

# Lenovo. ThinkPad.Laptops PSREF Product Specifications Reference Version 551, November 2019

# Contents

Cover	1	ThinkPad L13	33
Contents	2	ThinkPad L13 Platform Specifications	34
Summary Of Change	4	ThinkPad L380	35
11e Series	5	ThinkPad L380 Platform Specifications	36
ThinkPad 11e (5th Gen)	5	ThinkPad L390	37
ThinkPad 11e (5th Gen) Platform Specifications	6	ThinkPad L390 Platform Specifications	38
A Series	7	ThinkPad L480	39
ThinkPad A275	7	ThinkPad L480 Platform Specifications	40
ThinkPad A275 Platform Specifications	8	ThinkPad L490	41
ThinkPad A285	9	ThinkPad L490 Platform Specifications	42
ThinkPad A285 Platform Specifications	10	ThinkPad L570	43
ThinkPad A475	11	ThinkPad L570 Platform Specifications	44
ThinkPad A475 Platform Specifications	12	ThinkPad L580	45
ThinkPad A485	13	ThinkPad L580 Platform Specifications	46
ThinkPad A485 Platform Specifications	14	ThinkPad L590	47
E Series	15	ThinkPad L590 Platform Specifications	48
ThinkPad E14	15	P Series	49
ThinkPad E14 Platform Specifications	16	ThinkPad P1	49
ThinkPad E15	17	ThinkPad P1 Platform Specifications	50
ThinkPad E15 Platform Specifications	18	ThinkPad P1 (2nd Gen)	51
ThinkPad E480	19	ThinkPad P1 (2nd Gen) Platform Specifications	52
ThinkPad E480 Platform Specifications	20	ThinkPad P43s	53
ThinkPad E490	21	ThinkPad P43s Platform Specifications	54
ThinkPad E490 Platform Specifications	22	ThinkPad P51	55
ThinkPad E490s	23	ThinkPad P51 Platform Specifications	56
ThinkPad E490s Platform Specifications	24	ThinkPad P52	57
ThinkPad E495	25	ThinkPad P52 Platform Specifications	58
ThinkPad E495 Platform Specifications	26	ThinkPad P52s	59
ThinkPad E580	27	ThinkPad P52s Platform Specifications	60
ThinkPad E580 Platform Specifications	28	ThinkPad P53	61
ThinkPad E590	29	ThinkPad P53 Platform Specifications	62
ThinkPad E590 Platform Specifications	30	ThinkPad P53s	63
ThinkPad E595	31	ThinkPad P53s Platform Specifications	64
ThinkPad E595 Platform Specifications	32	ThinkPad P72	65
L Series	33	ThinkPad P72 Platform Specifications	66

# Contents

ThinkPad P73	67	ThinkPad X1 Yoga (4th Gen) Platform Specifications	100
ThinkPad P73 Platform Specifications	68	ThinkPad X380 Yoga	101
T Series	69	ThinkPad X380 Yoga Platform Specifications	102
ThinkPad T470	69	ThinkPad X390 Yoga	103
ThinkPad T470 Platform Specifications	70	ThinkPad X390 Yoga Platform Specifications	104
ThinkPad T470s	71	ThinkPad Yoga 11e (5th Gen)	105
ThinkPad T470s Platform Specifications	72	ThinkPad Yoga 11e (5th Gen) Platform Specifications	106
ThinkPad T480	73	X Series	107
ThinkPad T480 Platform Specifications	74	ThinkPad X1 Carbon (6th Gen)	107
ThinkPad T480s	75	ThinkPad X1 Carbon (6th Gen) Platform Specifications	108
ThinkPad T480s Platform Specifications	76	ThinkPad X1 Carbon (7th Gen)	109
ThinkPad T490	77	ThinkPad X1 Carbon (7th Gen) Platform Specifications	110
ThinkPad T490 Platform Specifications	78	ThinkPad X1 Extreme	111
ThinkPad T490 Secure Access / Healthcare Edition	79	ThinkPad X1 Extreme Platform Specifications	112
ThinkPad T490 Secure Access / Healthcare Edition Platform Specifications	80	ThinkPad X1 Extreme (2nd Gen)	113
ThinkPad T490s	81	ThinkPad X1 Extreme (2nd Gen) Platform Specifications	114
ThinkPad T490s Platform Specifications	82	ThinkPad X270	115
ThinkPad T495	83	ThinkPad X270 Platform Specifications	116
ThinkPad T495 Platform Specifications	84	ThinkPad X280	117
ThinkPad T495s	85	ThinkPad X280 Platform Specifications	118
ThinkPad T495s Platform Specifications	86	ThinkPad X390	119
ThinkPad T580	87	ThinkPad X390 Platform Specifications	120
ThinkPad T580 Platform Specifications	88	ThinkPad X395	121
ThinkPad T590	89	ThinkPad X395 Platform Specifications	122
ThinkPad T590 Platform Specifications	90	Legal Information	123
ThinkPad Yoga	91		
ThinkPad L13 Yoga	91		
ThinkPad L13 Yoga Platform Specifications	92		
ThinkPad L380 Yoga	93		
ThinkPad L380 Yoga Platform Specifications	94		
ThinkPad L390 Yoga	95		
ThinkPad L390 Yoga Platform Specifications	96		
ThinkPad X1 Yoga (3rd Gen)	97		
ThinkPad X1 Yoga (3rd Gen) Platform Specifications	98		
ThinkPad X1 Yoga (4th Gen)	99		

