u> </u>				
Memory Sockets	12 DIMM sockets with	12 cha	nnels 6	DIMI	/I sock	ets with 6	channels	ner process	or
Memory Types	DDR4-2666 RDIMM	12 0110		Dilli	0001	oto with o	onamoic	, po. p. 00000	,,,,
Memory Capacity	768GB (DDR4-2933 F	SDIMM)	or 3840	3B (D	DR4-2	666 BDIM	M)		
Memory Protection		(Dilvilvi)	01 00 10	ש) שג	D117 Z	.0001101111	101)		
Wichiory I Totodion		2 O v16	, full heig	aht fu	II long	th 75\M			
	'		•	•	_		منام ما	d+h	
	,					th, 75W, d			
Expansion slots						1, 25W, op			
· .	,			,	_	th, 75W, d	ouble-wid	atn	
			nt, full le						
				nt, nai		h, 25W, op			
	Graphics	Memo	ry P	ow-	Co	nnector	SLI /	Max	
				er			NVlin	k Qty	4
		4GB DE		W88		mini DP		2	-
		GB GD		OW		miniDP	_	3	-
Discrete Graphics		GB GD		5W		miniDP		3	-
Offering		GB GD GB GD		-0W		<u>miniDP</u> miniDP		3	1
		GB GD		50W 75W		4xDP		3	1
		GB GD		20W		4xDP		2	1
			DR5X 18			DL+4xDF	SLI	2	1
			DR5X 25			DL+4xDF		1	]

	Graphics	M	lemo	ry	Pow-	Co	onnecto	r	SLI / NVlink	Max Qty	
	Quadro RTX 4000	8GE	3 GD	DR6	160W3	BxDP,	1xVirtua	alLinl	K	2	
Discrete Graphics	Quadro RTX 5000	) 16GI	B GE	DR6	265W 4	<u>IxDP, </u>	1xVirtua	<u>alLinl</u>	K	1	
Offering	Quadro RTX 6000	) 24GI			295W 4					11	
	Quadro RTX 8000	) 48GI	B GL	DN40	295W 4	IXDP,	1xVirtua	alLini	K .	1	
	Quadro GP100 Quadro GV100				235W	IXDVI	<u>-D DL, 4</u> 4xDP	4XDF	<b>'</b>	1 1	
					250W				0 1		
	Storage Controlle	rllype		Inter	race	l K	AID		Cach	e	
	Onboard Intel RSTe	Std	_		6Gb/s	0/1	/10/5				
Ctavasa Castvallav	9440-8i PCIe	Opt	S	ATA (	2Gb/s, 6Gb/s	0/1	/10/5				
Storage Controller	9460-161 PCIE	Opt	S	ATA (	2Gb/s, 6Gb/s		10/5/6	4GI	B DDR4, 9	SuperCap	
	NVMe Basic	Opt			<u>IVMe</u>		1/10				
	NVMe Premium NVMe for Intel	Opt	Р	Cie i	<u>IVMe</u>	0/1	/10/5				
	SSD	Opt	Р	Cle N	VVMe	0/1	/10/5				
	Disk Type	Interfac	ce F	RPM		Offeri	ng		(Blind co	Qty nnection used)	
	3.5" SATA HDD S	ata 6G	ab/s	7.2K	1TB/	/2TB/4TB/6TB		3	6 (Also supports additional 4x 2.5" SATA		
Storage Support	O EII OATA LIDD O	ATA 00	N- /	7.014	50001	D/E00	0 FID	_		HDD)	
	2.5" SATA HDD S						GB FIP	S		0	
2	2.5" SAS HDD SA 2.5" SATA SSD S			IUK	256GB/	OGB/6		TD		0	
	2.5" PCIe SSD P				23000/	1.5T		ID		2	
	M.2 PCIe SSD P	CIE NV	/Ma		256GB/			TR		9	
	PCIe AIC SSD P	Cle NV	'Me		ZOOGD	480G			2		
	Bay				Maximu			,			
	Type	CD (2	onho	ord	7 via BC	'lo to N	1 2 ada	ntor)			
	M.2 slot 9x M.2 S						vi.∠ aua	ipier,			
	2 flex bays. Supports the following:  2 x half-height optical drives  2 x 5.25" 9.0mm optical drives  1 x 5.25" 9.0mm optical drive + 1x 3.5"/2.5" SATA SSD/HDD  Flox Pour  1 x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure										
	Flex Bay 1x 3.5	modul	e for	the f	ollowing	option	าร:		•		
Ctavana Davia	Tray 1	: 9.0mr	n opt	tical			<b>T</b> la al a				
Storage Bays					) reader B 3.0 Tvi						
					ont Rem				neurae		
										of the fol-	
	lowing co				,	w)	, t. 0	Oup	por 10 0110	00 .0.	
	• 4x 3.5"										
	Disk bay edded)	SATA I	HDD	+ 4x	2.5" SA	TA SS	D/HDD	(Blir	nd connec	tion	
	needed)	CATA	000	/	0 0	-II C A	CLIDD	/DI:			
	needed)		55D/	טטחי	or 8x 2.	5 SA	2 HDD	(BIIII	d connec	lion	
			SSD	+ 2x	3 5"/2 5"	' dieke	(Blind	conn	ection ne	eded)	
	Supports up to 9x										
	PCIe AIC SSD.	IVI.Z S	+ טכ	OX 3	טעח ני.	/ IUX 2	331	(טו /כ	( Z.3 HDL	J + ZX	
Max Storage	All HDD: 36TB usi	ng 6x 3	3.5" H	HDD							
	All SSD: 38.96TB				ATA SSE	D, 9x N	Л.2 SSI	D, an	d 2x PCle	AIC SSD	

#### **ThinkStation P720 Platform Specifications**

	11 720 1 lationii opooliioat							
Power supply	Supports one of the following:  One fixed 690W, autosensing, 92%, 80 PLUS Platinum qualified  One fixed 900W, autosensing, 92%, 80 PLUS Platinum qualified							
Media reader	SD USB 2.0 card reader on most models. Optional UHS-II 15-in-1 USB 3.0 reader on flex module							
Network interfaces	Integrated two-port gigabit ethernet (II LAN on both two ports. Optional PCIe	ntel i219LM and i210AT), supports Wake-on- ethernet are available						
WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps							
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant, switch to 1.2 via UEFI setting. Chassis intrusion switch. Optional access panel lock, Kensington lock, and pad lock							
Intel vPro	Intel vPro technology supported. vPro needed	requires Wireless-AC 8265 if Wi-Fi is						
Intel AMT	Intel Active Management Technology	11						
Diagnostic	Front panel warning LED. ThinkSta-tion Diagnostics for Windows. Photo-audio transfer with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagnostic display on flex module							
Base warranty	1 or 3-year limited onsite service with 9x5/NBD							
HD Audio	Realtek ALC662 codec							
Front ports	4x USB 3.0 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)							
Rear ports	2x USB 2.0, 4x USB 3.0, 2x RJ-45, 3x analog audio ports (line-in, line-out, mic-in), 2x PS/2							
Optional ports	Supports the following optional ports: Front:  • 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out  • 1x eSATA on flex module  • 1x USB Type-C on flex module, USB 3.1 gen 1 Rear:  • 1x COM port  • 2x USB Type-C ports via PCIe adapter, USB 3.1 gen 2. One 15W, one 5W Internal:  • 1x internal USB 3.0 port							
Environmental specification	Temperature - operating Temperature - storage (no package) Temperature - storage (with package) Altitude - operating Humidity - operating Humidity - storage (with package)	50 °F to 95 °F (10 °C to 35 °C) 14 °F to 140 °F (-10 °C to 60 °C) -40 °F to 140 °F (-40 °C to 60 °C) (Unpressurized): 0-10000ft (0-3048m) 10%~80%, non-condensing 10%~90%, non-condensing						
Environmental Certifications	RoHS-compliant. GREENGUARD. EF fied on model 30BA0007US and 30BA	EAT Silver rating. ENERGY STAR 6.1 quali-						
ISV certifications	Please visit www.thinkworkstations.co	om/isv-certifications/						
Noto:								

Note:
1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.
2. To support the maximum expandability, 900W power supply may be needed.
3. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer













#### ThinkStation P920 Platform Specifications

55L Tower

Form factor

FOITH IACIOI	55L Tower									
Dimensions	200mm/7.87" W x 620mm/24.4" D x 446mm/17.56" H (with feet)									
Weight	Maximum configuration	n: 71.3 lb	(32.3kg)							
Processor Sockets	2x FCLGA3647									
	Up to two 205 W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Sil-									
Processor Support	ver, Gold, or Platinum									
	vor, dord, or r identarii	# of	# of	Base			Manaami			
	Processor				Cache	TDP	Memory			
		Cores		Frequency			Types			
	Xeon Platinum 8280	28	56	2.7GHz	39MB	205W	DDR4-2933			
	Xeon Gold 6254	18	36	3.1GHz	25MB	200W	DDR4-2933			
	Xeon Gold 6242	16	32	2.8GHz	22MB	150W	DDR4-2933			
	Xeon Gold 6238T	22	44	1.9GHz	30MB	125W	DDR4-2933			
	Xeon Gold 6234	8	16	3.3GHz	25MB	130W	DDR4-2933			
	Xeon Gold 6230	20	40	2.1GHz	28MB	125W	DDR4-2933			
	Xeon Gold 5222	4	8	3.8GHz	17MB	105W	DDR4-2933			
	Xeon Gold 5218	16	32	2.3GHz	22MB	125W	DDR4-2666			
	Xeon Gold 5217	8	16	3.0GHz	11MB	115W	DDR4-2666			
	Xeon Gold 5215	10	20	2.5GHz	13.75MB	85W	DDR4-2666			
	Xeon Silver 4216	16	32	2.1GHz	22MB	100W	DDR4-2400			
	Xeon Silver 4215	8	16	2.5GHz	11MB	85W	DDR4-2400			
	Xeon Silver 4214	12	24	2.2GHz	17MB	85W	DDR4-2400			
	Xeon Silver 4210	10	20	2.2GHz	14MB	85W	DDR4-2400			
	Xeon Silver 4209T	8	16	2.2GHz	11MB	70W	DDR4-2400			
Dragger Offering	Xeon Silver 4208	8	16	2.1GHz	11MB	85W	DDR4-2400			
Processor Offering	Xeon Bronze 3204	6	6	1.9GHz	8.25MB	85W	DDR4-2133			
	Xeon Platinum 8160T	24	48	2.1GHz	33MB	150W	DDR4-2666			
	Xeon Gold 6154	18	36	3.0GHz	24.75MB	200W	DDR4-2666			
	Xeon Gold 6142	16	32	2.6GHz	22MB	150W	DDR4-2666			
	Xeon Gold 6136	12	24	3.0GHz	24.75MB	150W	DDR4-2666			
	Xeon Gold 6134	8	16	3.2GHz	24.75MB	130W	DDR4-2666			
	Xeon Gold 6128	6	12	3.4GHz	19.25MB	115W	DDR4-2666			
	Xeon Gold 5122	4	8	3.6GHz	16.5MB	105W	DDR4-2666			
	Xeon Gold 5120T	14	28	2.2GHz	19.25MB	105W	DDR4-2400			
	Xeon Gold 5118	12	24	2.3GHz	16.5MB	105W	DDR4-2400			
	Xeon Gold 5115	10	20	2.4GHz	13.75MB	85W	DDR4-2400			
	Xeon Silver 4116	12	24	2.1GHz	16.5MB	85W	DDR4-2400			
	Xeon Silver 4114T	10	20	2.2GHz	13.75MB	85W	DDR4-2400			
	Xeon Silver 4114	10	20	2.2GHz	13.75MB	85W	DDR4-2400			
	Xeon Silver 4112	4	8	2.6GHz	8.25MB	85W	DDR4-2400			
	Xeon Silver 4110	8	16	2.1GHz	11MB	85W	DDR4-2400			
	Xeon Silver 4110	8	16	2.1GHz	11MB	70W	DDR4-2400			
		8	16	1.8GHz	11MB	85W	DDR4-2400			
01: .	Xeon Silver 4108	0	10	1.000	ITIVID	0344	DDD4-2400			
Chipset	Intel C621 Chipset									
Memory Sockets	16 DIMM sockets with	12 chan	nels. 8 DI	MM sockets	with 6 cha	nnels pei	processor			
Memory Types	DDR4-2666 RDIMM, D	DR4-26	66 LRDIN	MM, or DDR4	4-2933 RD	IMM				
Memory Capacity	1TB (DDR4-2666 LRD	IMM or I	DDR4-29	33 RDIMM)	or 512GB (	DDR4-26	66 RDIMM)			
Memory Protection							,			
Welliory Frotection		0010	الماند المالية	full lava author	75\1/ -  -	ملقام : ما				
	Slot 1 (CPU1) PCIe 3	3.0 X 10, 1	uli neight	, full length,	75VV, GOUD	ie-width				
	Slot 2 (CPU1) PCle 3 Slot 3 (CPU1) PCle 3	0.0 X4, IU 2 N v16 f	ıı Heigili, Iıll height	full length, 2 , full length,	75W, open e	lo-width				
	SINTA (CPLI1) PCIA 3	≀∩y⊿ fu	II heiaht I	full lenath 2	5W onen e	nded				
Expansion slots	Slot 5 (PCH) PCIe 3	3.0 x4. fu	Il height	half length, 2	25W. open	ended				
	Slot 6 (CPU2) PCIe 3 Slot 7 (CPU2) PCIe 3	3.0 x16. f	ull heiaht	. half length	75W	J.1404				
	Slot 7 (CPU2) PCIe 3	3.0 x16, f	ull height	, half length, , full length,	75W, doub	le-width				
					7514					
	Slot 8 (CPU2) PCIe 3	<u>3.0 x</u> 16, t	ull height	, full length,	75W					

	Graphics		N	/lemo	ory	Power	Conne	ector	SLI / NVlink	Max Qtv	
	NVS 810		40	B DI	DR3	68W	8xmin	i DP		2	
	Quadro P400				DR5	30W	3xmin			5	
	Quadro P600		2G	B GC	DR5	45W	4xmin	iDP		4	
	Quadro P620		2G	B GD	DR5	40W	4xmin	niDP		4	
	Quadro P1000		4G	B GD	DR5	50W	4xmin	niDP		4	
Digarata Graphica	Quadro P2000		5G	B GD	DR5	75W	4xD	)P		4	
Discrete Graphics Offering	Quadro P4000		8G	B GD	DR5	120W	4xD	)P		4	
Offering	Quadro P5000	-	16GI	B GD	DR5X	180W			SLI	3	
	Quadro P6000	2	24GI	B GD	DR5X	250W			SLI	3	
	Quadro RTX 40				DR6		3xDP, 1xVi			3	
	Quadro RTX 50				DDR6	265W	4xDP, 1xVi	irtualLink	NVLink	3	
	Quadro RTX 60				DDR6	295W	4xDP, 1xVi	irtualLink	NVLink	2	
	Quadro RTX 80					295W	4xDP, 1xVi	irtualLink		2	
	Quadro GP100				BM2		1xDVI-D D		NVLink	3	
	Quadro GV100		320	GB H	BM2	250W	4xD	)P	NVLink	3	
	Storage Contro	ller	Тур	е		Interfac	е	RAID	Ca	che	
	Onboard Intel F	RSTe	Sto			ata 6GI		0/1/10/5	5		
_	9440-8i PCIe		Op	t S	AS 120	ab/s, SA	ATA 6Gb/s	0/1/10/5			
Storage Controller	9460-16i PCle		Op	t S	AS 120	ab/s, SA	ATA 6Gb/s	0/1/10/5/		DDR4, rCap	
	NVMe Basic		Op	t	P	Cle NVI	Me	0/1/10	Опро	ТОЦР	
	NVMe Premium	1	Op			Cle NVI		0/1/10/5	5		
	NVMe for Intel		Op			Cle NVI		0/1/10/5			
	Disk Type	Interfa	ace	RPM		Offeri	ng		Max Qty 1460 used		
[	3.5" SATA HDD	SAT.		7.2K	1TB/2TB/4TB/6TB			6 (Also supports additional 4x 2.5" SATA SSD/HDD)			
	2.5" SATA HDD	SAT	A .	7.2K	500GB/500GB FIPS			10			
Storage Support	2.5" SAS HDD	SAS 12Gb	S o/s	10K	300GB/600GB				8		
Storage Support	2.5" SATA SSD	SAT	Α		256GE	3/512GE	B/1TB/2TB	10			
	2.5" PCIe SSD	PCI NVN	1e			1.5T	В	4			
	M.2 PCIe SSD	PCI NVN	1e		256GB/512GB/1TB/2TE		9				
	PCIe AIC SSD	PCI NVN				480G	iB	2			
	Bay Type				M	aximun	n Drives Qt	ty			
	M.2 slot 9x M.2	SSD	(2 (	nboa	ard, 7 v	ia PCle	to M.2 ada	apter)			
	2x 3.5	" or 2.	.5" d	isks.	Suppo	rts the f	following:	,			
	• 3x h	alf-he	eight	optio	al drive	es	J				
	• 2x 5	5.25" 9	9.Ōm	m op	tical dr	ives					
	• 1x 5	5.25" 9	9.0m	m op	tical dr	ive + 1	x 3.5"/2.5" \$	sata ssi	D/HDD		
							Front Acc	ess Stora	ge Enclos	ure	
Storage Bays	וואו קי					owing o	ptions:				
Storago Bayo		1: 9.0									
							2x Thunde				
							e-C or eSA				
							<u>/able Drive</u>			orto	
							andard, 2 b	ays optio	man. Supp	or is	
	Disk bay • 4x 3.				onigui	ations:					
	DISK Day • 4x 3.	5" QA	ΤΔ [	יחטן. חחי	⊥ 4y 2 !	5" SATA	SSD/HDD	)			
							' SAS HDD				
	JX Z.	5 OA		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.D. OI	OA 2.0	5/ (C 1 1DD	•			