# **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.

### November 20, 2019 - Version 551

### Additions in this update

### ► New product(s)

None

### **▶** Others

ThinkPad L13 Yoga - spec updated

ThinkPad L390 - spec updated

ThinkPad L480 - spec updated

ThinkPad P1 - spec updated

ThinkPad P1 (2nd Gen) - spec updated

ThinkPad P43s - spec updated

ThinkPad P52 - spec updated

ThinkPad P52s - spec updated

ThinkPad P53 - spec updated

ThinkPad P53s - spec updated

ThinkPad T490 - spec updated

ThinkPad T495 - spec updated

ThinkPad T590 - spec updated

ThinkPad X1 Extreme - spec updated

ThinkPad X1 Extreme (2nd Gen) - spec updated

ThinkPad X380 Yoga - spec updated

ThinkPad X390 - 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	ntel 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									HD720p camera, fixed focus HD Audio, Realtek® ALC3287 codec, stereo speakers, 2W x 2, Dolby® Audio™, mono digital microphone, combo audio/microphone jack
Chipset						e-C); 4	096x2160@30	Hz (HD	MI)	Keyboard Touchpad	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Memory	Intel SoC (System on Chip) platform 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)	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 @ 00112	(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   15.0 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	model, it means the model is NOT WWAN upgradable slot, opt Verizon LTE (US) SIM card							Mil-Spec test	MIL-STD-810G military testing
Dimensions		2.03" x 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 Ryzen	™ PRC	) Mobile F	Processors	with Rade	on™ Vega	Graphics			er Optional: Smart card reader
	Processor Number	# of	# of Threads		Max Turbo Frequency	Cache	Memory Types	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	00163	4	2.0 GHz	3.4 GHz		турез	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, combo slot of nano-SIM card (WWAN models) and microSD card reader,
	Ryzen 5 PRO 2500U	4	8	2.0 GHz	3.6 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Vega 8 Graphics		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, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	AMD Raded supports ex supports for	ternaľ ur inde	digital mo	onitor via F displays;	IDMI or ÜS	B Type-C;			(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 Adapter Gen 2
	Max resolut	ion: 5	120x2880	)@'60Hz'(l	JSB Type-C	C); 4096x2	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 16G	Syster iB / 24	n on Chip 00MHz D	) platform DR4, sold	ered to sys	temboard	, no sockets	S	Audio support	IR camera and HD720p camera, fixed focus     HD Audio, Realtek ALC3287 codec /
Display		nits, 1	l6:9 aśpe	ct ratio, 40	0:1 contras	st ratio	•			stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Multi-touch (opt)	Some: 12.5 300 On-cell touc	nits, 1	I6:9 aśpe	ct ràtio, 80	0:1 contras	st ratio, 17	D backlight 0° viewing a		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Storage	One of the fol		•		`	Jilly)			Security	Power-on password, hard disk password, supervisor password, security keyhole
Storage	• M.2 SSD /	SATA	6.0Gb/s	•					Security chip System Mgt	Discrete TPM 2.0, TCG Certified DASH Management
Optical	M.2 SSD / None	PCIe	NVMe, P	Cle 3.0 x	4, 32Gb/s				Fingerprint reade	DASH Management r Optional: Touch style match on chip fingerprint reader on the palm rest None
Ethernet	Gigabit Ethe				ernet Exten	sion Adap	ter Gen 2		Battery	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
WLAN Bluetooth™	Realtek® RT Bluetooth 4.								Max battery life	MobileMark® 2014: 10.55 hr * Battery life varies significantly with settings, usage, & other factors
WWAN (optional)	Integrated N	/lobile	Broadbar	nd 4G LTE	-A,				AC adapter	45W or 65W USB Type-C AC adapter
, , ,	Intel XMM™ * For non-WV	7360	(Fibocom	L850-GL)	, M.2 card	14/44/	dabla			Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	Nano-SIM coptional Ver	ard slo	ot, in the	combo slo	t with micro	SD card r	eader,		Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
Dimensions	WxDxH (HE 12.				mm x 209.8	3mm x 17.	4mm			3-ýear/1-ýr batterý limited onsite service  MIL-STD-810G military testing
	WxDxH (FH	ID nor	n-touch):	•					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; FHD multi-touch model: 2.79 lb / 1.27 kg									
Case color	Black	oucii i	1100 <del>0</del> 1. 2.1	13 IU / 1.2/	NY					
Case material	Display cove	Р	PS (HD 8	k FĤD mult	ti-touch mo					
Note: The specifica	Bottom:			n/Aluminur						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			
	supports extern supports three i				I or USB IS	/pe-C;				* 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 keyboar				
	Some: HDD / S							ystem™	NFC None				
	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® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455) * For non-WWAN model, it means the model is NOT WWAN upgradable									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	2.0 GHZ 3.4 GHZ 6 Graphic		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	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	supports ex	AMD Radeon Vega 6, Vega 8, or Vega 10 Graphics in processor only; supports external digital monitor via HDMI or USB Type-C; supports four independent displays:								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				
Multi-touch (opt)	On-cell touc	ch, sup	ports 10	-finger ges	ture (FHD	only)		ag.o	Security chip	Discrete TPM 2.0, TCG Certified			
Storage	System has a Some: HD Some: SS	D/SA	TA 6.0Gb	/s, 2.5" wid	de, 7mm hi	gh, Active		System™	System Mgt Fingerprint reade NFC	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 M.2 SSD ada	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	ore™ i3 / i5	/ i7 Proces	sor			Dimensions	Case Material	Dimensions (WxDxH)			
	Processor	# of	_, # of	Base	Max Turbo	Cache	Memory	Processor		Aluminum	12.80" x 9.13" x 0.70"; 325mm x 232mm x 17.9mm			
	Number i3-10110U	Cores 2	Threads 4	Frequency 2.1 GHz	Frequency	4MB	Types	Graphics		PC/ABS	12.80" x 9.13" x 0.81"; 325mm x 232mm x 20.5mm			
	i5-10210U i7-10510U	4	8	1.6 GHz 1.8 GHz	4.1 GHz 4.2 GHz 4.9 GHz	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	1.1 GHz	4.9 GHz	12MB			Weight	Case Material	Weight			
Graphics				cessor onl		.22				Aluminum	starting at 3.81 lb / 1.73 kg			
Graphics	Intel UHD	Graph	ics in pro	cessor and	Ĺ					PC/ABS	starting at 3.90 lb / 1.77 kg			
	AMD Rade supports 6	eon Ri externa	X 640 Gra al digital r	aphics, 2GI nonitor via	3 GDDR5   HDMI or U	memory ISB Type	v; e-C;		0	Aluminum Display cover + PC/ABS Bottom	starting at 3.74 lb / 1.69 kg			
	supports three independent displays; Max resolution: 3840x2160@60Hz (USB Type-C); 3840x2160@30Hz (HDMI)								Case color Case material	Black or silver Display cover: Aluminur	m 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: Aluminur	n or PC/ABS plastic			
Display	Size Reso					Δ	_	st Viewing	Media reader	None				
				,		SS Ratio	o Ratio	Angle	Ports	One USB 2.0, two USB 3	<ol> <li>Gen 1 (one Always On),</li> <li>1 (with the function of Power Delivery and DisplayPort),</li> </ol>			
		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								HDMI 1.4b, Ethernet (RJ	1-45), headphone / microphone combo jack,			
Multi-touch										security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed				
		Up to two drives (one M.2 SSD and one HDD)								None				
Storage	<ul> <li>Up to two drives (one M.2 SSD and one HDD)</li> <li>HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™</li> </ul>								Monitor cable Bundled Accy	None				
	<ul> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> </ul>								Camera		tional ThinkShutter camera privacy, fixed focus			
	<ul> <li>M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 or PCIe 3.0 x 4</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> <li>Intel Optane™ Memory H10 with Solid State Storage,</li> </ul>						.0 x 4		Audio support	HD Audio, Synaptic® CX	11880 codec / , Dolby® Advanced Audio /			
							),			dual array microphone, h	neadphone / microphone combo jack			
Optical	M.2 228 None	0, PCI	e NVMė	3.0 x 4					Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight				
Ethernet	- 3			tion, Realte		US			Security					
WLAN + Bluetooth™	<ul> <li>Realtek®</li> </ul>	RTL8	822CE, \	figurable by Ni-Fi 2x2 8	02.11ac +				Security chip	Integrated model: discrete TPM 2.0, TCG Certified  Discrete model: firmware TPM 2.0 integrated in chipset				
		Fi 6 A	(201, Wi-	-Fi 2x2 802	.11ax + Blu	uetooth	5.0, M.2 ca	ırd	System Mgt	None or Ontional: Touch style fine	gerprint reader on power button			
WWAN SIM card	None None								NFC	None	gerprint reader on power button			
Silvi card	None								Battery		attery, supports Rapid Charge (charge up to 80% in 1hr)			
									Max battery life	with 65W AC adapter MobileMark® 2014: 12.8				
									AC adapter	45W or 65W USB Type-0	antly with settings, usage, & other factors C AC adapter			
									Operating system (optional)	One of the following, configurer     Windows® 10 Home 64     Windows 10 Pro 64     Windows 10 Pro in S means 10 No OS	urable by model: \$			
									Limited warranty (optional)	<ul> <li>1-year mail-in repair service</li> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> </ul>				
									Mil-Spec test MIL-STD-810G military testing (by the end of Dec. 2019)					
									Environment	EPEAT™ Silver; ENERG	Y STAR® 7.1: RoHS-compliant			



















# ThinkPad E15 Platform Specifications

Processor	10th Generation Intel® Core™ i3 / i5 / i7 Processor	Dimensions	<i>WxDxH</i> : 14.49" x 9.65" x 0.74"; 368mm x 245mm x 18.9mm
	Processor # of # of Base Max Turbo Cache Types Graphics	Weight Case color	Starting at 4.3 lb / 1.9 kg Black or silver
	Number Cores Threads Frequency Frequency Types Graphics i3-10110U 2 4 2.1 GHz 4.1 GHz 4MB	Case material	Display cover: Aluminum;
	i5-1021011 1 6 GHz 4 2 GHz 6MB		Bottom: PC/ABS plastic
	i7-10510U 4 8 1.8 GHz 4.9 GHz 8MB DDR4-2666 Intel UHD Graphic	SMart card reade Media reader	rNone None
	i7-10710U 6 12 1.1 GHz 4.7 GHz 12MB	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On),
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)	Monitor cable Bundled Accy	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
Chipset	Intel SoC (System on Chip) platform	Camera Audio support	HD720p camera with optional ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec /
Memory	16GB max / 2666MHz DDR4, one DDR4 SO-DIMM socket	Audio Support	stereo speakers, 2W x 2, Dolby® Advanced Audio /
Display	Size Resolution Type Surface Brightness Aspect Contrast Viewing Ratio Angle		dual array microphone, headphone / microphone combo jack
	15.6" FHD (1920x1080) TN Anti-glare 220 nits 16:9 400:1 90°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	15.6" FHD (1920x1080)	Security	Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch	None	Security chip	Integrated model: discrete TPM 2.0, TCG Certified
Storage	<ul> <li>Up to two drives (one M.2 SSD and one HDD)</li> <li>HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™</li> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> <li>M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 or PCIe 3.0 x 4</li> </ul>	NFČ	Discrete model: firmware TPM 2.0 integrated in chipset None r Optional: Touch style fingerprint reader on power button None
	<ul> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4</li> <li>Intel Optane™ Memory H10 with Solid State Storage,</li> </ul>	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
	M.2 2280, PCIe NVMe 3.0 x 4	Max battery life	<i>MobileMark</i> <sup>®</sup> 2014: 12.2 hr
Optical	None	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Ethernet	Gigabit Ethernet Connection, Realtek R8111GUS		n One of the following, configurable by model:
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	(optional)	Windows® 10 Home 64     Windows 10 Pro 64     Windows 10 Pro in S mode
WWAN	None	7	No OS
SIM card	None	Limited warranty (optional)	<ul> <li>1-year mail-in repair service</li> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> </ul>
		Mil-Spec test	MIL-STD-810G military testing (by the end of Jan. 2020)
		Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