#### ThinkStation P920 Platform Specifications

	Supports up to 9x M.2 SSD + 6x 3.5" AIC SSD.	HDD/10x 2.5" SSD/10x 2.5" HDD + 2x PCle							
Max Storage	All HDD: 36TB using 6x 3.5" HDD								
	All SSD: 38.96TB using 10x 2.5" SATA SSD, 9x M.2 SSD, and 2x PCIe AIC SSD								
	One fixed 1400 watts, autosensing, 92								
Power supply	Countries with input voltage under 115V, output power limited to 1125 watts								
Media reader	SD USB 2.0 card reader on most mod	lels. Optional UHS-II 15-in-1 USB 3.0 reader							
iviedia reader	on flex module	·							
Network		ntel i219LM and i210AT), supports Wake-on-							
interfaces	LAN on both two ports. Optional PCIe								
WLAN +		2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up							
Bluetooth	to 867Mbps	d Dietferm Medule, TOO 0.0 compliant							
Security features	ewitch to 1.2 via LIFFI setting Chassis	d Platform Module, TCG 2.0 compliant,							
coounty locatores	switch to 1.2 via UEFI setting. Chassis intrusion switch. Optional access panel lock, Kensington lock, and pad lock								
Intel vPro	Intel vPro technology supported. vPro	requires Wireless-AC 8265 if Wi-Fi is							
IIILEI VETO	needed	•							
Intel AMT	Intel Active Management Technology								
Diagnostic	Front 4-digit diagnostic display. ThinkStation Diagnostics for Windows. Photo-audio								
	transfer with Lenovo PC Diagnostics for								
Base warranty	1 or 3-year limited onsite service with 9x5/NBD								
HD Audio	Realtek ALC662 codec								
Front ports	4x USB 3.0 (includes one 11W charging), 1x combo audio/microphone jack (3.5mm)								
	2v LISB 2.0. 4v LISB 2.0. 2v B.L.45. 2v applied audio porto (lipp in lipp out mic								
Rear ports	in), 2x PS/2								
	Supports the following optional ports:								
	Front:								
	2x Thunderbolt ports (USB Type-C) on flex module, one of two ports								
	supports video-out  1x eSATA on flex module								
Optional ports	1x esata on tiex module     1x USB Type-C on flex module, USB 3.1 gen 1								
	Rear:								
	• 1x COM port								
	<ul> <li>2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W</li> </ul>								
	Internal:								
	1x internal USB 3.0 port     Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)							
	Temperature - storage (no package)	14 °F to 140 °F (-10 °C to 60 °C)							
	Temperature - storage (no package)								
Environmental	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)							
specification	Humidity - operating	10%~80%, non-condensing							
	Humidity - storage (with package)	10%~90%, non-condensing							
		,							
Environmental Certifications	RoHS-compliant. GREENGUARD. EPEAT Silver rating. ENERGY STAR 6.1 qualified on model 30BC0008US and 30BC0009US								
ISV certifications	Please visit www.thinkworkstations.co	m/isv-certifications/							

Note:

1. Depending on many factors, actual data transfer speed mentioned on this page may be lower than theoretical speed.

2. Any questions or advice on ThinkStation PSREF, please contact ThinkStation PSREF developer (houyt@lenovo.com)

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**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit http://psref.lenovo.com/ for the latest version of Product Specifications Reference.

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## **Summary of Changes**

This section describes the technical changes made in this edition.

This edition might also include minor corrections and editorial changes which are not identified.

#### Ju]j, 2019 - Version 5%

#### Additions in this update

► New product(s)

ThinkVision M14 announced June 2019

► New model(s)

None

**▶** Others

None

#### Withdrawals in this update

► Withdrawn product(s)

None









# PORTABLE USB-C MONITOR CRAFTED FOR IMPROVED PRODUCTIVITY

The ThinkVision M14 is an ultraslim and ultralight mobile monitor. Its 14-inch screen helps you extend your workspace comfortably no matter where work takes you. Compatible with notebooks of any screen size that come with an advanced USB Type-C port\*, the ThinkVision M14 can either extend or duplicate your notebook display with one plug. The USB Type-C ports on either side allow both left- and right-handed users to work efficiently, and the ergonomic design enhances user experience. Packed with impressive portability, connectivity, and flexibility features, the ThinkVision M14 is ideal for mobile productivity.



Extreme **Portability** 



Connectivity



**Flexibility** 

ACHIEVE TARGETS ON THE GO The ThinkVision M14 boosts productivity with its thin and light form factor. Weighing 570g, this 4.4mm sleek mobile monitor enables easy portability. The stylish design with a Full HD, IPS display provides vivid lifelike visuals, ensuring you never miss out on any detail. With a brightness of 300 nits, the ThinkVision M14 offers a stunning visual experience while consuming content online.



Weight 570g



**Screen Size** 14 inches



**Brightness** 300 nits (Typical)





# **EXPERIENCE ADVANCED** CONNECTIVITY

Two innovative USB Type-C ports on either side of the monitor make connectivity effortless. These ports support both power and video delivery simultaneously from a single port. The ThinkVision M14 also offers a 'power pass through' design that powers the mobile monitor by an adapter and charges the notebook at the same time. This feature is suitable for smartphones or notebooks with one USB Type-C port\*. The ambidextrous design of this monitor enhances user comfort.



Ambidextrous design: built to enable both left- and-right handed users to work with ease



**USB Ports** 2 x USB Type-C



Cable USB Type-C to C



# WORK THE WAY YOU LIKE The ThinkVision M14 with its admirable flexibility

is built for varied job roles. With a tilt angle of -5°~90°, you can position your monitor in a way that suits your style. Compare content with ease even as you use laptops of different screen sizes with the ergonomic height adjustable foot. Also, you can wall mount your monitor effortlessly with mounting support for a hands-free viewing experience. The advanced low blue light technology minimizes eye strain, making extended working hours easy.



Tilt 0°~90° **Monitor Stand** 

**Height Adjustable Foot** 

Tilt -5°~90° **Eye-care Technology** 

Low blue light



\*For charging usage, a Lenovo branded 65W adapter (Part No.: SA10E75874) is recommended



Remarkable flexibility: position the monitor in the way that suits your style

**Temperature - Operating** 

**Humidity - Operating** 

**Altitude - Operating** 

**Humidity - Non-operating** 

**Altitude - Non-operating** 

**Temperature - Non-operating** 

0° to 40°C

-20° to 60°C

30 to 80%

30 to 90%

0 to 5000 m

0 to 40,000 ft

Yes

Yes

85%

WW

Warranty

3 Years

7.1

CCC

Yes

**PVC** free

Mercury free

PCC % of plastic resins

**Geography Availability** 

**ENERGY STAR® Rating** 

**Arsenic-free Glass** 

# **Panel Size** 14-inch

Screen Dimensions (W x H, mm) 309.31 x 173.99 mm

Panel Type In-Plane Switching

Backlight **WLED** 

**Aspect Ratio** 16:9 Resolution

1920 x 1080 Pixel Pitch (H x V, mm) 0.1611 x 0.1611 mm

Dot/Pixel Per Inch (DPI/PPI) 157

Viewing angle (H x V @ CR 10:1) 178° / 178° **Response Time (typical)** 

6ms with OD Refresh Rate 60 Hz

**Brightness (typical)** 300 cd/m<sup>2</sup>

**Contrast Ratio (typical)** 

**Dynamic Contrast Ratio (typical)** 3M:1

Colour Gamut NTSC (CIE 1931) 72%

**Color Support (typical)** 16.7 Million

**Color Depth** 8bit (6bit + FRC) **Anti-Glare** 

# Yes

# **Video Input Signals** 2 x USB 3.1 Type-C (DP1.2 Alt Mode)

Power Consumption (Typ./Max) 6 W / 7.5 W (Without USB Type-C

output)

**ENERGY STAR® Power Consumption** (Pon) 4.88 W

Power Consumption Sleep/Off

**ENERGY STAR® Power Consumption** (E<sub>TEC</sub>) 15.53 kWh

Mode < 0.3 W





# **Power Consumption Switch-Off Mode**

< 0.3 W

Up to 65 W **Power Supply** External (no adapter bundle)

**USB Type-C/Power Delivery** 

Voltage Required DC 5 V to 20 V

# Tilt Angle (front/back) -5° / 90°

**Mounting Support** Yes (100 mm)

Kensington™ Lock Slot

**Cable Management** Yes

**Bezel Color** Raven Black Bezel Width (Side)

5.48mm Bezel Width (top / bottom) 5.47 mm / 23.87 mm

Size Packed (D x H x W) (mm / inch) 276 x 61 x 402 mm /

10.87 x 2.40 x 15.83 inches Size Unpacked w/stand

 $(D \times H \times W) (mm / inch)$ (Lowest position) 96.54 x 209.03 x 323.37 mm / 3.8 x 8.23 x 12.73 inches

Size Unpacked w/stand  $(D \times H \times W) (mm / inch)$ (Highest position)

96.54 x 220.03 x 323.37 mm / 3.8 x 8.66 x 12.73 inches

Stand base footprint area (mm<sup>2</sup>) 260.87 x 69.55 mm /

Weight Packed (kg / lbs.) 1.67 kg / 3.67 lbs.

10.27 x 2.74 inches

0.57 kg / 1.26 lbs.

1 x ThinkVision M14 sleeve

1 x USB Type-C cable (1 m)

Weight Unpacked (kg / lbs.)

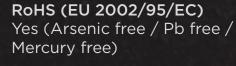
1 x Monitor with stand

1x QSG

1x Pair of clips

**EPEAT** 

Bronze



**Windows Certification** 

Windows 7 / 10 **Image Quality Capability** ISO 9241-307

China Energy Efficiency Standard Low Blue Light / Eye Comfort

Yes (Low Bluelight)

















Name E1922s Wide Flat Panel Monitor

Case color **Black** 

Type-model 60G2AAR6US / 60G2AAT6EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**18.5" (470mm)** diagonal 16.1" x 9.1" / 409.8mm x 230.4mm Max view area (W x H)

Native resolution 1366x768 Aspect ratio 16:9 Pixel pitch (mm) 0.3mm Dot/Pixel per Inch 85 dpi

Brightness 200 nits or cd/m2 (typical)

Contrast ratio 600:1 (typical) Pixel response time 5ms (typical)

Color gamut 72%

180° (+/- 90°) horizontal, 100° (+/- 50°) vertical Viewing angle at 10:1 CR

Stand Tilt adjustable stand Sides: 0.73" (18.5mm) 13.44" H x 17.65" W x 6.58" D; Bezel width Dimensions (HxWxD)

341.5mm H x 448.4mm W x 167.2mm D Power supply 13.7 watts typical, 17 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

6.03 lb; 2.74 kg Weight

3 year (includes backlight) March 2014 Limited warranty4

Available date

VESA-compliant<sup>2</sup> VESA DPMS-compliant ENERGY STAR® 7.0 Power management Ergonomics ISO 9241-307 Emission standards

FCC Class B TCO (TCO Displays 7.0), WEEE, RoHS, EPEAT™ Silver rating Environmental

Preset resolutions VGA:

640x350, 640x480, 720x400 800x600, 832x624 1024x768, 1152x864 SVGA: XGA:

SXGA: 1280x1024 WXGA: 1366x768

Presets / user settings Standard presets: 15

user settings: 16

Viewing adjustments Tilt: 20° backward, -5° forward

Rotating screen

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (control buttons on front) for automatic image setup and adjustment for brightness

Multiple input None

Monitor connectors

Signal cables

VGA 15-pin D-shell, analog, blue detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) with the standard problem of the problem o Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, 1.8 meter analog signal cable, 1.8 meter black power cord

#### **Limited Warranty**

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

### **Accessories**

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 18.5-inch monitor

• Supports HD 1366x768 resolution

Supports VESA mount (100mm)
Mercury free panel and arsenic free glass

Kensington lock slot ready for enhanced security
 Support Lenovo Tiny PC via VESA mount

Support Echovo Tiny T O via VE
 Supports optional soundbar
 Microsoft® Windows® 7 certified

Microsoft Windows 8 / Windows 8.1 certified



ThinkVision E1922s Wide Monitor

Lenovo February 2014













**E2054 Wide Flat Panel Monitor** Name Raven black

Case color Type-model 60DFAAR1US / 60DFAAT1EU

Panel TFT-LCD, In-Plane Switching (IPS), LED backlight **19.5"** (**494mm**) diagonal 16.48" x 10.33" / 418.6mm x 262.4mm Viewable image size

Max view area (W x H) Native resolution 1440x900

Aspect ratio Pixel pitch (mm) Dot/Pixel per Inch 16:10 0.097mm x 0.292mm

87 dpi Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 7ms (typical) Color gamut

Viewing angle at 10:1 CR

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Stand Tilt adjustable stand

Top: 0.71" (18.0mm)
Bottom: 0.70" (17.9mm)
Sides: 1.02" (26.0mm)
14.65" H x 17.95" W x 7.41" D; Bezel width Dimensions (HxWxD)

372.0mm H x 456.0mm W x 188.3mm D Power supply 16 watts typical, 20 watts maximum, <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

6.17 lb; 2.8 kg Weight

Limited warranty 3 year (includes backlight)

Available date November 2015

VESA DPMS-compliant VESA-compliant Power management ENERGY STAR® 6.0 Ergonomics ISO 9241-307

FCC Class B TCO (TCO Displays 6.0), WEEE, RoHS, **EPEAT™ Silver rating** Emission standards Environmental

Preset resolutions 640x480, 720x400

SVGA: 800x600 XGA: 1024x768

1280x768, 1280x1024 SXGA:

WXGA: 1366x768 WXGA+: 1440x900 Standard presets: 18

Presets / user settings user settings: 10

Viewing adjustments Tilt: 22° backward, -5° forward

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (control buttons on front) for automatic image setup and adjustment for brightness

Multiple input None

Monitor connectors

Signal cables

VGA 15-pin D-shell, analog, blue detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) with the standard problem of the problem o Mounting features

Security Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Ship group Monitor with stand, 1.8 meter analog signal cable, 1.8 meter black power cord

#### **Limited Warranty**

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

#### **Accessories**

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 19.5-inch monitor

• Supports HD 1440x900 resolution

Supports VESA mount (100mm)
Mercury free panel and arsenic free glass

 Kensington lock slot ready for enhanced security Support Lenovo Tiny PC via VESA mount
 Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified



ThinkVision E2054 Wide Monitor

Lenovo November 2015











Name LT1913p Square Flat Panel Monitor Case color

Type-model 60FBHAR1US / 60FBHAT1EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size Max view area (W x H)

Optimum resolution Max pixel rate Aspect ratio

Pixel pitch (mm) Dot/Pixel per Inch Brightness

Contrast ratio Pixel response time Color gamut

Viewing angle at 10:1 CR

Stand Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty4 Available date

VESA-compliant<sup>2</sup> Power management

**Ergonomics** Emission standards Environmental

Preset resolutions

Presets / user settings

**Black** 

19.0" (480.0mm) diagonal 14.76" x 11.80" (374.7mm x 299.8mm) 1280x1024

205MHz (VGA), 165MHz (DVI)

0.0976 (H) x 0.2928 (V) mm

86.8 dpi

250 nits or cd/m2 (typical)

1000:1 (typical) 7ms (typical) 72%

178° horizontal, 178° vertical

Tilt, swivel, pivot, and height adjustable stand Sides: 0.68" (17.4mm); top: 0.68" (17.4mm); bottom: 0.68" (17.4mm) 14.63" H x 16.18" W x 10.40" D; 371.5mm H x 411.0mm W x 264.2mm D

24 watts typical, 27 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

10.69 lb; 4.85kg 3 year (includes backlight)

April 2015

VESA DDC2B/CI, EDID 1.3

ENERGY STAR® 7.0

ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 1.1, WEEE, RoHS, **EPEAT™ Silver rating**, ULE Gold