October 2019





# ThinkPad E480 Platform Specifications

Processor				e™ i3 / i5 F ele in US an	Processor ad EMEA) o	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 Display cover: Aluminum or PC/ABS plastic:				
	i3-7020U i3-7130U	2	4	2.3 GHz 2.7 GHz	-	3MB 3MB	DDR4-2133	Intel HD Graphics	Case material	Bottom: PC/ABS plastic,			
	i5-7200U		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),			
	Processor Number	# of Cores	# of Threads	· · · ·	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 4	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	i7-8550U Intel HD G	B550U 4 8 1.8 GHz 4.0 GHz 8MB 020  el HD Graphics 620 or Intel UHD Graphics 620 in processor only or							Audio support	HD Audio, Synaptic® CX11852 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio /			
		raphic	s 620 or	Intel UHD	Graphics 6	20 in p	rocessor ar			dual array microphone, headphone / microphone combo jack			
	supports e	xterna	ıl digital r	nonitor via					Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad			
	supports d Max resolu	ution:	1920x10	80 (HDMÍ)					Security Power-on password, hard disk password, supervisor password, security Security chip (opt)Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certification.				
Chipset Memory	Intel SoC ( 32GB max * System clo	2400	OMHz DE	ÒŔ4, dual-d	ı channel cap o <i>lower mem</i>	oable, t	wo DDR4 S roller	SO-DIMM sockets	vPro	None  None  Touch style fingerprint reader on the palm rest  None			
Display					68), anti-gla		D backlight,	,		Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)			
	Some: 14	.0" (35	55mm) Fİ	HD (1920x)	1080), anti- 00:1 contra	glare, I	_ED backlig	ght, IPS,	Max battery life	with 65W AC adapter  MobileMark® 2014: 13.51 hr  * Battery life varies significantly with settings, usage, & other factors			
Multi-touch	None		·						AC adapter	45W or 65W USB Type-C AC adapter			
Storage				and one HE	<i>DD)</i> ride, remov	ahle ur	naradable		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
	Some: M.	tive Pr 2 SSD	otection : O / PCIe N	System™ √VMe					Limited warranty	1-year mail-in repair service			
Optane™ memor Optical	y <i>Optional:</i> None	Intel O	ptane m	emory, PCI	le NVMe, F	Cle 3.0	) x 2		Mil-Spec test	1-year depot repair service  MIL-STD-810G military testing			
Ethernet		hernet	Connect	tion, Realte	k R8111G	US			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								Liviloriillent	El EAT GOIA (GG GHIY), ENERTAT GTALL G.1, FIGURE COMPILATE			
WWAN SIM card	None None												
	None	may n	ot be ava	ilable in all	regions.								

























# 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 Number Cores Thre	ads Frequency	Max Turbo Frequency Cache	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			
·	Intel UHD Graphics 6: AMD Radeon RX 550 supports external digi supports dual indeper Max resolution: 4096:	20 in processor X Graphics, 2G ital monitor via I ndent display;	and B GDDR5 mem IDMI or USB Ty	pe-C;	224Hz (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 / 2400MHz	z DDŔ4, dual-cł	nannel capable,	two DDR4 S	SO-DIMM sockets	Monitor cable Bundled Accy	None		
Display	* Installed memory is act Size / Resolution	tually 2666MHz bu	ıt run at 2400MHz	due to Intel li	imitation	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 iack		
		Anti-glare TN	220 nits 16:9	400:1	90° Non-touch	 Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight		
	14.0" FHD (1920x1080)	Anti-glare   IPS	250 nits   16:9	600:1	170° Non-touch	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	None  Up to two drives (one M.)  HDD / SATA 6.06/.  M.2 2280 SSD / SA  M.2 2280 SSD / PC  M.2 2242 SSD / PC	/s, 2.5" wide, 7m TA 6.0Gb/s De NVMe, PCIe De NVMe, PCIe	nm <sup>^</sup> high, Active F 3.0 x 4 3.0 x 2	•	•	Security Security chip System Mgt Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified firmware TPM 2.0 integrated in chipset None  Optional: Touch style fingerprint reader on the palm rest None		
	* Installed M.2 2280 SSE y Optional: Intel Optano None				) adapter ilmitation	Battery  Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter MobileMark® 2014: 13 hr		
Ethernet	Gigabit Ethernet Con	nection, Realtek	R8111GUS			iviax battery life	* Battery life varies significantly with settings, usage, & other factors		
WLAN +	One of the following, of					AC adapter	45W or 65W USB Type-C AC adapter		
Bluetooth™	Realtek® RTL8822B     Intel Wireless AC 000						Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN SIM card	• Intel Wireless-AC 92 None None	20U, VVI-FI ZXZ 8	uz. i iac + Bluet	00111 5.U, M.	.z caru	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 Intel®	Core™ i5 / i7 P	rocessor					Dimensions	WxDxH: 12.96" x 9.13" x 0.70"; 329mm x 232mm x 17.9mm					
	Processor # of # of Number Cores Three		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		6MB 8MB	DDR4-240	00 Intel	UHD Graphics 620	Smart card reader						
Graphics	Intel UHD Graphics 63 Intel UHD Graphics 63 AMD Radeon RX 540 supports external digi supports three indepe Max resolution: 40963	220 in processor DX Graphics, 20 ital monitor via endent display; ix2304@60Hz (	rand 3B GDDR5 n HDMI or USI	В Туре	e-C;	⊉24Hz	(HDMI)	MicrosD card reader 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 DisplayPo 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 spending of the provided in the complex of the provided in the complex of the provided in the complex of the provided in the complex of the provided in the complex of the provided in the complex of the provided in the pr						
Chipset Memory	Intel SoC (System on 32GB max / 2400MHz * Installed memory is act	z DDŔ4, dual-c	hannel capa ut run at 2400	ble, tw	o DDR4 ue to Intel i	SO-DI limitatio	MM sockets	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec /					
Display	Size / Resolution	Surface Type		Aspect Ratio	Contrast \	/iewing Angle	Multi-touch		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack					
	14.0" FHD (1920x1080) 14.0" FHD (1920x1080)		220 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	Anti-giale  IFS	250 11115	16.9	600.1	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	One of the following, con • M.2 2280 SSD / SAI • M.2 2280 SSD / PCI • M.2 2242 SSD / PCI	TĂ 6.0Gb/s de NVMe, PCIe de NVMe, PCIe	3.0 x 4 3.0 x 2					System Mgt	None Address of the palm rest None None					
Optical	* Installed M.2 2280 SSE None	D is PCIe 3x4 but	run at PCIe 3	x2 due	to M.2 SSI	D adapi	ter limitation	Battery	Integrated Li-ion 42Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter					
Ethernet	Gigabit Ethernet Conr	nection, Realtel	k R8111GUS	S				Max battery life	MobileMark® 2014: 11.5 hr					
WLAN + Bluetooth™	One of the following, con • Realtek® RTL8822B • Intel Wireless-AC 92	3E, Wi-Fi 2x2 80	2.11ac + Blu				d	AC adapter Operating system	* 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					
WWAN	None							· · · · ·	1-year depot repair service					
SIM card	None							Mil-Spec test	MIL-STD-810G military testing					
								Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant					