VGA: 640x350, 640x480, 720x400

SVGA: 800x600, 823x624 XGA: 1024x768, 1152x864, 1152x900

1280x1024 SXGA: Standard presets: 20; user settings: 20

#### **Features**

- 19-inch Square IPS LED backlit panel
- Supports 1280x1024 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- Mercury and arsenic free glass
- Low Halogen
- Recycled content in plastic material
- Supports optional soundbar
   Microsoft® Windows® 7 certified
   Microsoft Windows 8 / Windows 8.1 certified

- Microsoft Windows 10 certified



ThinkVision LT1913p Square Monitor

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/- 45° Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages) Rotating screen On screen display Control features

Direct access (buttons on front) for automatic image setup, input switch, and brightness Multiple input

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Monitor connectors

(1) VGA 15-pin D-shell, analog, blue (2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DVI-D at each end, digital, 1.8 meter Signal cables

Mounting features Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Security

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor, attached stand, Setup poster, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, 1.8 meter black power cord Ship group

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See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

#### **Accessories**

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock Lenovo Security Cable Lock 45K1620 57Y4303 Lenovo Easy Reach Monitor Stand 55Y9258

See details at www.lenovo.com/support/monitoraccessories













T1714 Square Flat Panel Monitor Name

Case color **Black** 

Type-model 60FDHAR1US / 60FDHAT1EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**17.0"** (**432mm**) diagonal 13.3" x 10.6" (337.9mm x 270.3mm) Max view area (W x H)

Optimum resolution 1280x1024 Aspect ratio 5:4 Pixel pitch (mm)
Dot/Pixel per Inch 0.264mm 96 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical) Color gamut 72%

Viewing angle at 10:1 CR

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical

Stand Tilt stand

Sides: 0.69" (17.5mm) Bezel width 14.72" H x 14.74" W x 7.87" D; Dimensions (HxWxD. including stand) 373.9mm H x 374.5mm W x 200mm D Power supply 14.0 watts typical, 18.0 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight Limited warranty 5.75 lb; 2.61kg

3 year (includes backlight) September 2015

Available date

VESA-compliant VESA DDC2B/CI Power management **ENERGY STAR® 7.0** Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

1024x768, 1152x864, XGA: SXGA: 1280x800, 1280x1024

Presets / user settings Standard presets: 17;

user settings: 17

**Features** 

17-inch Square LCD monitor

Supports SXGA 1280x1024 resolution

• Includes dual input connection for attachment to two systems concurrently (analog and digital)

Mercury Arsenic free glass

Supports optional soundbar
 Microsoft® Windows® 7 certified
 Microsoft Windows 8 certified

Microsoft Windows 8.1 certified

Microsoft Windows 10 certified



ThinkVision T1714 Monitor

Tilt: 22° back, -5° forward Viewing adjustments

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features

Multiple input

Monitor connectors

Direct access (buttons on front) for automatic image setup and brightness
Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)
(1) VGA 15-pin D-shell, analog, blue
(2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DVI-D at each end, digital, 1.8 meter
(2) Mall or desk mounting using the Extend Arm or third party accessories meeting the VESA ERMARANE (15) Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Mounting features Security

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor and stand, Setup poster, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, 1.8 meter black power cord Ship group

**Accessories Limited Warranty** Kensington MicroSaver Cable Lock 73P2582 See details at http://support.lenovo.com/en\_US/guides-and-manuals/de-Kensington Twin Head Cable Lock 45K1620 tail.page?DocID=UM008281 Lenovo Easy Reach Monitor Stand 55Y9258

See details at www.lenovo.com/support/monitoraccessories













T1714p Square Flat Panel Monitor Name

Case color **Black** 

Type-model 60FELAR1US / 60FELAT1EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**17.0"** (**432mm**) diagonal 13.3" x 10.6" (337.9mm x 270.3mm) Max view area (W x H) Optimum resolution 1280x1024

Aspect ratio 5:4 Pixel pitch (mm)
Dot/Pixel per Inch 0.264mm 96 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical) Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Viewing angle at 10:1 CR

Tilt height adjustable stand Sides: 0.69" (17.5mm) 17.63" H x 14.74" W x 9.61" D; Stand Bezel width Dimensions

(HxWxD. including stand) 447.9mm H x 374.5mm W x 244.2mm D Power supply 14.0 watts typical, 18.0 watts maximum, <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

8.71 lb; 3.95kg

Weight Limited warranty 3 year (includes backlight) September 2015

Available date

VESA-compliant VESA DDC2B/CI Power management **ENERGY STAR® 7.0** Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864 SXGA: 1280x800, 1280x1024

Presets / user settings Standard presets: 22;

Viewing adjustments

user settings: 22

Tilt: 22° back, -5° forward; lift: 4.3" (110mm)

Rotating screen None On screen display On screen display with digital user controls (8 languages)

Control features

Multiple input

Monitor connectors

Direct access (buttons on front) for automatic image setup and brightness
Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)
(1) VGA 15-pin D-shell, analog, blue
(2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant**(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DVI-D at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA EDMPMI® (10)

Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Mounting features

Security Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor and stand, Setup poster, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, 1.8 meter black power cord Ship group

**Accessories Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620 Lenovo Easy Reach Monitor Stand 55Y9258

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

• Includes dual input connection for attachment to two

Supports Lenovo Tiny PC and 3rd party thin client via

17-inch Square LCD monitor

Mercury Arsenic free glass

optional Lenovo bracket

Supports optional soundbar

Microsoft® Windows® 7 certified
 Microsoft Windows 8 certified

Microsoft Windows 8.1 certified

• Microsoft Windows 10 certified

Supports SXGA 1280x1024 resolution

systems concurrently (analog and digital)

ThinkVision T1714p Monitor













T2054p Wide Flat Panel Monitor Name Bezel color Raven black 60G1MAR2US / 60G1MAT2EU Type-model Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **19.5" (495mm)** diagonal 16.48" x 10.33" (418.6mm x 262.4mm) **1440x900** Viewable image size Max view area (W x H)

Native resolution Aspect ratio 16:10 Pixel pitch (mm) 0.2915 x 0.2915 mm Dot/Pixel per Inch 87 dpi Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 7ms (typical) Color gamut

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, and height adjustable stand Stand Bezel width

Sides: 0.67" (17.0mm) 13.62" H x 17.88" W x 9.55" D; 345.9mm H x 454.2mm W x 242.6mm D Dimensions (HxWxD) Power supply

14.5 watts typical, 21 watts maximum, <0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

8.16 lb; 3.70 kg

3 year (includes backlight) Weight Limited warrantv4

Available date September 2015

VESA DDC2B/CI VESA-compliant<sup>2</sup> ENERGY STAR® qualified Power management Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

VGA: Preset resolutions 640x480, 720x400, 720x576

SVGA: 800x600 XGA: 1024x768, 1152x864

SXGA: 1280x800, 1280x1024 WXGA: 1366x768

WXGA+: 1440x900 Standard presets: 22 Presets / user settings user settings: 16

Viewing adjustments

Tilt: 22° backward, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Rotating screen On screen display On screen display with digital user controls (8 languages)

Direct access (buttons on front) for automatic image setup, dual input and brightness Control features

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Monitor connectors

Signal cables

Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable,

1.8 meter black power cord **Limited Warranty** 

# See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

## Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

 Supports ThinkCentre Tiny Clamp Bracket Includes dual input connection for attachment to two systems concurrently (analog and digital) Supports optional soundbar

**Features** 

Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified

Widescreen 19.5-inch monitor

• Supports 1440x900 resolution

ÉPEAT Gold certified



ThinkVision T2054p Wide Monitor



**E21 Wide Flat Panel Monitor** Name **Black** 

Bezel color

61B9JAR1US / 61B9JAT1EU Type-model

Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**20.7"** (**525.78mm**) diagonal 18.03" x 10.14" (457.92mm x 257.58mm) Max view area (W x H)

Native resolution 1920x1080

Aspect ratio 16:9

Pixel pitch (mm) 0.2385 x 0.2385 mm Dot/Pixel per Inch 106 dpi

Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical)

Pixel response time 5ms (typical) Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Viewing angle at 10:1 CR

Stand Tilt adjustable stand Sides: 0.6" (15.3mm) 14.6" H x 19.31" W x 8.07" D; Bezel width

Dimensions (HxWxD)

370.9mm H x 490.5mm W x 204.9mm D

18 watts typical, Power supply 23 watts maximum.

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight

5.82 lb; 2.64 kg 3 year (includes backlight) Limited warranty

August 2017 Available date

VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management

Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions 640x350, 640x480, 720x400 800x600, 832x624

SVGA: XGA: 1024x768, 1152x864

SXGA: 1280x1024 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes Standard presets: 22 **Features** 

- Widescreen 20.7-inch monitor Supports 1920x1080 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- · Supports optional soundbar
- EPEAT Gold certified
- Low Blue Light certification
   Microsoft® Windows® 7 certified
   Microsoft Windows 10 certified



ThinkVision F21 Wide Monitor

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (buttons on front) for power, menu, input source select and brightness

USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Monitor connectors

Signal cables

(1) VGA 15-pin D-shell, analog, blue
(2) DisplayPort (1.2), digital, black, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Mounting features Security

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/de-

tail.page?DocID=UM008281

**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories













**E24 Wide Flat Panel Monitor** Name Bezel color **Black** 

Type-model 61B7JAR6US / 61B7JAT6EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size

**23.8**" (**604.7mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** Max view area (W x H) Native resolution

Aspect ratio 16:9

Pixel pitch (mm) 0.2745 x 0.2745 mm Dot/Pixel per Inch 92.5 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) Color gamut 72%

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical

Tilt adjustable stand Stand Bezel width

Sides: 0.51" (13mm) 15.9" H x 21.81" W x 8.07" D; 403.8mm H x 554mm W x 204.9mm D Dimensions (HxWxD)

18 watts typical, 23 watts maximum, Power supply

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight Limited warranty

8.2 lb; 3.7 kg
3 year (includes backlight) August 2017 Available date

VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management ISO 9241-307 Ergonomics

Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions 640x350, 640x480, 720x400 800x600, 832x624 VGA:

SVGA: XGA: 1024x768, 1152x864

SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1600x900

WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes Standard presets: 24; user settings: 20

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display On screen display with digital user controls (8 languages)

Control features Direct access (buttons on front) for power, menu, input source select and brightness USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Monitor connectors

Signal cables

Dual input (two different PCs attach to two different connectors, one PC shows image, selectivia L (1) VGA 15-pin D-shell, analog, blue (2) DisplayPort, digital, black, HDCP-compliant (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security boyled for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable,

1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 23.8-inch monitor

• Supports 1920x1080 resolution Supports ThinkCentre Tiny VESA mount

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision E24 Wide Monitor

Lenovo August 2017













P24h Wide Flat Panel Monitor Name Bezel color **Black** 

Type-model 61AEGAR3US / 61AEGAT3EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

1000:1 (typical)

99% sRGB

4ms (extreme) / 6ms (typical)

12.54 lb; 5.69 kg **3 year** (includes backlight)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 14.7" H x 21.26" W x 10.3" D;

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

373.4mm H x 540.2mm W x 261.75mm D 24 watts typical, 120 watts maximum (with USB 3.0 hub),

Viewable image size

**23.8"** (**604.7mm**) diagonal 20.74" x 11.67" (526.9mm x 296.4mm) **2560x1440** Max view area (W x H)

Native resolution Aspect ratio 16:9

Pixel pitch (mm) 0.2058x 0.2058 mm Dot/Pixel per Inch 124 dpi Brightness 300 nits or cd/m2 (typical)

Contrast ratio Pixel response time

Color gamut Viewing angle at 10:1 CR Stand

Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date VESA-compliant

April 2017 VESA DDC2B/CI ENERGY STAR® qualified

Power management

Presets display modes

USB hub

Ergonomics Emission standards Environmental

ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1680x900

WSXGA+: 1680x1050 1920x1080, 1920x1200 Full HD: QHD: 2560x1440

HDMI: 22; DP: 14

**Features** 

 Widescreen 23.8-inch monitor • Supports 2560x1440 resolution

· Supports optional soundbar

Supports ThinkCentre Tiny Clamp Bracket

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision P24h Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Viewing adjustments Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display with digital user controls (8 languages) On screen display Control features

Direct access (buttons on front) for power, menu, input source select and brightness USB Hub: one USB 3.1 Type-C upstream port, four USB 3.0 Type-A downstream ports Audio-out, optional sound bar supported

Multimedia

Camera

Multiple input

Support HDMI, DisplayPort, USB 3.1 Type-C, DisplayPort-out (1) 2\*HDMI (1.4), digital, **HDCP-compliant** (2) DisplayPort (1.2), digital, **HDCP-compliant** (3) DisplayPort-out, digital (4) USB 3.1 Type-C (1) USB 3.1 Type-C cable, 1.8 meter Monitor connectors

Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter USB 3.1 Type-C cable, 1.8 meter black power cord Ship group

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
	See details at www.lenovo.com/support/monitoraccessories	
	See all monitors at www.lenovo.com/thinkvision	













# Lenovo ThinkVision P24q

P24q Wide Flat Panel Monitor Name

Case color Black

61A5GAR3US / 61A5GAT3EU Type-model

Panel TFT-LCD, IPS (In-Plane Switching), White LED

Viewable image size

**23.8**" (**604.5mm**) diagonal 20.74" x 11.67" (526.85mm x 296.35mm) **2560x1440** Max view area (W x H)

Optimum resolution Max pixel rate 300MHz Aspect ratio 16:9

Pixel pitch (mm) 0.2058 x 0.2058mm

Dot/Pixel per Inch 123 dpi

Brightness 300 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 4ms Color gamut 99% sRGB

Viewing angle at 10:1 CR 178° horizontal, 178° vertical

Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 14.7" H x 21.26" W x 10.3" D; Stand

Bezel width **Dimensions** 

(HxWxD, including stand)

373.4mm H x 540.2mm W x 261.75mm D 24 watts typical, Power supply

67 watts maximum (with USB),

<0.5 watts sleep/off; <0.5 watts switch off

integrated (no external brick-like power supply)

12.35 lb; 5.6kg (including stand)

Weight Limited warranty 3 year January 2017 Available date

**VESA-compliant** VESA DDC2B/CI

Power management **ENERGY STAR® 7.0** Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, RoHS, **EPEAT™ Silver rating**, Environmental

ULE Gold

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 1024x768 XGA: SXGA: 1280x1024 WXGA: 1366x768

1440x900, 1600x900 WXGA+: WSXGA+: 1680x1050

1920x1080, 1920x1200 Full HD: QHD: 2560x1440

Presets / user settings Standard presets: 20; user settings: 24

Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Screen pivots 90 degrees from landscape to portrait Viewing adjustments Rotating screen On screen display On screen display with digital user controls (8 languages) Control features Direct access for menu, source switch, and brightness

USB hub USB Hub: one USB 3.0 upstream port, four USB 3.0 downstream ports

Multimedia Audio-out, optional sound bar supported

Camera

Multiple input

None
Support HDMI, DisplayPort, mini DisplayPort, DisplayPort-out
(1) 2\*HDMI (1.4), digital, **HDCP-compliant**(2) DisplayPort (1.2), digital, **HDCP-compliant**(3) Mini DisplayPort, digital, **HDCP-compliant**(1) detachable, mini DisplayPort to DisplayPort, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors

Signal cables

Mounting features Security

Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB 3.0 cable, Ship group

1.8 meter mini DP to DP cable, 1.8 meter black power cord

# **Limited Warranty**

See details at http://support.lenovo.com/en US/quides-and-manuals/detail.page?DocID=UM008281

## Accessories

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

#### **Features**

- 23.8-inch IPS LED backlit monitor • Supports 2560x1440 resolution
- 5-Ports USB hub, support USB 3.0
- Support ThinkCentre Tiny
- Supports optional soundbar
- Microsoft® Windows® 7 certified Microsoft Windows 10 certified



ThinkVision P24q Monitor













## Think Vision® S22e-19

**DISPLAY** 

Panel Size

21.5 inch

Screen Dimensions (H x V) (mm)

476.06 (H) × 267.79 (V)

Panel Type

VΑ

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V) (mm)

 $0.2480 \times 0.2480$ 

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode) 6 ms (normal mode)

Contrast Ratio (typical)

3000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut NTSC (CIE 1931)

72%

Color Support (typical)

16.7M

CONNECTIVITY

**Video Input Signals** 

VGA + HDMI1.4

Video Cable Length

1.8 m

Audio Out

Yes (3.5 mm)

MULTI-MEDIA

**Optional Soundbar Support** 

Yes

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

120 x 350 x 582 mm / 4.7 x 13.7 x 22.9 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position)

200.0 x 373.8 x 489.3 mm / 7.87 x 14.71 x 19.26 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position)

200.0 x 373.8 x 489.3 mm / 7.87 x 14.71 x 19.26 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

41.5 x 296.8 x 489.3 mm / 1.63 x 11.68 x 19.26 inch

Weight Packed (kg/lbs.)