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

Lenovo September 2019













# ThinkPad E495 Platform Specifications

Processor	AMD Ryze	en™ Mo	bile Pro	ocessors wit	h Radeon	™ Vega G	raphics		Dimensions	<i>Iluminum (WxDxH):</i> 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
			# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Controller	Processor 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		2.6 GHz	3.5 GHz	1MB L2 / 4MB L3		Radeon Vega 3 Graphics	Case color Case material	Black  Display cover: Aluminum or PC/ABS plastic;  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	rNone
	Ryzen 7 3700U	4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Radeon RX Vega 10 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	supports e supports d Max resolu	deon Vega 3, Vega 8, or RX Vega 10 Graphics in processor; sexternal digital monitor via HDMI or USB Type-C; dual independent display; blution: 3840x2160@60Hz (USB Type-C); 3840x2160@30Hz (HDMI)  C (System on Chip) platform							Monitor cable Bundled Accy	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
Memory	32GB max	¢) 240	OMHz D		channel ca			D-DIMM sockets nitation	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio /
Display	Size / Reso	Size / Resolution Surface Type Brightness Aspect Contrast Viewing Ratio Ratio Angle Multi-touch							dual array microphone, headphone / microphone combo jack	
	14.0" HD (1			nti-glare TN			400:1 9	0° Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	14.0" FHD ( None	(1920X	1080)   AI	nu-giare   123	250 nits	16.9	600:1 1	70° Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	• HDD / S/	ata 6.	0Gb/s, 2	SSD and one 2.5" wide, 7	mm high, a			tem™	Fingerprint reade NFC	None
Optical	• M.2 2242 None	2 550	7 PCIE	NVMe, PCI	e 3.0 x 2 0	r PCIe 3.	U X 4		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Ethernet	Gigabit Eth	hernet	Conne	ction, Realte	ek R81110	BUS			Max battery life	MobileMark® 2014: 11 hr
WLAN + Bluetooth™	<ul> <li>Realtek®</li> </ul>	RTL8	822BE,	nfigurable b Wi-Fi 2x2 8	02.11ac +				AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
		eless-	AC 9260	), Wi-Fi 2x2	802.11ac	+ Blueto	oth 5.0, M.2	card	Operating system	,
WWAN SIM card	None None									, , , , , , , , , , , , , , , , , , , ,
Silvi Calu	INOTIE								Mil-Spec test	MIL-STD-810G military testing  EPEAT™ Silver: ENERGY STAR® 7.1: RoHS-compliant
Nata The areas									Environment	EPEAT " Sliver; ENERGY STAR" 7.1; HORS-compliant