4.07kg / 8.97 lbs.

Weight Unpacked (kg/lbs.)

2.75kg / 6.06 lbs.

Weight (Monitor Head Only) (kg/lbs.)

2.46kg / 5.42 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

Yes (by VESA mount PN:4XF0N03161)

**MECHANICAL** 

Tilt Angle (front / back)

-5°/22°

**VESA Mount** 

Yes (100 mm)

Kensington™ Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2.0 mm

Bezel Width (top / bottom)

2.0 mm / 21.2 mm

WHAT'S IN THE BOX

Monitor with stand

1x HDMI Cable

1x Power Cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

7.0

CCC

Yes

TCO

TCO 7.0/TCO Edge 2.0

EPEAT™

Gold

RoHS

Yes

**Windows Certification** 

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**Ambient Operating Temperature** 

0°C to 40°C

Low Blue Light

Yes



























## Think Vision® S24e-10

DISPLAY

Panel Size

23.8"

Screen Dimensions (H x V) (mm)

527.04 (H) × 296.46 (V)

Panel Type

VA

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 × 1080

Pixel Pitch (H x V) (mm)

 $0.2745 \times 0.2745$ 

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode) 6 ms (normal mode)

Contrast Ratio (typical)

3000:1

Dynamic Contrast Ratio (typical)

3M·1

Color Gamut NTSC (CIE 1931)

72%

Color Support

16.7M

CONNECTIVITY

**Video Input Signals** 

VGA + HDMI 1.4

Video Cable Length

1.8 m

**Audio Out** 

Yes (3.5 mm)

**MULTI-MEDIA** 

**Optional Soundbar Support** 

Yes

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

122 x 405 x 639 mm / 4.80 x 15.94 x 25.16 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(Lowest Position)

200.0 x 402.7 x 539.5 mm / 7.87 x 15.85 x 21.24 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(Highest Position)

200.0 x 402.7 x 539.5 mm / 7.87 x 15.85 x 21.24 inch

Size Unpacked w/o stand (D x H x W) (mm/inch)

(Head Only)

41.5 x 325.7 x 539.5 mm / 1.63 x 12.82 x 21.24 inch

Weight Packed (kg/lbs.)

4.84kg / 10.67 lbs.

Weight Unpacked (kg/lbs.)

3.36kg / 7.41 lbs.

Weight (Monitor Head Only) (kg/lbs.)

3.07kg / 6.77 lbs.

**SPECIAL FEATURES** 

Anti-Glare

Yes

Thin Client Support (Tiny)

Yes (by VESA mount PN:4XF0N03161)

MECHANICAL

Tilt Angle (front/back)

-5º / 22º

VESA Mount

Yes (100 mm)

Kensington™ Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (Side)

2.0 mm

Bezel Width (top / bottom)

2.0 mm / 22 mm

WHAT'S IN THE BOX

Monitor with stand

1 x HDMI Cable

1 x Power Cable Quick setup guide 0 to 40°C

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

**Ambient Operating Temperature** 

**CERTIFICATIONS** 

7.0

CCC

Yes

Gold

ULE

Gold

RoHS

Tier 2

Yes

EPEAT™

**ENERGY STAR Rating** 

Low Blue Light

Yes











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T2224d Wide Flat Panel Monitor Name Bezel color

**Black** 

Type-model 61B1JAR1US / 61B1JAT1EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size

**21.5"** (**546mm**) diagonal 18.74" x 10.54" (476.1mm x 267.8mm) **1920x1080** Max view area (W x H)

Native resolution Aspect ratio 16:9

Pixel pitch (mm) 0.248 x 0.248 mm

Dot/Pixel per Inch 102 dpi

Brightness 250 nits or cd/m<sup>2</sup> (typical) Contrast ratio 1000:1 (typical)

7ms (typical); 4ms (extreme mode) Pixel response time Color gamut

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical

Stand Tilt stànd

Bezel width Sides: 0.69" (17.6mm)

Dimensions (HxWxD)

15.02" H x 20.19" W x 8.06" D; 381.4mm H x 512.9mm W x 204.9mm D

20 watts typical, 25 watts maximum Power supply

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

6.48 lb; 2.94 kg

3 year (includes backlight)
March 2017 Weight Limited warranty

Available date

VESA-compliant VESA DDC2B/CI

Power management ENERGY STAR® qualified

Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768

WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets / user settings Standard presets: 22; user settings: 22

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display

Control features USB hub

On screen display with digital user controls (8 languages)

Direct access (buttons on front) for automatic image setup, dual input and brightness

None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Monitor connectors

Signal cables

Dual input (two different PCs attach to two different connectors; one PC shows image; select via b (1) VGA 15-pin D-shell, analog, blue (2) DisplayPort, digital, black, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 73P2582 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Supports ThinkCentre Tiny via VESA back mount

systems concurrently (analog and digital)

Includes dual input connection for attachment to two

Widescreen 21.5-inch monitor

· Supports optional soundbar

EPEAT Gold certified

• Supports 1920x1080 resolution

Microsoft® Windows® 7 certified

Microsoft Windows 10 certified

Think Vision T2224d Wide Monitor













T2254 Wide Flat Panel Monitor Name

Bezel color Raven black Type-model 60F6HAR1EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight Viewable image size

**22.0"** (**559mm**) diagonal 18.70" x 11.70" (473.8mm x 296.1mm) **1680x1050** Max view area (W x H)

Native resolution

Aspect ratio 16:10 Pixel pitch (mm)

0.282 x 0.282 mm Dot/Pixel per Inch 90 dpi

Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical)

Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Tilt and height adjustable stand Sides: 0.67" (17mm) 14.97" H x 20.05" W x 9.61" D; Viewing angle at 10:1 CR

Stand

Bezel width Dimensions (HxWxD)

380.2mm H x 509.3mm W x 244.2mm D

16 watts typical, Power supply

22 watts maximum,

22 watts standby/suspend, universal, integrated (no external brick-like power supply)
10.38 lb; 4.71 kg
3 year (includes backlight)
March 2015

Weight Limited warranty Available date

VESA-compliant Power management

VESA DDC2B/CI ENERGY STAR® qualified

Ergonomics ISO 9241-307 Emission standards None

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions 640x350, 640x480, 720x400

SVGA: 800x600 XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768 WXGA+: 1440x900

WSXGA+: 1600x900, 1680x1050

Presets / user settings Standard presets: 26;

user settings: 20

**Features** 

- Widescreen 22.0-inch monitor • Supports 1680x1050 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- Includes dual input connection for attachment to two systems concurrently (analog and digital)
- ÉPEAT Gold certified
- Supports optional soundbar
- Microsoft® Windows® 7 certified
   Microsoft Windows 8 / Windows 8.1 certified
- Microsoft Windows 10 certified



ThinkVision T2254 Wide Monitor

Viewing adjustments

Tilt: 30° back, -5° forward; lift: 4.3" (110mm)

Rotating screen

On screen display On screen display with digital user controls (8 languages) Control features Direct access (buttons on front) for automatic image setup, dual input and brightness

USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Monitor connectors

Signal cables

(1) VGA 15-pin D-shell, analog, blue
(2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DVI-D at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Mounting features Security

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DVI-D cable, Ship group

1.8 meter black power cord

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

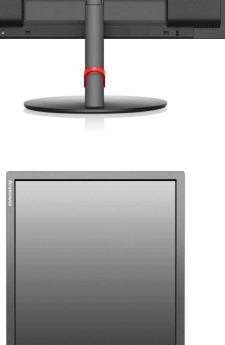
**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories















T2254p Wide Flat Panel Monitor Name

Bezel color Raven black

Type-model 61BAMAR2US / 60E1MAR2US / 60CCMAR2US /

60CCMAT2EU / 61BAMAT2EU

Panel TFT-LCD, twisted nematic (TN), White LED backlight Viewable image size

**22.0"** (**559mm**) diagonal 18.70" x 11.70" (473.8mm x 296.1mm) **1680x1050** Max view area (W x H) Native resolution

Aspect ratio 16:10 Pixel pitch (mm) 0.282 x 0.282 mm Dot/Pixel per Inch 90 dpi

Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical)

Color gamut

Viewing angle at 10:1 CR 170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.67" (17.1mm) 14.63" H x 20.01" W x 9.55" D; Stand

Bezel width Dimensions (HxWxD)

371.7mm H x 509.3mm W x 242.7mm D

Power supply

20 watts typical, 25 watts maximum,

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

10.14 lb; 4.60 kg

3 year (includes backlight) Weight Limited warranty

Available date March 2015

VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions 640x350, 640x480, 720x400

SVGA: 800x600 XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768 WXGA+: 1440x900

WSXGA+: 1600x900, 1680x1050

Presets / user settings Standard presets: 28;

user settings: 20

## **Features**

- Widescreen 22.0-inch monitor • Supports 1680x1050 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- Supports optional soundbar
- Includes dual input connection for attachment to two systems concurrently (analog and digital)
- EPEAT Gold certified
- Microsoft® Windows® 7 certified
   Microsoft Windows 8 / Windows 8.1 certified
- Microsoft Windows 10 certified



ThinkVision T2254p Wide Monitor

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Rotating screen Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages) On screen display Control features Direct access (buttons on front) for automatic image setup, dual input and brightness

USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Monitor connectors

(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter

Signal cables

(2) detachable, DisplayPort at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter black power cord

# **Limited Warranty** See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

## **Accessories**

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories













Preset resolutions

Presets display modes

T22i Wide Flat Panel Monitor Name Bezel color **Black** Type-model 61A9MAR1US / 61A9MAT1EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **21.5"** (**546mm**) diagonal 18.74" x 10.54" (476.1mm x 267.8mm) **1920x1080** Viewable image size Max view area (W x H) Native resolution Aspect ratio 16:9 Pixel pitch (mm) 0.248 x 0.248 mm Dot/Pixel per Inch 102 dpi Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical); 4ms (extreme mode) Color gamut 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm)
14.08" H x 19.28" W x 9.92" D;
357.6mm H x 489.7mm W x 251.9mm D Viewing angle at 10:1 CR Stand Bezel width Dimensions (HxWxD) 16.5 watts typical, 55 watts maximum (with USB 3.0 hub), Power supply <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply) 10.85 lb; 4.92 kg

3 year (includes backlight) Weight Limited warranty Available date April 2017 VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management ISO 9241-307 Ergonomics Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

VGA:

SVGA:

SXGA:

WXGA: WXGA+: WSXGA+:

Full HD:

HDMI: 17;

XGA:

EPEAT Gold certified
 Microsoft® Windows® 7 certified
 Microsoft Windows 10 certified

Supports ThinkCentre Tiny via VESA back mount

Includes dual input connection for attachment to two

Widescreen 21.5-inch monitor

· Supports optional soundbar

systems concurrently

• Supports 1920x1080 resolution



**Features** 

#### ThinkVision T22i Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Viewing adjustments Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display On screen display with digital user controls (8 languages) Direct access (buttons on front) for power, menu, input source select and brightness USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0) Control features USB hub Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) (1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter Monitor connectors Signal cables Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group 1.8 meter USB signal cable, 1.8 meter black power cord

640x350, 640x480, 720x400

1024x768, 1152x864

1280x768, 1366x768 1440x900, 1680x900

800x600

1280x1024

1680x1050

1920x1080

DP: 17

Limited Warranty

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Kensington MicroSaver Cable Lock
Kensington Twin Head Cable Lock
Kensington Twin Head Cable Lock
See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision













T22v Wide Flat Panel Monitor Name

Bezel color

Type-model 61BBMAR6US / 61BBMAT6EU Panel

Viewable image size Max view area (W x H)

Native resolution Aspect ratio

Pixel pitch (mm) Dot/Pixel per Inch Brightness

Contrast ratio Pixel response time Color gamut

Viewing angle at 10:1 CR Stand Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date

Presets display modes

USB hub

October 2017

VESA-compliant Power management Ergonomics Emission standards Environmental

FCC Class B

Preset resolutions VGA:

1024x768, 1152x864 1280x1024

WSXGA+: 1680x1050

Presets: 24; user modes: 20

**Black** 

TFT-LCD, In-Plane Switching (IPS),

White LED backlight

**21.5"** (**546mm**) diagonal 18.74" x 10.54" (476.1mm x 267.8mm) **1920x1080** 

16:9 0.248 x 0.248 mm 102 dpi

250 nits or cd/m2 (typical)

1000:1 (typical)

6ms (typical); 4ms (extreme mode)

12% (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.14" H x 19.28" W x 9.92" D;

485.8mm H x 489.7mm W x 251.9mm D

18 watts typical, 43 watts maximum (with USB 3.0 hub),

<0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

10.16 lb; 4.61 kg

3 year (includes backlight)

VESA DDC2B/CI

ENERGY STAR® qualified ISO 9241-307

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** 

640x480, 720x400 800x600, 832x624 SVGA: XGA: SXGA: WXGA+: 1440x900, 1600x900

Full HD: 1920x1080

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

Viewing adjustments Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display On screen display with digital user controls (8 languages) Control features

Direct access for power, menu, input source select, volume up / down, speaker mute and microphone mute USB 3.0 Hub: 1 port into PC (USB 3.0); 2 ports for accessories (2 USB 3.0)

Integrated speakers, dual-array microphone, audio-in and Audio-out, optional sound bar supported Integrated FHD camera with IR

Multimedia Camera Integrated FHD camera with IR
Support HDMI, DisplayPort, VGA
(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, **HDCP-compliant**(3) DisplayPort, digital, black, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Multiple input Monitor connectors

Signal cables

Mounting features Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, 1.8 meter USB signal cable, 1.8 meter black power cord, 1.8 meter HDMl signal cable (Row) Ship group

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

 Widescreen 21.5-inch monitor • Supports 1920x1080 resolution

· Supports optional soundbar

• Supports ThinkCentre Tiny via VESA back mount

EPEAT Gold certified

 Microsoft® Windows® 7 certified Microsoft Windows 10 certified

ThinkVision T22v Wide Monitor

Lenovo October 2017













T2324d Wide Flat Panel Monitor Name

Bezel color **Black** 

Type-model 60F3JAR2US / 60F3JAT2EU Panel TFT-LCD, twisted nematic (TN), White LED backlight

Viewable image size

**23.0"** (**584mm**) diagonal 20.07" x 11.29" (509.8mm x 286.7mm) Max view area (W x H)

1920x1080 Native resolution

Aspect ratio 16:9

Pixel pitch (mm)
Dot/Pixel per Inch 0.2655 x 0.2655 mm 96 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 5ms (typical) Color gamut 72%

170° (+/- 85°) horizontal, 160° (+/- 80°) vertical Viewing angle at 10:1 CR

Tilt stand Stand

Sides: 0.68" (17.3mm) Bezel width

15.75" H x 21.48" W x 8.06" D; Dimensions (HxWxD)

400.3mm H x 545.8mm W x 204.9mm D Power supply 20 watts typical,

27 watts maximum

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Weight Limited warranty

7.06 lb; 3.20 kg

3 year (includes backlight)
June 2016

Available date

VESA-compliant VESA DDC2B/CI

Power management Ergonomics Emission standards

ENERGY STAR® qualified ISO 9241-307

FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Gold rating** Environmental

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x768, 1280x800, 1366x768

WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets / user settings Standard presets: 26; user settings: 16

Tilt: 22° back, -5° Viewing adjustments

Rotating screen None On screen display with digital user controls (8 languages)

On screen display

Control features USB hub

Direct access (buttons on front) for automatic image setup, dual input and brightness

None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Dual input (two different PCs attach to two different connectors; one PC shows image; select via b (1) VGA 15-pin D-shell, analog, blue (2) DisplayPort, digital, black, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors

Signal cables

Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter black power cord

**Limited Warranty** 

Accessories

See details at http://support.lenovo.com/en\_US/guides-and-manuals/de-Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock tail.page?DocID=UM008281 73P2582 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

Widescreen 23.0-inch monitor

• Supports 1920x1080 resolution

· Supports optional soundbar

 Supports ThinkCentre Tiny via VESA back mount Includes dual input connection for attachment to two

systems concurrently (analog and digital)

EPEAT Gold certified

Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision T2324d Wide Monitor













Name T23d-10 Wide Flat Panel Monitor Bezel color **Black** Type-model 61C3MAR6US / 61C3MAT6EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **22.5**" (**571.5mm**) diagonal 19.5" x 12.4" (496.2mm x 313.9mm) Viewable image size Max view area (W x H) 1920x1200 Native resolution Aspect ratio 16:10 Pixel pitch (mm) 0.25 x 0.25 mm Dot/Pixel per Inch 100.6 dpi Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) Color gamut 12% (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.09" (2.3mm) 19.37" H x 19.73" W x 9.9" D; 491.9mm H x 501.2mm W x 251.9mm D Viewing angle at 10:1 CR Stand Bezel width Dimensions (HxWxD) 15 watts typical, 18 watts maximum, Power supply <0.3 watts standby/suspend, universal, integrated (no external brick-like power supply) Weight Limited warranty 10.67 lb; 4.85 kg