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

Lenovo November 2019





# 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:  • 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	
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Bluetooth™		
	i3-7020U		4	2.3 GHz	-	3MB 3MB	DDD4 0400	Intel HD Graphics		<ul> <li>Intel Dual Band Wireless-AC 3165, 1x1, Wi-Fi + Bluetooth 4.1, M.2 Card</li> <li>Intel 3165ac card supports BT4.2 but is limited to BT4.1 by Windows OS</li> </ul>	
	i3-7130U i5-7200U	2	4	2.7 GHz 2.5 GHz	- 3.1 GHz	3MB	DDR4-2133	620	WWAN SIM card	None None	
	8th Genera	ation In	itel Core	i3 / i5 / i7 F	Processor				Dimensions	WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.95mm	
			# of Threads		Max Turbo Frequency Cad	Cache	Memory Types	Processor Graphics	Graphics Case color Blac	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 a	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 Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /	
Memory	32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM socket.  * System clocks down for processors with lower memory controller							O-DIMM sockets		dual array microphone, headphone / microphone combo jack	
Display	· · · · · · · · · · · · · · · · · · ·								Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad	
								ht, IPS,		Power-on password, hard disk password, supervisor password, security keyhole t)Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified	
	None								vPro Fingerprint reader	None er Optional: Touch style fingerprint reader on the palm rest	
Storage	Up to 2 drive Some: HD					able. ur	ogradable.		NFČ .	None	
		tive Pro	otection S	System™	,	,	granaura,			Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter	
Optane™ memory	Optional: 1				e NVMe, P	Cle 3.0	) x 2		Max battery life	MobileMark® 2014: 12.23 hr *Battery life varies significantly with settings, usage, & other factors	
									AC adapter	45W or 65W USB Type-C AC adapter	
Ememer	Gigabit Eti	iemet	Connect	ion, Realte	KHOIIIGU	15			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®	<sup>®</sup> Core™	™ i3 / i5 / i	7 Processo	r				Dimensions	<i>WxDxH:</i> 14.53" x 9.94" x 0.78"; 369mm x 252.5mm x 19.9mm		
	Processor # of # of Number Cores Thread i3-8145U 2 4		requency	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;		
	i5-8265LI	Ω	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	t card readerNone A reader  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 or cable None		
Graphics	Intel UHD Graphics 6 Intel UHD Graphics 6 AMD Radeon RX 55 supports external dig supports dual indepe Max resolution: 4096	620 in p 0X Gra gital mo endent 6x2304	processor aphics, 2G onitor via F display; 1@60Hz (l	and B GDDR5 HDMI or US	SB Typ	e-C;	@24Hz	(HDMI)	Ports  Monitor cable Bundled Accy			
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 / stereo speakers, 2W x 2, Dolby® Advanced Audio /		
Display	Size / Resolution	Surfa	ace Type	Brightness	Aspect Ratio	Contrast Ratio	Viewing Angle	Multi-touch		dual array microphone, headphone / microphone combo jack		
	15.6" HD (1366x768)	Anti-g		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 Power-on password, hard disk password, supervisor password, security keyhol- Security chip Integrated model: discrete TPM 2.0, TCG Certified			
Storage	Up to two drives (one M • HDD / SATA 6.0Gb, • M.2 2280 SSD / SA • M.2 2280 SSD / PO	/s, 2.5" ATA 6.0	" wide, 7m )Gb/s	m high, Ac	tive Pr	otection S	System™	тм	System Mgt	Discrete model: firmware TPM 2.0 integrated in chipset System Mgt None Singerprint reader Optional: Touch style fingerprint reader on the palm rest		
Optane™ memor	M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2     * Installed M.2 2280 SSD is PCIe 3x4 but run at PCIe 3x2 due to M.2 SSD adapter limitation nory Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2     None								Battery Max battery life	with 65W AC adapter		
Ethernet	Gigabit Ethernet Con	nectio	n, Realtek	R8111GL	JS				AC adapter	45W or 65W USB Type-C AC adapter		
WLAN +	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								Operating system Optional: Windows® 10 Home 64 or Windows 10 Pro 64			
Bluetooth™									Limited warranty	One of the following, configurable by model:  1-year mail-in repair service		
WWAN	None									1-year depot repair service		
SIM card	None								Mil-Spec test	MIL-STD-810G military testing		
									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

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













# ThinkPad E595 Platform Specifications

Processor # of Number Cores Thread	Base Max Turbo	0 1	N.4			
Byzen 3	s  Frequency   Frequency	Cache	Memory	Processor	Weight Case color	Starting at 4.7 lb / 2.1 kg Black Display cover: Aluminum; Bottom: PC/ABS plastic
INVZEII 3 I a I a	1 1 1	1MB L2	Controller		Coop motorial	
3200U 2 4	2.6 GHz 3.5 GHz	4MB L3		Radeon Vega Graphics	3	
Ryzen 5 3500U 4 8	2.1 GHz 3.7 GHz	2MB L2 / 4MB L3		Padaan Vaga	Media reader	MicroSD card reader
Ryzen 7 4 0 3700U	2.3 GHz 4.0 GHz	2MB L2 / 4MB L3		Radeon RX Ve 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), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack,
Graphics AMD Radeon Vega 3, supports external digits supports dual independent Max resolution: 3840x	ıl monitor via HDMI or lent display;	USB Type	e-C;		Monitor cable Bundled Accy	microSD card reader, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed  None  None
Chipset AMD SoC (System on 32GB max / 2400MHz * Installed memory is actu	DDR4, dual-channel c	400MHz d	ue to AMD li	mitation	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
	Surface Type Brightne	Ratio		ingle Multi-touc	— I IltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	Anti-glare TN 220 nits			90° Non-touc	Coourity	Power-on password, hard disk password, supervisor password, security keyhole
[15.6" FHD (1920x1080)]	Inti-glare   IPS   250 nits	16:9	600:1	170°   Non-touc	Security chip	Discrete TPM 2.0, TCG Certified
Multi-touch None	000 / //00)				Fingerprint reader	
Storage Up to two drives (one M.2 • HDD / SATA 6.0Gb/s		Active Pro	ntection Sv	stem™		
<ul> <li>M.2 2242 SSD / PCI6</li> </ul>	NVMe, PCIe 3.0 x 2			5.0111	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
M.2 2280 SSD / PCIe Optical None	NVMe, PCIe 3.0 x 4				Max battery life	MobileMark® 2014: 10.3 hr
1 110.10	odine Dooled Dodda	2110			AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Ethernet Gigabit Ethernet Conn		305				n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WLAN + One of the following, constitution   ■ Realtek® RTL8822BE	Mi Ei 2v2 902 1120	Bluetoot	h 1 2 M 2	oard		·
• Intel Wireless-AC 926	0, Wi-Fi 2x2 802.11ac	+ Bluetoo	oth 5.0, M.2	card 2 card	Limited warranty	1-year mail-in repair service
WWAN None			·			1-year depot repair service
SIM card None					Mil-Spec test	MIL-STD-810G military testing
					Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

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

Lenovo November 2019



















# ThinkPad L13 Platform Specifications

Processor	10th Generation Intel®	Core™ i3	/ i5 / i7	7 Processor					er Optional: Smart card reader		
	Processor # of # of Number Cores Threa	ads Freque	ency Fr	requency	cne		essor phics	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)		
	i3-10110U 2 4 i5-10210U i7-10510U 4 8	2.1 G 1.6 G 1.8 G	iHz 4	1.2 GHz 6	MB DE	DR4-2666 Intel UHD	) Graphics		HDMI 1.4b, headphone / microphone combo jack, microSD card reader, side docking connector, security keyhole  * Depending on many factors, actual data transfer speed may be lower than theoretical speed		
Graphics	Intel UHD Graphics in supports external digit supports three indepe Max resolution: 4096x	al monitor	r via HE olays;		,,	•	OMI)	(optional)	Lenovo USB-C to VGA Adapter Lenovo USB-C to HDMI Adapter Lenovo USB-C to DisplayPort Adapter Lenovo HDMI to VGA Monitor Adapter Lenovo USB-C to Ethernet Adapter  Lenovo USB-C to Ethernet Adapter		
Chipset Memory	Intel SoC (System on 4GB, 8GB, or 16GB / 2			/ soldered t	o syste	emboard, no socke	ets	Accessories (optional)	Lenovo USB-C to USB-A Adapter     Lenovo USB-C to USB-C Cable 2m		
Display	Size Resolution	Surface	7'	Brightness Aspect Ratio		Contrast Ratio	Viewing Angle	Camera	One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus		
	13.3" HD (1366x768) 13.3" FHD (1920x1080)	Anti-glare Anti-glare	IPS	250 nits 250 nits (non-touch) 300 nits	16:9	Audio support HD Audio, Synaptic® CX'11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /		<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 / dual array microphone, headphone / microphone combo jack</li> </ul>			
Multi-touch (opt)	On-cell touch, support	 s 10-finge		(multi-touch)  ure (FHD on	ly)			Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch		
Storage	One of the following, com  • M.2 2242 SSD / PCI  • M.2 2280 SSD / PCI  • Intel Optane™ Memor M.2 2280, PCIe NVN	e NVMe, le NVMe, ory H10 w	PCle 3 PCle 3 rith Soli	.0 x 2 .0 x 4	rage,				Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology or Optional: Touch style fingerprint reader on the palm rest None		
Optical	None	N	- 1040.1	V / N D	-\ 10	40 LM (- D)		Battery	Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter		
Ethernet	Native Intel Ethernet C	SB-C to E	thernet	Adapter	o) or 12	19-LM ( <i>VPro</i> )		Max battery life MobileMark® 2014: 14.1 hr			
WLAN + Bluetooth™								AC adapter Operating system	45W, 65W, or 65W slim USB-C AC adapter on Optional: Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN SIM card	None None	VVI-I I ZXZ	002.11	iax + bluett	JOHI 3.0	o, ivi.2 caru		Limited warranty  One of the following, configurable by model:  1-year depot repair service  1-year depot with 2-year system board repair service			
Dimensions Weight Case color Case material	WxDxH: 12.26" x 8. Starting at 3.06 lb / 1.3 Black or Silver Display cover: Alumin	38 kg	)"; 311.	5mm x 219	mm x 1	7.6mm			<ul> <li>1-year dept with 2-year system board repair service</li> <li>1-year battery limited onsite service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>		
Case malend	Bottom: GFRP	iuiII						Mil-Spec test	MIL-STD-810G military testing		
								Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		

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

Lenovo October 2019





### ThinkPad L380 Platform Specifications

Processor	Intel® Cele	ron® F	rocessor	, 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	# of	Base Frequency	Max Turbo	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 3.22 lb / 1.46 kg Black or Silver
		Cores					rypes	Intel HD Graphics	Case material	Display cover: Aluminum
	Cel 3965U		2	2.2 GHz	-	2MB		610	Smart card reade	Bottom: GFRP
	i3-7020U	2		2.3 GHz	-		DDR4-2133	Intel HD Graphics	Media reader	MicroSD card reader
	i3-7130U i5-7200U		4	2.7 GHz 2.5 GHz	- 3.1 GHz	3MB 3MB		620	Ports	Two USB 3.1 Gen 1 (one Always On),
	8th Genera	ation I	ntel Core					l.		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,
	Processor Number	# of Cores	# of Threads	Base Frequency	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
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB	,	·	(optional)	HDMI to VGA: Lénovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter
	i5-8250U	4		1.6 GHz	3.4 GHz	6MB 6MB	DDR4-2400	Intel UHD Graphics 620	, ,	USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	i5-8350U i7-8550U	4	8	1.7 GHz 1.8 GHz	3.6 GHz 4.0 GHz	8MB		620	Bundled Accy Camera	Optional: ThinkPad Ethernet Extension Cable  HD720p camera, fixed focus
Graphics	Intel HD G supports e supports the	externa	ıl digital n	nonitor via	HDMI or U	ics 620 SB Typ	in process e-C;	or;	Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ / dual array microphone, headphone / microphone combo jack
	Max resolu	ution:	4096x23	04@60Hź	ÚSB Type-	C); 40	96x2160@3	30Hz (HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchoad, multi-touch
Chipset Memory	Intel SoC ( 32GB max * System clo	240 أ	OMHz DE	DŔ4, dual-c		able, to	wo DDR4 S	O-DIMM sockets	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Display	Some: 13 25 Some: 13	3.3" (3: 50 nits 3.3" (3:	38mm) H , 16:9 ası 38mm) F	D (1366x7 pect ratio, 5 HD (1920x	68), anti-gl 500:1 contr 1080), anti	are, LE ast ration- glare,	D backlight D LED backlig	jht, IPS,	vPro <i>(optional)</i> Fingerprint reade	Intel vPro Technology or Optional: Touch style fingerprint reader on the keyboard bezel, anti-spoofing technology Near Field Communication
Multi-touch (opt)	on-cell tou					ast ratio	o, 170° view	ring angle	NFC (optional) Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Storage	One of the f		<u> </u>							with 65W AC adapter
o .	• M.2 SSE	) / SAT	A 6.0Gb/	s (e.g. xxx	GB SSD M	.2)	OD 00D	M O DOLE NIVAA	Max battery life	MobileMark® 2014: 16.1 hr * Battery life varies significantly with settings, usage, & other factors
Optical	None	J / PCI	e invivie,	PCIE 3.0 X	( 4, 32GD/S	(e.g. x	XXGB SSD	M.2 PCIe NVMe)	AC adapter	45W or 65W USB Type-C AC adapter
Ethernet							1219-LM (v	rPro)	Operating system	
	via optiona								Limited warranty	One of the following, configurable by model:  • 1-vear depot repair service
WLAN + Bluetooth™	* Intel 8265				Vi-Fi 2x2 80 limited to B1			h 4.1, M.2 card		3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service
WWAN SIM card	None None								Mil-Spec test	MIL-STD-810G military testing
Chivi Cara	140110								Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