3 year (includes backlight) June 2018 Available date VESA-compliant VESA DDC2B/CI ENERGY STAR® qualified Power management ISO 9241-307 Ergonomics Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental Preset resolutions VGA: 640x480, 720x400 SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

1920x1200

**Features** 

Widescreen 22.5-inch monitorSupports 1920x1200 resolution

Supports ThinkCentre Tiny Clamp Bracket

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision T23d-10 Wide Monitor

Presets display modes Standard presets: 27; user settings: 20 Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display On screen display with digital user controls (8 languages) Control features Direct access (buttons on front) for power, menu, input source select and brightness USB hub None Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) (1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Monitor connectors Signal cables (1) detachable, VGA 15-pin D-shell at each end, alratog, 1.5 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group 1.8 meter black power cord, 1.8 meter HDMI signal cable (NA only)

Limited Warranty	Accessories		
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620		
	See details at www.lenovo.com/support/monitoraccessories		
	See all monitors at www.lenovo.com/thinkvision		

WUXGA:













T23i Wide Flat Panel Monitor Name Bezel color **Black** 

Type-model Panel TFT-LCD, In-Plane Switching (IPS),

Viewable image size Max view area (W x H)

Native resolution Aspect ratio

Pixel pitch (mm) Dot/Pixel per Inch Brightness

Contrast ratio Pixel response time Color gamut

Viewing angle at 10:1 CR Stand

Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

61ABMAR1US / 61ABMAT1EU

White LED backlight

23" (584.2mm) diagonal 20.36" x 11.92" (517.2mm x 302.8mm) 1920x1080

16:9

0.2652 x 0.2652 mm 95.8 dpi

250 nits or cd/m2 (typical)

1000:1 (typical) 6ms (typical)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 13.3" H x 20.56" W x 10.4" D; 337.7mm H x 522.2mm W x 264.2mm D

16 watts typical, 45 watts maximum (with USB 3.0 hub), <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

10.85 lb; 4.92 kg 3 year (includes backlight)

Available date April 2017

VESA-compliant VESA DDC2B/CI

Power management ENERGY STAR® qualified

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Ergonomics Emission standards Environmental

USB hub

ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** 

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 XGA: 1024x768, 1152x864

SXGA: 1280x1024 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes HDMI: 18; DP: 18 **Features** 

 Widescreen 23-inch monitor • Supports 1920x1080 resolution

Supports ThinkCentre Tiny Clamp Bracket

 Includes dual input connection for attachment to two systems concurrently

ÉPEAT Gold certified

Microsoft® Windows® 7 certified
Microsoft Windows 10 certified



ThinkVision T23i Wide Monitor

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait Rotating screen

On screen display On screen display with digital user controls (8 languages) Control features

Direct access (buttons on front) for power, menu, input source select and brightness and automatic image setup USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

Multiple input Monitor connectors

(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Signal cables

(2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features

Security

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group

1.8 meter USB signal cable, 1.8 meter black power cord

**Limited Warranty** See details at http://support.lenovo.com/en\_US/guides-and-manuals/de**Accessories** 

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories













T2454p Wide Flat Panel Monitor Name Bezel color Raven black 60F9MAR1US / 60F9MAT1EU Type-model Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight **24.0"** (**609.6mm**) diagonal 20.41" x 12.76" (518.4mm x 324.0mm) **1920x1200** Viewable image size Max view area (W x H) Native resolution Aspect ratio 16:10 Pixel pitch (mm) 0.270 x 0.270 mm

Dot/Pixel per Inch Brightness Contrast ratio Pixel response time Color gamut 77.4%

Viewing angle at 10:1 CR Stand

Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date VESA-compliant

Power management

Ergonomics Emission standards Environmental

Preset resolutions

Presets / user settings

Viewing adjustments Rotating screen On screen display

Control features USB hub Multiple input

Security

94 dpi

300 nits or cd/m2 (typical) 1000:1 (typical) 7ms (typical)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.74" (18.8mm) 15.85" H x 21.94" W x 10.39" D; 402.5mm H x 557.4mm W x 264.2mm D

24 watts typical, 27 watts maximum (without USB 3.0 hub), 54 watts maximum (with USB 3.0 hub), <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

13.60 lb; 6.15 kg 3 year (includes backlight)

VESA DDC2B/CI ENERGY STAR® qualified

ISO 9241-307 FCC Class B

March 2015

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™** Gold rating

VGA: 640x350, 640x480, 720x400 800x600

SVGA: XGA: 1024x768 SXGA: 1280x1024

WXGA: 1280x720, 1280x768, 1280x800 WXGA+: 1440x900

WSXGA+: 1680x1050, 1600x1200 1920x1080, 1920x1200 Full HD: Standard presets: 21; user settings: 20 **Features** 

- Widescreen 24.0-inch monitor • Supports 1920x1200 resolution
- Supports ThinkCentre Tiny Clamp Bracket

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently (analog and digital)

EPEAT Gold certified

Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified



ThinkVision T2454p Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages)
Direct access (buttons on front) for automatic image setup, dual input and brightness USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) (1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, HDCP-compliant
(3) DisplayPort, digital, black, HDCP-compliant
(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter Monitor connectors Signal cables (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DisplayPort cable, Ship group

1.8 meter USB signal cable, 1.8 meter black power cord

**Limited Warranty** See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision













Name **T24d Wide Flat Panel Monitor** Bezel color **Black** 

Type-model 61B4MAR1US / 61B4MAT1EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size Max view area (W x H)

**24"** (**609.6mm**) diagonal 20.41" x 12.75" (518.4mm x 324mm) **1920x1200** Native resolution 16:10

Aspect ratio Pixel pitch (mm)

0.27 x 0.27 mm Dot/Pixel per Inch 94 dpi Brightness 300 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical)

Pixel response time Color gamut

99% 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.58" H x 20.99" W x 10.25" D; 497.4mm H x 533.2mm W x 260.4mm D Viewing angle at 10:1 CR Stand

Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

Available date

12.41 lb; 5.63 kg

3 year (includes backlight) June 2017 VESA DDC2B/CI

7ms (typical)

VESA-compliant Power management

Ergonomics Emission standards Environmental

ENERGY STAR® qualified ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080 WUXGA: 1920x1200

22 watts typical, 64 watts maximum (with USB 3.0 hub),

<0.3 watts standby/suspend, universal, integrated (no external brick-like power supply)

Presets display modes Standard presets: 22; user settings: 20 **Features** 

- Widescreen 24-inch monitor • Supports 1920x1200 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- Supports optional soundbar
- Includes dual input connection for attachment to two systems concurrently
- EPEAT Gold certified
- Microsoft® Windows® 7 certified
- Microsoft Windows 10 certified



ThinkVision T24d Wide Monitor

Viewing adjustments Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Screen pivots 90 degrees from landscape to portrait Rotating screen On screen display with digital user controls (8 languages)
Direct access (buttons on front) for power, menu, input source select and brightness
USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)
Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) On screen display Control features USB hub Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via to (1) VGA 15-pin D-shell, analog, blue (2) HDMI (1.4), digital, **HDCP-compliant** (3) DisplayPort, digital, black, **HDCP-compliant** (1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter (2) detachable, DisplayPort at each end, digital, 1.8 meter Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors Signal cables Mounting features Security Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, Ship group 1.8 meter USB signal cable, 1.8 meter black power cord, 1.8 meter HDMI signal cable (NA only)

Limited Warranty	Accessories
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620
	See details at www.lenovo.com/support/monitoraccessories
	See all monitors at www.lenovo.com/thinkvision













# ThinkVision T24i-10 MONITOR



# **SPECIFICATIONS**

# **DISPLAY**

Panel Size Panel Type Backlight Resolution (H x V) Aspect Ratio Anti-Glare Near Edgeless Screen Screen Dimensions (W x H) (mm) (inches)

Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (mm) Color Gamut (CIE 1931) Color Support (Typical)

Response Time (gray to gray) OSD Controls Buttons Languages

23.8" Wide

In-Plane Switchng WI FD 1920 x 1080 16:9 Yes Yes

527.04 x 296.46 20 75" x 11 67' 250 cd/m<sup>2</sup> 178°/178° 1000:1 3M:1 0.2745 x 0.2745

72% NTSC 16.7 Million 4 ms (Extreme mode) 6 ms (Normal mode)

English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

# DIMENSIONS (W x D x H)

Size Packed (mm) 422 x 622 x 190 (inches) 16 61" x 24 48" x 7 48" Size Unpacked with Stand Lowest Position 540.2 x 261.75 x 373.4 (mm) (inches) 21.26" x 10.3" x 14.7" Highest Position

540.2 x 261.75 x 483.4 (mm) 21.26" x 10.3" x 19" (inches) Size Unpacked without Stand

(Monitor Head Only) (mm)

(inches) 21.26" x 1.82" x 12.83" Stand Base Footprint Area

(mm) 250 x 250 (inches)

Weight Packed Unpacked

Monitor Head Only Full Container Load (40' STD / 20' STD)

9.84" x 9.84"

540 2 x 46 45 x 325 98

Starting at 11.33 lbs (5.15 kg) Starting at 7.26 lbs (3.3 kg)

Starting at 16.39 lbs (7.45 kg)

1140 / 540 Units

# CONNECTIVITY

VGA + HDMI™ 1.4 + Video Input Signals DisplayPort™ 1.2 Video Cables Supplied (Length) 1.8 m

USB Hub

Audio Out

1 x USB 3.01 (Upstream) 4 x USB 3.01

(Downstream, Incl. 1 BC)

. Yes (3.5 mm)

# POWER CONSUMPTION

16.5 W Typical Mavimum 55 W <0.5 W Sleep-Mode Switch Off-Mode <0.3 W Power Supply Internal

Power Voltage 90 VAC - 264 VAC

# **MECHANICAL**

-5°/ 30° Tilt Angle (Front / Back) Swivel Angle (Left / Right) +/-45° Lift Range (mm) 110 +/-90° Pivot Cable Management Yes Kensington® Lock Yes Yes (100 X 100)

VESA® Mount (mm x mm) Bezel Color Raven Black

Bezel Width

Top (mm / inches) 2 / 0.08" Sides (mm / inches) 2 / 0.08"

# WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x VGA Cable 1 x DisplayPort™ - DisplayPort™ Cable 1 x HDMI™ Cable (NA Only) Quick Setup Guide

# **CERTIFICATIONS**

EPEAT™ Gold ENERGY STAR® Rating 7.1 TCO<sup>®</sup> 7.0 TCO Edge 2.0 RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 2

Windows Certification Windows 7 / Windows 10 TüV Eye Comfort Certification

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.





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# ThinkVision T24i-19 MONITOR



# SPECIFICATIONS

# **DISPLAY**

Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Near Edgeless Screen Screen Dimensions (W x H) (mm)

(inches) Brightness Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio

Speakers Pixel Pitch (mm) Color Gamut (CIE 1931) Color Depth Color Support (Typical)

Response Time (GtG) Extreme / Normal **OSD Controls** 

Buttons Languages

## DIMENSIONS (W x D

Size Packed (mm) 422 x 622 x 190 (inches) 16.61" x 24.48" x 7.48" Size Unpacked with Stand Lowest Position

(mm) (inches)

Highest Position (mm) (inches)

Size Unpacked without Stand (Monitor Head Only)

(mm) (inches)

Stand Base Footprint Area

(mm) (inches) Weiaht Packed Unpacked

Monitor Head Only Full Container Load (40' STD / 20' STD)

540.2 x 261.75 x 373.4

21.26" x 10.3" x 14.7"

540.2 x 261.75 x 483.4 21.26" x 10.3" x 19"

540 2 x 46 45 x 325 98 21.26" x 1.82" x 12.83"

250 x 250 9.84" x 9.84"

Starting at 16.39 lbs (7.45 kg) Starting at 11.33 lbs (5.15 kg) Starting at 7.26 lbs (3.3 kg)

1140 / 540 Units

# CONNECTIVITY

Video Input Signals DisplayPort™ Video Cables Supplied USB Hub

Audio Out Power

VGA + HDMI™ +

23.8" Wide

WLED

16:9

Yes

Yes

In-Plane-Switching

FHD (1920 x 1080)

527.04 x 296.46

0.2745 x 0.2745

20.75" x 11.67"

250 nits

178°/178°

1000:1

2 x 2W

72% NTSC

16.7 Million

4 ms / 6 ms

3M:1

8 hit

5

VGA, DisplayPort™, USB, Power, HDMI™ (for NA only) USB 3.0 (4 x down, 1 x BC)

English, French, German, Spanish, Italian, Japanese, Simplified Chinese, Russian

Yes (3.5 mm) Internal

# POWER CONSUMPTION

Typical 16.5 W Maximum 59 W <0.5 W Sleep-Mode Switch Off-Mode <0.3 W Power Supply Internal

Power Voltage 90 VAC - 264 VAC

ENERGY STAR® (Pon) 13.67 W ENERGY STAR® (E<sub>TEC</sub>) 43.51 kWh

# **MECHANICAL**

-5°/30° Tilt Angle (Front / Back) Swivel Angle (Left / Right) +/-45° Lift Range (mm) 110 +/-90° Pivot LTPS Stand Cable Management Yes Kensington® Lock Yes VESA® Mount (mm x mm) Yes (100 X 100) Bezel Color Raven Black Bezel Width

Top (mm / inches) 2 / 0.08" Sides (mm / inches) 2 / 0.08"

# WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x VGA Cable 1 x DisplayPort™ - DisplayPort™ Cable 1 x HDMI Cable (NA Only)

# **CERTIFICATIONS**

Quick Setup Guide

EPEAT™ Gold **ENERGY STAR® Rating** 7.1 7.0 TCO TCO Edge 2.0 ULF Yes RoHS (EU 2002/95/EC) Yes China Energy Efficiency Standard Tier 2

Windows Certification Windows 7 / Windows 10

TüV Eye Comfort Certification Yes TINY Support Yes Soundbar Support\* Yes

**EPS Cushion** Package

Optional





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Name T24m Wide Flat Panel Monitor **Features** Bezel color **Black** • Widescreen 23.8-inch monitor 61B8RAR3US / 61B8RAT3EU Type-model • Supports 1920x1080 resolution Panel TFT-LCD, In-Plane Switching (IPS), Supports ThinkCentre Tiny Clamp Bracket White LED backlight Supports optional soundbarEPEAT Gold certified **23.8"** (**604.7mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** Viewable image size Max view area (W x H) Microsoft® Windows® 7 certified Native resolution Microsoft Windows 10 certified Aspect ratio 16:9 0.2745 x 0.2745 mm Pixel pitch (mm) Dot/Pixel per Inch 92 dpi Brightness 250 nits or cd/m<sup>2</sup> (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) Color gamut 99% sRGB Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.03" H x 21.26" W x 10.3" D; 483.4mm H x 540.2mm W x 261.75mm D Stand Bezel width Dimensions (HxWxD) 17 watts typical, 110 watts maximum (with USB 3.0 hub), Power supply <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply) 12.34 lb; 5.6 kg

3 year (includes backlight)
August 2017 Weight Limited warranty Available date VESA DDC2B/CI VESA-compliant ENERGY STAR® qualified Power management Ergonomics ISO 9241-307 Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental Preset resolutions VGA: 640x480 800x600 SVGA:

Presets display modes	XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 Full HD: 1920x1080,1920x1200 HDMI: 19; DP: 11	ThinkVision T24m Wide Monitor	
Viewing adjustments Rotating screen	Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/ Screen pivots 90 degrees from landscape to portrait	-45°; detachable stand	
On screen display	On screen display with digital user controls (8 language	es)	
Control features Direct access (buttons on front) for power, menu, input source select and brightness USB hub USB 3.0 Hub: 1 port into PC (USB 3.0); 4 ports for accessories (4 USB 3.0)		source select and brightness	
		cessories (4 USB 3.0)	
Multimedia	Audio-out, optional sound bar supported Support HDMI, DisplayPort, USB 3.1 Type-C		
Multiple input Monitor connectors	(1) HDMI (1.4), digital, <b>HDCP-compliant</b>		
Worldon Connectors	(2) DisplayPort (1.2), digital, <b>HDCP-compliant</b>		
	(3) USB 3.1 Type-C		
Signal cables	(1) 1.8 meter USB Type-C to USB Type-C cable		
Mounting features	Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount		
Security	Security keyhole for attachment of optional cable lock	(Kensington® lock-compatible)	
Ship group	Monitor with stand, Safety and Warranty Information, 1 1.8 meter black power cord	.8 meter USB Type-C to USB Type-C cable,	

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
	See details at www.lenovo.com/support/monitoraccessories	
	See all monitors at www.lenovo.com/thinkvision	













T24v Wide Flat Panel Monitor Name

Bezel color

Type-model 61BCMAR6US / 61BCMAT6EU Panel White LED backlight

Viewable image size

Max view area (W x H)

Native resolution

Aspect ratio Pixel pitch (mm)

Dot/Pixel per Inch Brightness Contrast ratio

Pixel response time Color gamut

Viewing angle at 10:1 CR Stand

Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty

**Black** 

TFT-LCD, In-Plane Switching (IPS),

**23.8**" (**604.5mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** 

16:9 0.2745 x 0.2745 mm

92 dpi 250 nits or cd/m<sup>2</sup> (typical)

1000:1 (typical)

6ms (typical); 4ms (extreme mode)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2.0mm) 19.72" H x 21.28" W x 10.32" D;

500.5mm H x 540.2mm W x 261.9mm D

20 watts typical, 45 watts maximum (with USB 3.0 hub), <0.5 watts standby/suspend, universal, integrated (no external brick-like power supply)

11.18 lb; 5.07 kg

3 year (includes backlight)

October 2017 Available date

VESA-compliant

Power management

Ergonomics Emission standards Environmental

VESA DDC2B/CI

ENERGY STAR® qualified

ISO 9241-307 FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** 

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600, 832x624 XGA: 1024x768, 1152x864 1280x1024 SXGA: WXGA+: 1440x900, 1600x900

WSXGA+: 1680x1050 Full HD: 1920x1080

Presets display modes Presets: 24; user modes: 20 **Features** 

- Widescreen 23.8-inch monitor • Supports 1920x1080 resolution
- Supports ThinkCentre Tiny Clamp Bracket
- · Supports optional soundbar
- EPEAT Gold certified Microsoft® Windows® 7 certified
- Microsoft Windows 10 certified



ThinkVision T24v Wide Monitor

Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand

On screen display with digital user controls (8 languages)

Screen pivots 90 degrees from landscape to portrait

Viewing adjustments Rotating screen On screen display Control features

USB hub Multimedia Camera Multiple input

Monitor connectors

Security

Signal cables Mounting features

Integrated speakers, dual-array microphone, audio-in and Audio-out, optional sound bar supporte Integrated FHD camera with IR
Support HDMI, DisplayPort, VGA
(1) VGA 15-pin D-shell, analog, blue
(2) HDMI (1.4), digital, **HDCP-compliant**(3) DisplayPort, digital, black, **HDCP-compliant**(1) detachable, VGA 15-pin D-shell at each end, analog, 1.8 meter
(2) detachable, HDMI at each end, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount Security keyhole for attachment of optional cable lock (Kensington® lock-compatible)

Monitor with stand, Safety and Warranty Information, 1.8 meter analog signal cable, 1.8 meter DP signal cable, 1.8 meter USB signal cable, 1.8 meter black power cord, 1.8 meter HDMl signal cable (Row) Ship group

Direct access for power, menu, input source select, volume up / down, speaker mute and microphone mute USB 3.0 Hub: 1 port into PC (USB 3.0); 2 ports for accessories (2 USB 3.0) Integrated speakers, dual-array microphone, audio-in and Audio-out, optional sound bar supported

**Limited Warranty** 

See details at http://support.lenovo.com/en\_US/guides-and-manuals/detail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

73P2582

45K1620













X24 Pro Wide Flat Panel Monitor Name

Bezel color **Black** 

60E4ECR1US / 60E4ECT1US / 60E4ECT1EU Type-model

Panel TFT-LCD, AH-IPS (In-Plane Switching),

White LED backlight

**23.8"** (**604.5mm**) diagonal 20.75" x 11.67" (527.0mm x 296.5mm) **1920x1080** Viewable image size Max view area (W x H)

Native resolution

Aspect ratio 16:9 Pixel pitch (mm) 0.2745 x 0.2745 mm Dot/Pixel per Inch 92 dpi

Brightness 250 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 7ms (typical) Color gamut 72%

Viewing angle at 10:1 CR 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical

Stand Tilt stànd

Bezel width

Dimensions (HxWxD)

Sides: 0.09" (2.3mm) 17.61" H x 21.30" W x 9.39" D; 447.4mm H x 540.9mm W x 238.4mm D

20 watts typical, 90 watts maximum, Power supply

<0.5 watts standby/suspend, universal,

external power supply 9.26 lb; 4.20 kg 1 year (includes backlight) Weight Limited warranty

July 2016 Available date

ENERGY STAR® qualified Power management Ergonomics ISO 9241-307

Emission standards FCC Class B

TCO Displays 6.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental

Preset resolutions 640x350, 640x480, 720x400 VGA:

SVGA: 800x600° XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768

WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050

Full HD: 1920x1080 Presets / user settings Standard presets: 16; user settings: 20

Viewing adjustments Tilt: 22° back, -5° forward

Rotating screen None

On screen display On screen display with digital user controls
Direct access (buttons on side bezel) for dual input and brightness
USB Hub: two USB 3.1 Type-C and one micro USB 3.0 ports Control features USB hub Integrated stereo speakers (3 watts x 2), bulit-in microphone Multimedia

RealSense 3D camera SR300 Camera

mealsense 3D camera SR300

Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)
(1) mDP, Mini DisplayPort, digital, **HDCP-compliant**(2) USB Type-C, digital
(1) detachable, mDP to DP, digital, 2.0 meter
(2) DP to mDP adapter
(3) Micro USB 3.0 cable Multiple input

Monitor connectors

Signal cables

Mounting features None

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Monitor with stand, Safety and Warranty Information, ThinkPad 90W Square tip power adaptor, 2.0 meter Mini DisplayPort to DisplayPort signal cable (with DP to mDP adapter), Ship group

Micro USB 3.0 cable (for using camera)

**Limited Warranty** Accessories

See details at http://support.lenovo.com/en\_US/guides-and-manuals/de-

tail.page?DocID=UM008281

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

 Widescreen 23.8-inch monitor • Supports 1920x1080 resolution

 Includes dual input connection for attachment to two systems concurrently

EPEAT Silver certified

• Intel RealSense 3D camera • Stereo speakers 3 watts x 2

One cable docking through USB 3.1 Type C

with power delivery

• Windows Hello certified

Microsoft® Windows® 10 certified



ThinkVision X24 Pro Wide Monitor

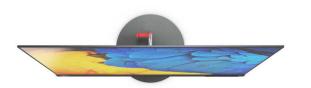












# Lenovo ThinkVision X24-20

X24-20 Flat Panel Monitor Name **Features** Bezel color Raven black Widescreen 23.8-inch monitor 61BDGAR3US / 61BDGAT3EU Type-model • Supports 1920x1080 resolution Panel TFT-LCD, IPS (In-Plane Switching), • Includes dual input connection for attachment to two White LED backlight 23.8" (604.5mm) diagonal 20.75" x 11.67" (527.0mm x 296.5mm) 1920x1080 systems concurrently Viewable image size EPEAT Silver certified Max view area (W x H) • Microsoft® Windows® 7 certified Native resolution Microsoft Windows 10 certified Aspect ratio 16:9 Pixel pitch (mm) 0.2745 x 0.2745 mm Dot/Pixel per Inch 92 dpi Brightness 250 nits or cd/m<sup>2</sup> (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) 72% (NTSC) 178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Color gamut Viewing angle at 10:1 CR Tilt stand Stand Sides: 0.04" (1.1mm) 12.85" H x 21.16" W x 8.66" D; 326.4mm H x 537.4mm W x 220mm D Bezel width Dimensions (HxWxD) 20 watts typical, 25 watts maximum, Power supply 25 watts maximum, <0.5 watts standby/suspend, universal, external power supply 7.3 lb; 3.3 kg 3 year (includes backlight) December 2017 Weight Limited warranty Available date ENERGY STAR® qualified Power management Ergonomics ISO 9241-307 Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating** Environmental Preset resolutions 640x350, 640x480, 720x400 VGA: SVGA: 800x600° XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 Full HD: 1920x1080 Presets / user settings Standard presets: 18; ThinkVision X24-20 Monitor user settings: 0 Viewing adjustments Tilt: 30° back, -5° forward

Rotating screen

On screen display with digital user controls (8 languages) On screen display

Control features Direct access (buttons on side bezel) for power, dual input and brightness

USB hub None

Multiple input Dual input (two different PCs attach to two different connectors; one PC shows image; select via button)

(1) HDMI (1.4a), digital, **HDCP-compliant**(2) DisplayPort, digital, black, **HDCP-compliant**(1) detachable, HDMI at each end, digital, 1.8 meter None Monitor connectors

Signal cables Mounting features

Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor with stand, Safety and Warranty Information, 1.8 meter HDMI signal cable,

1.8 meter black power cord

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620	
	See details at www.lenovo.com/support/monitoraccessori See all monitors at www.lenovo.com/thinkvision	es













# Lenovo ThinkVision P27h

**P27h Wide Flat Panel Monitor** Name

Case color **Black** 

61AFGAR1US / 61AFGAT1EU Type-model

Panel TFT-LCD, IPS (In-Plane Switching), White LED

backlight

Viewable image size

**27"** (**685.8mm**) diagonal 23.49" x 13.21" (596.7mm x 335.7mm) **2560x1440** Max view area (W x H)

Optimum resolution Max pixel rate 300MHz Aspect ratio 16:9

Pixel pitch (mm) 0.2331 x 0.2331mm

Dot/Pixel per Inch 109 dpi

Brightness 350 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 4ms (extreme) / 6ms (typical) Color gamut 99% sRGB

Viewing angle at 10:1 CR

178° horizontal, 178° vertical Stand

Bezel width **Dimensions** 

Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 20.21" H x 24.08" W x 10.62" D; 513mm H x 611.6mm W x 269.8mm D (HxWxD, including stand) 38 watts typical, 140 watts maximum (with USB), Power supply

<0.5 watts sleep/off;

<0.5 watts switch off

integrated (no external brick-like power supply) 15.43 lb; 7.0kg (including stand)

Weight Limited warranty 3 year April 2017 Available date

VESA-compliant Power management Ergonomics Emission standards

Environmental

VESA DDC2B/CI **ENERGY STAR® 7.0** ISO 9241-307 FCC Class B

TCO Displays 7.0, RoHS, **EPEAT™ Silver rating**,

ULE Gold

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 1024x768 XGA: SXGA: 1280x1024 WXGA: 1366x768

1440x900, 1680x900 WXGA+: WSXGA+: 1680x1050

Full HD: 1920x1080, 1920x1200 QHD: 2560x1440

Presets display modes HDMI: 22; DP: 14

> Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages)

On screen display Direct access (buttons on front) for power, menu, input source select and brightness USB Hub: one USB 3.1 Type-C upstream port, four USB 3.0 Type-A downstream ports Audio-out, optional sound bar supported Control features USB hub

Multimedia

Camera

Viewing adjustments Rotating screen

Multiple input

Support HDMI, DisplayPort, USB 3.1 Type-C, DisplayPort-out (1) 2\*HDMI (1.4), digital, **HDCP-compliant** (2) DisplayPort (1.2), digital, **HDCP-compliant** (3) DisplayPort-out, digital Monitor connectors

(4) USB 3.1 Type-C (1) USB 3.1 Type-C cable, 1.8 meter Signal cables Mounting features

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Security

Ship group Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB 3.1 Type-C cable,

1.8 meter black power cord

# **Limited Warranty**

See details at http://support.lenovo.com/en US/quides-and-manuals/detail.page?DocID=UM008281

Accessories

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock 57Y4303

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

 27-inch IPS LED backlit monitor • Supports 2560x1440 resolution • 5-Ports USB hub, support USB 3.0

 Supports optional soundbar Support ThinkCentre Tiny

 Microsoft® Windows® 7 certified Microsoft Windows 10 certified



ThinkVision P27h Monitor

Lenovo July 2017













# Lenovo ThinkVision P27q

P27q Wide Flat Panel Monitor Name

Case color Black Type-model 61A8GAT1EU

Panel TFT-LCD, IPS (In-Plane Switching), White LED

backlight

Viewable image size

**27"** (**685.8mm**) diagonal 23.49" x 13.21" (596.7mm x 335.7mm) **2560x1440** Max view area (W x H)

Optimum resolution Max pixel rate 300MHz Aspect ratio 16:9

Pixel pitch (mm) 0.2331 x 0.2331mm

Dot/Pixel per Inch 109 dpi

Brightness 350 nits or cd/m2 (typical)

Contrast ratio 1000:1 (typical) Pixel response time 4ms Color gamut 99% sRGB

Viewing angle at 10:1 CR 178° horizontal, 178° vertical

Stand

Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 20.21" H x 24.17" W x 10.62" D; Bezel width **Dimensions** 513mm H x 614mm W x 269.8mm D (HxWxD, including stand) Power supply

38 watts typical, 75 watts maximum (with USB), <0.5 watts sleep/off; < 0.3 watts switch off

integrated (no external brick-like power supply)

15.43 lb; 7.0kg (including stand) Weight Limited warranty

3 year January 2017 Available date

VESA-compliant VESA DDC2B/CI Power management **ENERGY STAR® 7.0** Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, RoHS, **EPEAT™ Silver rating**, Environmental

ULE Gold

Preset resolutions VGA: 640x480, 720x400

SVGA: 800x600 1024x768 XGA: SXGA: 1280x1024 WXGA: 1366x768

1440x900, 1600x900 WXGA+: WSXGA+: 1680x1050

1920x1080, 1920x1200 Full HD: QHD: 2560x1440

Presets / user settings Standard presets: 20; user settings: 24

Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Screen pivots 90 degrees from landscape to portrait Viewing adjustments Rotating screen On screen display On screen display with digital user controls (8 languages) Control features Direct access for menu, source switch, and brightness

USB hub USB Hub: one USB 3.0 upstream port, four USB 3.0 downstream ports

Multimedia Audio-out, optional sound bar supported

Camera

Support HDMI, DisplayPort, mini DisplayPort, DisplayPort-out Multiple input

Support HDMI, DisplayPort, mini DisplayPort, DisplayPort-out
(1) 2\*HDMI (1.4), digital, **HDCP-compliant**(2) DisplayPort (1.2), digital, **HDCP-compliant**(3) Mini DisplayPort, digital, **HDCP-compliant**(1) detachable, mini DisplayPort to DisplayPort, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Monitor connectors

Signal cables

Mounting features Security

Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB 3.0 cable, Ship group

1.8 meter mini DP to DP cable, 1.8 meter black power cord

#### **Limited Warranty**

See details at http://support.lenovo.com/en US/quides-and-manuals/detail.page?DocID=UM008281

#### Accessories

73P2582 Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features** 

27-inch IPS LED backlit monitor

• Supports 2560x1440 resolution • 5-Ports USB hub, support USB 3.0 Support ThinkCentre Tiny

• Supports optional soundbar Microsoft® Windows® 7 certified Microsoft Windows 10 certified



ThinkVision P27q Monitor













# Lenovo ThinkVision P27u

P27u Wide Flat Panel Monitor Name **Features** Case color **Black**  27-inch IPS LED backlit monitor Type-model 61CBGAR1US / 61CBGAT1EU / 61CBGAR1EU / • Supports 3840x2160 resolution 61B0GAR1US / 61B0GAT1EU • 5-Ports USB hub, support USB 3.0 Panel TFT-LCD, IPS (In-Plane Switching), White LED Support ThinkCentre Tiny backlight 27" (684.7mm) diagonal • Supports optional soundbar Viewable image size Microsoft® Windows® 7 certified 23.49" x 13.21" (596.74mm x 335.66mm) 3840x2160 Max view area (W x H) Microsoft Windows 10 certified Optimum resolution Max pixel rate 600MHz Aspect ratio 16:9 Pixel pitch (mm) 0.1554 x 0.1554mm Dot/Pixel per Inch 163 dpi Brightness 350 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) 6ms (typical) 1.457 sRGB Pixel response time Color gamut Viewing angle at 10:1 CR 178° horizontal, 178° vertical Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 20.21" H x 24.08" W x 10.62" D; 513.3mm H x 611.6mm W x 269.8mm D Stand Bezel width **Dimensions** (HxWxD, including stand) 513.3IIII H X 611.3IIIII W X 269 50 watts typical, 160 watts maximum (with USB), <0.5 watts sleep/off; <0.3 watts switch off Power supply integrated (no external brick-like power supply) 15.32 lb; 6.95kg (including stand) Weight 3 year Limited warranty August 2017 Available date **VESA-compliant** VESA DDC2B/CI ENERGY STAR® 7.0 ISO 9241-307 FCC Class B Power management Ergonomics Emission standards TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™ Silver rating**, ULE Gold Environmental Preset resolutions VGA: 640x480, 720x400, 720x480, 720x576 SVGA: 800x600 1024x768 XGA: SXGA: 1280x720, 1280x800, 1280x1024 WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 Full HD: 1920x1080, 1920x1200 QHD: 2560x1440 ThinkVision P27u Monitor UHD: 3840x2160 Standard presets: 27; user settings: 20 Presets / user settings Tilt: 30° back, -5° forward; lift: 4.33" (110mm); swivel: +/-45° Viewing adjustments Rotating screen Screen pivots 90 degrees from landscape to portrait On screen display On screen display with digital user controls (8 languages) Direct access (buttons on front) for power, menu, input source select and brightness USB Hub: one USB 3.1 Type-C port, four USB 3.0 Type-A downstream ports Audio-out, optional sound bar supported Control features USB hub Multimedia Camera Support HDMI, DisplayPort, USB 3.1 Type-C (1) 2\*HDMI (2.0), digital, **HDCP-compliant** (2) DisplayPort (1.2), digital, **HDCP-compliant** Multiple input Monitor connectors

(3) USB 3.1 Type-C

Signal cables

(1) detachable, DisplayPort to DisplayPort, digital, 1.8 meter
Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount)
Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security

Monitor, detachable stand, Quick start and safety poster, 1.8 meter USB Type-C to USB Type-C cable, 1.8 meter DP to DP cable, 1.8 meter HDMI to HDMI cable (NA only), 1.8 meter black power cord, Ship group

1.8 meter USB Type-C to USB Type-A cable

Limited Warranty	Accessories	
See details at http://support.lenovo.com/en_US/guides-and-manuals/detail.page?DocID=UM008281	Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock Lenovo Security Cable Lock See details at www.lenovo.com/support/mc	













# ThinkVision P32u-10 MONITOR



# **SPECIFICATIONS**

DISPLAY
Panel Size Panel Type Backlight Resolution Aspect Ratio Anti-Glare Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Pixel Pitch (W x H) (mm) Dot/Pixel Per Inch (DP/PPI) Color Gamut (1931)
Response Time (Typical)

**POWER CONSUMPTION** 

32"
In-Plane Switching
WLED
3840 x 2160
10.0

162
708.48 (H) x 398.52 (V)
300 cd/m <sup>2</sup>
178°/178°
1000:1
3M:1
0.1845 (H) x 0.1845 (V)
137

107
99.5% AdobeRGB
6 ms

# ENVIRONMENTAL Temperature

Temperature Operating Non-Operating	0°C - 40°C -20°C - 60°C
Humidity Operating Non-Operating	8% - 80% 5% - 95%
Altitude Operating Non-Operating	0 ft - 5000 ft 0 ft - 40,000 ft
Arsenic-Free Glass PVC-Free Mercury-Free	Yes Yes Yes
PCC % of Plastic Resins	85% with >25 g Plastic Parts

844 x 228 x 528

 $33.23" \times 8.98" \times 20.79"$ 

726 7 4 67 7 4 471 5

# DIMENSIONS (W x D x H)

Size Unpacked with Stand

Size Packed

(mm) (inches)

Typical	70 W	
Maximum	200 W	
Sleep-Mode	≤0.5 W	
Switch Off-Mode	≤0.5 W	
Power Supply	External	
Power Voltage	90 VAC - 264 VAC	
Voltage Dynamic Frequency	47 Hz - 63 Hz	
SIGNAL INPUT		

Video Input Signals	2 x HDMI™ 2.0 + DisplayPort™ 1.2 + Thunderbolt™ 3.0-In + Thunderbolt™ 3.0-Out
Video Cables Supplied	HDMI™, DisplayPort™, Thunderbolt™ 3.0
Video Cable Length USB Hub	2 m for Thunderbolt™, 1.8 m for HDMI™ and DisplayPort™
USB Cable Supplied Audio-Out	Yes (4 x Downstream, 1 x BC) Yes (USB Type-A to Type-B) Yes (3.5 mm)

	Lowest Position	
	(mm)	726.7 x 350 x 497.8
	(inches)	28.61" x 13.78" x 19.6"
	Highest Position	
М	(mm)	726.7 x 350 x 606.8
	(inches)	28.61" x 13.78" x 23.89"
	Size Unpacked without Stand	
	(Monitor Head Only)	

)	(inches)	28.61" x 2.49" x 16.99'
	Distance from Table to Panel	
	Lowest Pixel at Bottom of Screen	
	(mm / inches)	90.9 / 3.58"

30 kHz - 160 kHz 23 Hz - 80 Hz	Highest Pixel at Top of Screen (mm / inches)	489.4 / 19.27"
3840 x 2160	Stand Base Footprint Area	
HDMI™ : 600 MHz	(mm / inches)	350 x 350 / 13.78" x 13.78"

Maximum Pixel Clock Speed /	HDMI™ : 600 MHz	(mm / inches)	350 x 350 / 13.78" x 13.78"
Bandwidth	Display Port™: 5.4 Gbps Thunderbolt™: 10 Gbps	Weight	
Preset / User OSD Buttons	28 / 20 5 Buttons	Packed	Starting at 29.32 lbs (13.3 kg)
OSD Languages	English, French, German,	Unpacked	Starting at 22.05 lbs (10 kg)
OSD Languages	Spanish, Italian, Japanese, Simplified Chinese, Russian	Monitor Head Only	Starting at 15.21 lbs (6.9 kg)

MECHANICAL		
Tilt Angle (Front / Back)	-5° / 22°	
Swivel Angle (Left / Right)	45° / 45°	
Lift (mm)	110	
(CW / CCW)	90° / 90°	
VESA® Mount (mm)	100 x 100	

(CVV / CCVV)	30 / 30
VESA® Mount (mm)	100 x 100
Kensington® Lock Slot	Yes
Cable Management	Yes
Bezel Color	Raven Black
Bezel Width	
Ton (mm / inches)	2 / 0 08"

SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution

MEGUANUGAL

Top (mm / inches)	2 / 0.08"
Bottom (mm / inches)	23.8 / 0.94"
Sides (mm / inches)	2 / 0.08"

# COMPLIANCE

EPEAT™	Gold
ENERGY STAR® Rating	7.0
TCO	TCO 7.0 / TCO Edge 2.0
Windows Certification	Windows 7 / Windows 10
China Energy Efficiency Standard	Tier 2

# WARRANTY AND AVAILABILITY

Warranty 3 Years Geography Availability WW





# WWW.LENOVO.COM













# anti-glare Curvature 1800R

**Backlight** 

**WLED** 

**HDR** 

**Panel Type** 

DISPLAY

**Panel Size** 

43.4 inches

1052.3 x 328.8mm

41.4 x 12.9 inches

VA NearEdgeless,

Screen Dimensions (H x V)

ThinkVision P44w-10

Specifications

32:10 Resolution 3840 x 1200

Pixel Pitch (H x V)

0.2740 x 0.2740mm

Viewing Angle (H x V)

VESA Certified DisplayHDR™ 400

**Aspect Ratio** 

Response Time (gray to gray) 4/6ms (extreme/typical)

Refresh Rate Max. 144Hz **Contrast Ratio (typical)** 

3000:1 **Dynamic Contrast Ratio (typical)** 

**Color Support (typical)** 1.07B

**Color Gamut** sRGB: 99.5%

BT.709: 99.5% DCI-P3: 90%

**Brightness** 

380 nits (typical)

450 nits (peak)

# CONNECTIVITY

**Video Input Signals** 2 x HDMI 2.0 1 x DP1.4 1 x USB Type-C Gen1 (DP1.2 Alt Mode) 1 x USB Type-C Gen2 (DP1.4 Alt Mode)

**Video Cable Length** 1.5m for USB Type-C Gen2 1.8m for others

**Audio Out** Yes (3.5mm) **USB Hub** 

Yes

**USB** Upstream 2 x USB 3.1 (1 x USB Type-C Gen1, 269.8 x 461.1 x 1058.3mm 10.62 x 18.15 x 41.67 inches Size Unpacked w/stand (D x H x W) (Highest

Position)

1 x USB Type-C Gen2)

4 x USB 3.1 Gen1 (1 BC)

**Power Consumption** 

Typical/Max: 70W/250W Switch-off Mode: <0.5W

Size Packed (D x H x W)

47.99 x 19.68 x 14.80 inches

Size Unpacked w/stand

269.8 x 591.1 x 1058.3mm

10.62 x 23.27 x 41.67 inches

Size Unpacked w/o stand

(D x H x W) (Lowest Position)

Sleep/Off Mode: <0.5W

**DIMENSIONS** 

1219 x 500 x 376mm

**USB Downstream** 

**Power** 

Internal

(D x H x W) (Head Only) 137.2 x 366.1 x 1058.3mm 5.40 x 14.21 x 41.67 inches Weight Packed 18.59kg/40.98lbs. Weight Unpacked

Weight (Monitor Head Only) 9.35kg/20.61lbs.

**SPECIAL FEATURES** 

# **Anti-Glare** Yes

13.45kg/29.65lbs.

PIP/PBP Yes **Software** 

Yes (ThinkColor)

Speaker Supports optional Harman Kardon certified speaker

-5°/22°

Yes

**MECHANICAL** 

Tilt Angle (front/back)

Swivel Angle (left/right)

Kensington™ Lock Slot

Yes (130mm) **VESA Mount Capability** Yes (100 x 100mm)

Lift (Max. range)

1 x DP cable
1 x USB Type-C Gen2 cable
1 x USB Type-C to Type-A cable Quick setup guide

**Cable Management** 

Bezel Width (side)

Bezel Width (top/bottom)

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable

1 x HDMI cable

Yes

**Bezel Color** 

Raven Black

2.4/25.6mm

2.4mm

CCC Yes

**ENERGY STAR® Rating** 

**CERTIFICATIONS** 

8.0

**RoHS** 

Yes

**ULE** 

Gold

**TCO** 

**Ambient Operating Temperature** 

0°C to 45°C



Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 2

**TÜV Eye Comfort** Yes

**Windows** 













# Think Vision® S27i-10

DISPLAY

Panel Size

27 inch

Screen Dimensions (H x V) (mm)

597.89 (H) × 336.31 (V)

Panel Type

In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V) (mm)

 $0.3110 \times 0.3110$ 

Viewing angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode)

6 ms (normal mode)

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut NTSC (CIE 1931)

72%

Color Support

16.7M

CONNECTIVITY

**Video Input Signals** 

VGA + HDMI 1.4

Video Cable Length

1.8 m

**Audio Out** 

Yes (3.5 mm)

MULTI-MEDIA

**Optional Soundbar Support** 

Yes

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

132 x 455 x 715 mm / 5.20 x 17.91 x 28.15 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(Lowest Position)

220.0 x 443.5 x 611.9 mm / 8.66 x 17.46 x 24.10 inch

Size Unpacked w/stand (D x H x W) (mm/inch)

(Highest Position)

220.0 x 443.5 x 611.9 mm / 8.66 x 17.46 x 24.10 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

46.2 x 366.5 x 611.9 mm / 1.82 x 14.43 x 24.10 inch

Weight Packed (kg/lbs.)

6.80kg / 14.99 lbs.

Weight Unpacked (kg/lbs.)

4.76kg / 10.49 lbs.

Weight (Monitor Head Only) (kg/lbs.)

4.22ka / 9.30 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

(by VESA mount PN:4XF0N03161)

MECHANICAL

Tilt Angle (front/back)

-5° / 22°

**VESA Mount** 

Yes (100 mm)

Kensington<sup>™</sup> Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (Side)

2.0 mm

Bezel Width (top / bottom)

2.0 mm / 21.68 mm

WHAT'S IN THE BOX

Monitor with stand

1x HDMI Cable

1x VGA Cable (AP. EMEA only)

1x Power Cable

Quick setup quide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

7.0

TCO

70

**EPEAT™** 

Gold

ULE

Gold

RoHS

Yes

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**Ambient Operating Temperature** 

0°C to 40°C

TÜV Eye Confort Certification

Yes











enovo













# Think Vision T25d-10

**DISPLAY** 

Panel Size

25.0 inches

Screen Dimensions (H x V)

533.45 x 338.76mm

Panel Type

In-Plane Switching

Backlight

WLED

Aspect Ratio

16:10

Resolution

1920 x 1200 pixels

Refresh Rate

60Hz

Pixel Pitch (H x V)

0.2789 x 0.2823mm

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4ms (extreme mode)

6ms (normal mode)

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

**Brightness** (typical)

300 cd/m<sup>2</sup>

Color Gamut sRGB (CIE 1931)

99%

Color Support

16.7M

CONNECTIVITY

Video Input Signals HDMI 1.4 + DP 1.2 + VGA

**Video Cables Supplied** 

DP + HDMI\*

Video Cable Length

1.8m

**USB Hub** 

Yes

**USB Upstream** 

1 x USB 3.1 Gen1

**USB** Downstream

4 x USB 3.1 Gen1 (with 1 BC

**Audio Out** 

Yes (3.5mm)

**POWER** 

Power Consumption (Typical/Max)

25W/66W

Power Consumption Sleep/Off Mode

<0.5W

Power Consumption Switch Off-Mode

<0.3W

**Power Supply** 

Internal

ENERGY STAR® (Pon)

16.54W

ENERGY STAR® (E<sub>TEC</sub>)

52.06kWh

Voltage Required

100-240VAC (50/60Hz)

DIMENSIONS

Size Packed (D x H x W)

706 x 450 x 160mm/ 27.79 x 17.72 x 6.30 inches

Size Unpacked w/stand (D x H x W)(mm/inch) (Lowest position)

260.4 x 399.5 x 548.7mm/ 10.25 x 15.73 x 21.60 inches

Size Unpacked w/stand (D x H x W)(mm/inch) (Highest position)

260.4 x 509.5 x 548.7mm/ 10.25 x 20.06 x 21.60 inches

Size Unpacked w/o stand (D x H x W)(mm/inch) (Head Only)

43.0 x 369.1 x 548.7mm/ 1.69 x 14.53 x 21.60 inches

Weight Packed

7.8ka/17.20lbs.

Weight Unpacked

5.5kg/12.13lbs.

Weight (Monitor Head Only) 3.58kg/7.89lbs.

SPECIAL FEATURES

Anti-glare

Yes

**Optional Soundbar Support** 

Yes

ThinkCentre Tiny Support

Yes

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

+/-45°

Yes (110mm)

Pivot

+/-90°

**VESA Mount Capability** 

Yes (100 x 100mm)

Kensington™ Lock Slot

Yes

Bezel Width (Side)

2.0mm

Bezel Width (top/bottom)

2.0/22.2mm

WHAT'S IN THE BOX

Monitor with stand

1 × Power Cable

1 × USB 3.1 Gen1 Cable

1 × HDMI™ Cable\*

1 × DP Cable

Quick Setup Guide

**CERTIFICATIONS** 

**ENERGY STAR® Rating** 

7.1

EU RoHS Yes

**CCC** Yes

TCO

TCO 8.0/TCO Edge 2.0

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**TÜV Eye Comfort** 

Yes

**ULE** Gold















\*For NA and LA only

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1: 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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# Think Vision T25m-10

**DISPLAY** 

Panel Size

25.0 inches

Screen Dimensions (H x V)

535 45 x 338 76mm

Panel Type

In-Plane Switching

Backlight

WIFD

Aspect Ratio

16:10

Resolution

1920 x 1200 pixels

Pixel Pitch (H x V)

0.2789 x 0.2823mm

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4ms (extreme mode) 6ms (normal mode)

Contrast Ratio (typical)

1000.1

**Dynamic Contrast Ratio (typical)** 

3M:1

**Brightness** (typical)

300 cd/m<sup>2</sup>

Color Gamut sRGB (CIE 1931)

99%

Color Support

16 7M

CONNECTIVITY

**Video Input Signals** 

HDMI 1.4 + DP 1.2 + USB 3.1 Type-C™ (DP 1.2 Alt Mode)

Video Cables Supplied

USB 3.1 Type-C™

Video Cable Length

1.8m

**USB Hub** 

Yes

**USB** Upstream

1 x USB 3.1 Gen1 (by USB Type-C™)

**USB** Downstream

4 x USB 3.1 Gen1 (with 1 BC)

Audio Out

Yes (3.5mm)

**POWFR** 

Power Consumption (Typical/Max)

30W/150W

Power Consumption Sleep/Off Mode

<0.5W

Power Consumption Switch Off-Mode

< 0.3 W

Power Supply

Internal

ENERGY STAR® (P.,.)

17.05W

ENERGY STAR® (ETEC)

63.12kWh

**Power Voltage** 

100-240VAC (50/60Hz)

DIMENSIONS

Size Packed (D x H x W)

706 x 450 x 160mm/ 27.79 x 17.72 x 6.30 inches

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest position)

260.4 x 399.5 x 548.7mm/ 10.25 x 15.73 x 21.60 inches

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest position)

260.4 x 509.5 x 548.7mm/ 10.25 x 20.06 x 21.60 inches

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

43.0 x 369.1 x 548.7mm/ 1.69 x 14.53 x 21.60 inches

Weight Packed

7.8kg/17.20lbs.

Weight Unpacked

5.5kg/12.13lbs.

Weight (Monitor Head Only)

3.58kg/7.89lbs.

SPECIAL FEATURES

Anti-glare

Yes

Smart Power\*

Yes

**ThinkCentre Tiny Support** 

**Optional Soundbar Support** 

**Internal Speakers** 

Yes  $(3W \times 2)$ 

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

+/-45°

Lift

Yes (110mm)

Pivot

+/-90°

**VESA Mount Capability** Yes (100 x 100mm)

Kensington™ Lock Slot

Bezel Width (Side)

2.0mm

Bezel Width (top/bottom)

2.0/22.2mm

WHAT'S IN THE BOX

1 × USB Type-C<sup>™</sup> to Type-C<sup>™</sup> cable

Quick Setup Guide

#### CERTIFICATIONS

**ENERGY STAR® Rating** 

7.1

**EU RoHS** 

Yes CCC

Yes

TCO

TCO 8.0/TCO Edge 2.0

Windows Certification

Windows 7. Windows 10

China Energy Efficiency Standard

Tier 2

**TÜV Eye Comfort** 

Yes

ULE Gold















Monitor with stand 1 × Power Cable

\*The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to other devices. 75W power delivery by USB Type-C can be achieved when downstream USB ports are not connected and OSD brightness setting is <31.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.1 Gen2 & 20 Gbit/s for USB 3.2.

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# Think Vision® T27i-10

**DISPLAY** 

Panel Size

27 inch

Screen Dimensions (H x V) (mm)

597.89 (H) × 336.31 (V)

Panel Type

In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V) (mm)

 $0.3110 \times 0.3110$ 

Viewing angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode)

6 ms (normal mode)

Contrast Ratio (typical)

1000:1

**Dynamic Contrast Ratio (typical)** 

3M:1

Color Gamut NTSC (CIE 1931)

72%

**Color Support** 

16.7M

CONNECTIVITY

**Video Input Signals** 

VGA + HDMI 1.4 + DP 1.2

**USB Hub** 

Yes

1 x USB 3.0 (Upstream)

4 x USB 3.0 (Downstream, incl. 1BC)

Cable Length

1.8 m

**Audio Out** 

Yes (3.5 mm)

**Power Consumption** 

22W (Typical) / 58W (max) at On mode; <0.5W at Sleep mode; <0.3W at Switch off mode

MULTI-MEDIA

**Optional Soundbar Support** 

Yes

**DIMENSIONS** 

Size Packed (D x H x W) (mm/inch)

187 x 455 x 715 mm / 7.362 x 17.913 x 28.15 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Lowest Position)

269.8 x 403.3 x 611.9 mm / 10.62 x 15.88 x 24.09 inch

Size Unpacked w/stand (D x H x W) (mm/inch) (Highest Position)

269.8 x 513.3 x 611.9 mm / 10.62 x 20.21 x 24.09 inch

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

49.9 x 366.5 x 611.9 mm / 1.96 x 14.43 x 24.09 inch

Weight Packed (kg/lbs.)

9.32kg / 20.55 lbs.

Weight Unpacked (kg/lbs.)

6.55kg / 14.44 lbs.

Weight (Monitor Head Only) (kg/lbs.)

4.60kg / 10.14 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

Yes

(by Tiny Clamp Bracket Kit+VESA mount PN:4XF0N82412+

PN:4XF0N03161)

MECHANICAL

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

-45°/+45°

Lift (Max range)

110 mm

Pivot

-90°/90°

**VESA Mount** 

Yes (100 mm)

Kensington<sup>™</sup> Lock Slot

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (Side)

2.0 mm

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable

1 x DP-DP cable

1 x HDMI cable (NA only)

1 x USB 3.0 cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

7.0

CCC

Yes

TCO

7.0

EPEAT™

Gold

ULE

Gold

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

**Ambient Operating Temperature** 

0°C to 40°C

**Eye Comfort Certification** 

Yes



























# ThinkVision T27p-10

**DISPLAY** 

Panel Size

27.0 inches

Screen Dimensions (H x V) 596.74 x 335.66mm

Panel Type

In-Plane Switching

Backlight WLED

**Aspect Ratio** 

16:9

Resolution

3840 x 2160 pixels

**Pixel Pitch (H x V)** 0.1554 x 0.1554mm

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

4ms (extreme mode) 6ms (normal mode)

Refresh Rate

60Hz

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio

(typical)

3M:1

**Brightness (typical)** 

350 cd/m<sup>2</sup>

Color Gamut sRGB (CIE 1931) 99%

Color Support

1.07 Billion

**POWER** 

Power Consumption (Typical/Max) 50W/140W

Power Consumption Sleep/Off Mode

<0.5W

Power Consumption Switch Off-Mode

<0.3W

**Power Supply** 

Internal

ENERGY STAR® (Pon)

23.40W

ENERGY STAR® (E<sub>TEC</sub>)

101.94kWh

Voltage Required 100-240VAC (50/60Hz)

CONNECTIVITY

Video Input Signals

HDMI 2.0 + DP 1.2 + USB 3.1 Type-C™ (DP 1.2 Alt Mode)

Video Cables Supplied

USB 3.1 Type-C™ + HDMI

**Video Cable Length** 1.8m

USB Hub

Yes

1 x USB 3.1 Gen1 (by USB Type-C™)

**USB** Downstream

**USB** Upstream

4 x USB 3.1 Gen1 (with 1 BC)

**Audio Out** 

Yes (3.5mm)

**DIMENSIONS** 

Size Packed (D x H x W)

732 x 210 x 453mm/ 28.82 x 8.27 x 17.83 inches

Size Unpacked w/stand (D x H x W) (mm/inch)

269.8 x 403.3 x 611.6mm/ 10.62 x 15.88 x 24.08 inches

Size Unpacked w/o stand (D x H x W) (mm/inch) (Head Only)

45.5 x 368.4 x 611.6mm/ 1.79 x 14.5 x 24.08 inches

Weight Packed

11.00kg/24.25lbs.

Weight Unpacked 6.95kg/15.32lbs.

Weight (Monitor Head Only)

5.0kg/11.02lbs.

SPECIAL FEATURES

Smart Power\*

Yes

Anti-glare

Yes

ThinkCentre Tiny Support

**Optional Soundbar Support** 

Yes

**MECHANICAL** 

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

+/-45°

Lift

Yes (110mm)

Pivot +/-90°

**VESA Mount Capability** 

Yes (100 x 100mm)

 $Kensington^{\mathsf{TM}} \ Lock \ Slot$ 

Bezel Width (Side)

2.0mm

Yes

Bezel Width (top/bottom)

2.0/24.5mm

WHAT'S IN THE BOX

Monitor with stand 1 x Power Cable

1 x HDMI Cable

1 x USB Type-C<sup>™</sup> to Type-C<sup>™</sup> cable

Quick Setup Guide

**CERTIFICATIONS** 

**ENERGY STAR® Rating** 

7.1

EU RoHS

Yes

CCC Yes

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

TÜV Eye Comfort

Yes

TCO

TCO 8.0/TCO Edge 2.0

**ULE** Gold













\*The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to each device. 75W power delivery can be achieved when downstream USB ports are not connected and OSD brightness setting is <61.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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# Lenovo ThinkVision X1

X1 Wide Flat Panel Monitor Name

Case color **Black** 

Type-model 60E2GAR1US / 60E2GAT1US / 60E2GAT1EU

TFT-LCD, IPS (In-Plane Switching), White LED backlight 27" (684.7mm) diagonal 23.49" x 13.21" (596.7mm x 335.7mm) Panel

Viewable image size

Max view area (W x H)

3840x2160 Optimum resolution Max pixel rate 600MHz 16:9 Aspect ratio Pixel pitch (mm) 0.16 x 0.16mm Dot/Pixel per Inch 163 dpi

300 nits or cd/m2 (typical) Brightness

Contrast ratio 1300:1 (typical)

Pixel response time 6ms Color gamut 99%

Viewing angle at 10:1 CR 178° horizontal, 178° vertical Stand Tilt stand Sides: 0.088" (2.23mm) Bezel width Dimensions

(HxWxD, including stand) Power supply

19.35" H x 24.19" W x 10.63" D; 491.4mm H x 614.5mm W x 270.0mm D 40 watts typical, 130 watts maximum (with USB),

<0.5 watts sleep/off;

< 0.5 watts switch off

14.11 lb; 6.40kg (including stand) Weight

Limited warranty4 3 year Available date March 2016

VESA DDC2B/CI VESA-compliant<sup>2</sup> Power management ENERGY STAR® 7.0 **Ergonomics** ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, RoHS, EPEAT™ Silver rating, Environmental

ULE Gold

Preset resolutions VGA: 640x350, 640x480, 720x400

SVGA: 800x600

XGA: 1024x768, 1152x864

SXGA: 1280x1024

WXGA: 1280x720, 1280x768, 1280x800, 1360x768

WXGA+: 1440x900, 1600x900

WSXGA+: 1680x1050

Full HD: 1920x1080, 1920x1200

UHD: 3840x2160

Presets / user settings Standard presets: 20; user settings: 20

Viewing adjustments Tilt: 22° back, -5° forward;

Rotating screen None

Ship group

On screen display Control features On screen display with digital user controls (8 languages)

Direct access (touch buttons on front) for menu, mute, volume up/down, and brightness USB hub USB Hub: one USB 3.1 Type-C upstream port, four USB 3.0 Type-A downstream ports

Multimedia Integrated stereo speakers (3 watts x 2), bulit-in microphone

Camera Full HD camera with LED light Multiple input Support HDMI, DisplayPort

(1) HDMI (1.4), digital, **HDCP-compliant**(2) DisplayPort (1.2), digital, **HDCP-compliant**(1) detachable, HDMI at each end, digital, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter Monitor connectors Signal cables

Wall or desk mounting using the Extend Arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) Mounting features Security

Monitor, detachable stand, Quick start and safety poster, 1.8 meter DisplayPort cable, 1.8 meter HDMI cable,

1.8 meter USB Type-C cable, 1.8 meter USB Type-C to Type-A cable, 1.8 meter black power cord, mini DP to DP adapter, power adapter (135W)

**Limited Warranty** 

See details at http://support.lenovo.com/en US/quides-and-manuals/de-

tail.page?DocID=UM008281

Accessories

Kensington MicroSaver Cable Lock 73P2582 Kensington Twin Head Cable Lock 45K1620 Lenovo Security Cable Lock 57Y4303

See details at www.lenovo.com/support/monitoraccessories

See all monitors at www.lenovo.com/thinkvision

**Features**  27-inch IPS LED backlit monitor with speaker • Supports 3840x2160 resolution • 5-Ports USB hub, support USB Type-C

• 3watts x 2 stereo speakers Microsoft® Windows® 7 certified • Microsoft Windows 10 certified



ThinkVision X1 Monitor





















# ThinkVision X1 (2nd GEN) MONITOR

# EXTREME STYLISH, EXTREME FOREFRONT.



THE MILESTONE OF X-SERIES, 27" FULL-SCREEN, 4K, THUNDERBOLT™ 3 MONITOR.

Pushing the limit of screen share ratio with innovative technology, the 27" Lenovo™ ThinkVision® X1 (2nd GEN) display brings full-screen and ultra-slim appearance in elegant design. With 4K resolution and >99% sRGB color gamut, you will be assured of excellent watching experience and Thunderbolt™ 3 interface will bring the best user experience. "Motor" camera is first used on monitor, which will move up and down automatically and with it you will own standard VoIP system.

# WHY YOU SHOULD BUY THE LENOVO THINKVISION X1 (2nd GEN) MONITOR



## Full-screen appearance

With world's slimmest (4.7 mm) 27" 4K TBT monitor you will experience full-screen 4-side Near-Edgeless display with the screen ratio of approximately 93%. The monitor also comes with a metal stand and a base.



## **Brilliant performance**

The 4K UHD IPS screen displays 3840 x 2160 resolution at 60 Hz, 99% sRGB color gamut, 10-bit depth, with 1.07 billion color support assures you stunning visuals and superb color experience.



## Convenient user experience

Total versatility with
Thunderbolt™ 3 interface
supporting 4K + USB 3.0 &
45W PD + motor-camera with
dual-array microphone. A Think
RedDot tracking button is
integrated in the back cover.

# THE LENOVO THINKVISION X1 (2nd GEN) MONITOR IS BEST SUITED FOR



The Executives and CXO of company.



SOHO and Gold Collars with high income.



Trendsetters who pursue an extreme and forefront monitor.













# ThinkVisinn X1 (2nd GEN) MONITOR



# SPECIFICATIONS

DISPLAY
---------

Panel Size 27' Panel Type IPS WI FD Backlight Resolution 3840 (H) x 2160 (V)

Aspect Ratio Anti-Glare Yes

596.7 (H) x 335.7 (V) Screen Dimensions (W x H) (mm) Maximum Brightness (Typical) 350 cd/m<sup>2</sup> 178°/178° Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) 1000:1 Dynamic Contrast Ratio

Pixel Pitch (W x H) (mm) 0.1554 x 0.1554

Dot/Pixel Per Inch (DP/PPI) 163 99% sRGB Color Gamut (CIE 1931) Response Time (Extreme/Typical/Off) 4/6/14 ms (G-to-G)

## POWER CONSUMPTION

65 W Maximum 135 W 0.5 W Sleep-Mode Switch Off-Mode 0.5 W **Power Supply** External

Power Voltage 100 VAC - 240 VAC Voltage Dynamic Frequency 50 Hz - 60 Hz

# SIGNAL INPUT

Video Input Signals DisplayPort™ 1.2 + HDMI™ 2.0 + Thunderbolt™ 3 Video Cables Supplied HDMI™ + Thunderbolt™ 3

Video Cable Length

Yes (4 x USB 3.0) USB Hub

**USB** Cable Supplied N/A Audio-Jack

# SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed/

Bandwidth

Default Color Temperature

Preset Modes

**OSD Buttons** OSD Languages 30 kHz - 136 kHz 30 Hz - 60 Hz 3840 x 2160

20 Gbps 6500K 24

18 m

2 Buttons + Tracking Point English, French, Italian, German, Spanish, Japanese, Chinese, Russian

## **ENVIRONMENTAL**

Temperature 0°C - 45°C Operating -20°C - 60°C Non-Operating

8% - 80%

Humidity Operating

Non-Operating 5% - 95%

Altitude

16 000 ft Operating Non-Operating 40,000 ft

Arsenic-Free Glass Yes

PVC-Free Yes (W/O cable)

Mercury-Free Yes PCC % of Plastic Resins 25%

## DIMENSIONS (W x D x H)

Size Packed (mm)

718 x 140 x 470 28.27" x 5.51" x 18.5" (inches)

Size Unpacked with Stand

(mm) 609.74 x 234.81 x 474.76 24" x 9.24" x 18.69" (inches)

Size Unpacked without Stand (Monitor Head Only)

609 74 x 32 7 x 351 71 (mm) 24" x 1.29" x 13.85" (inches)

Distance from Table to Panel Lowest Pixel at Bottom of Screen

134 / 5.276" (mm / inches)

Highest Pixel at Top of Screen (mm / inches) 450 / 17.717"

Stand Base Footprint Area

234.81 x 234.81 (mm) (inches) 9.24" x 9.24"

Weight

Starting at 18.45 lbs (8.37 kg) Packed Starting at 12.21 lbs (5.54 kg) Unpacked Monitor Head Only Starting at 9.46 lbs (4.29 kg)

# **MECHANICAL**

Tilt Angle (Front / Back) -5° / 30° Swivel Angle (Left / Right) N/A N/A Lift (mm) N/A Pivot N/A VESA® Mount (mm) Kensington® Lock Slot Yes Cable Management Yes Bezel Color N/A Bezel Width

1.2 / 0.05" Top (mm / inches) Bottom (mm / inches) 1.2 / 0.05" Sides (mm / inches) 1.2 / 0.05"

# COMPLIANCE

EPEAT™ Silver **ENERGY STAR® Rating** 7.0 ULE Silver TCO® 70 Yes Windows Certification Windows 10 China Energy Label

# WARRANTY AND AVAILABILITY

Warranty 3 Years Geography Availability ww





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**Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.

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**Carry-in or Mail-in Service:** Parts and labor repair coverage where the customer is responsible for shipping (including packaging) or delivery to authorized warranty provider or repair center.

**Depot or Courier Service:** Parts and labor repair coverage where shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

**Expedited Depot:** Parts and labor coverage with expedited turnaround. Shipping (including packaging) or delivery to the repair center is paid for by Lenovo.

Onsite / In-home Service: Parts and labor repair coverage where labor is provided onsite at your place of business.

If Lenovo determines your product problem is covered by the product warranty and cannot be resolved over the telephone, a technician will be dispatched to arrive onsite, typically the next day.

International Warranty Service (IWS): PC repair coverage for customers who require a critical warranty repair while travelling internationally. Visit www.lenovo.com/internationalwarranty for details. Visit www.lenovo.com/warranty for Lenovo Warranty Services terms and conditions for complete details and restrictions.

**Included software:** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

**Battery life:** Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

Visit http://psref.lenovo.com/ for the latest version of Product Specifications Reference.

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