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

Lenovo August 2019





















### ThinkPad L390 Platform Specifications

Processor	8th Genera	ation Ir	ntel® Core	e™ i3 / i5	/ i7 Proces	sor				Smart card reade			
	Processor Number	# of Cores	# of Threads	Base Frequence	Max Turb		Memory Types		cessor phics	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 i7-8565U	4	8	2.1 GH: 1.6 GH: 1.6 GH: 1.8 GH:	z 3.9 GHz z 4.1 GHz	6MB 6MB	DDR4-2400		O Graphics 320	Monitor cable	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 supports e supports the Max resolu	externa hree in	al digital n ndepende	nonitor v ent displa	ia ĤDMI or	,,	•	30Hz (HI	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 plus Power Adapter: Lenovo USB-C to HDMI plus Power Adapter Lenovo USB-C to DisplayPort Adapter: USB-C to Ethernet Adapter: Lenovo USB-C to Ethernet Adapter		
Chipset Memory		( / 240	0MHz DE	ĊŔĠ, dua	I-channel c				sockets	Accessories (optional) Camera	USB-C to USB-A Adapter: USB-C to USB-C Cable 2m:  Lenovo USB-C to USB-A Adapter Lenovo USB-C to USB-C Cable 2m  HD720p camera, fixed focus		
Display	* Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  Size Resolution Surface Type Brightness Aspect Ratio  13.3" HD (1366x768) Anti-glare TN 250 nits 16:9 500:1									Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headbhone / microphone combo jack		
									90° 170°	Keyboard 6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, mul			
Multi-touch (opt)	On-cell tou	uch, su	upports 1	0-finger	gesture (FF	D only)	1 000.1 (111	iditi todonj		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified		
Storage	One of the f • M.2 2280 • M.2 2242	0 SSD 2 SSD	) / SATA 6 ) / PCle N	6.0Gb/s IVMe, P0	Cle 3.0 x 2					System Mgt (opt)	Intel vPro Technology  or <i>Optional:</i> Touch style fingerprint reader on the palm rest  Near Field Communication		
Optical	<ul><li>M.2 2280</li><li>Intel Opt M.2 2280</li><li>None</li></ul>	tane™	Memory e NVMe	H10 with	ole 3.0 x 4 Solid Stat	Storage	<del>)</del> ,			Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  MobileMark® 2014: 14.61 hr  * Battery life varies significantly with settings, usage, & other factors		
Ethernet	Native Inte	el Ethe	rnet Con	nection I	219-V ( <i>Nor</i>	- <i>vPro</i> ) o	1219-LM (	(vPro)		AC adapter	45W or 65W USB Type-C AC adapter		
	Lenovo US	SB-C to	o Etherne	et Adapte	er er	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				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 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	1-year depot repair service     1-year depot with 2-year system board repair service		
WWAN SIM card	None None WxDxH: 12.67" x 8.83" x 0.74"; 321.8mm x 224.2mm x 18.8mm										3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service		
Dimensions					321.8mm x	224.2m	m x 18.8mr	m		Mil-Spec test	MIL-STD-810G military testing		
Weight Case color Case material	Starting at 3.22 lb / 1.46 kg Black or Silver Display cover: Aluminum Bottom: GFRP									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		



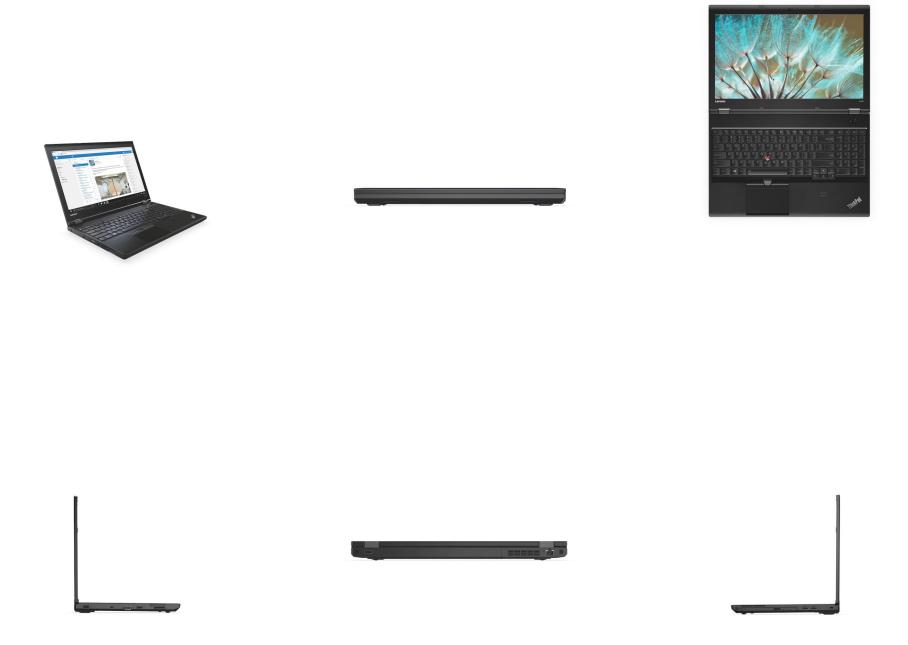
### ThinkPad L480 Platform Specifications

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	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	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),
	i7-8550U	io NOT	available i	1.8 GHz in US and El	4.0 GHz	8MB			_	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		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	) / PCIe I M.2 SSD	NVMe, PCI / PCIe NVI	e 3.0 x 2, 1 Me, PCle 3	6Gb/s .0 x 2,	16Gb/s,		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	in None	IAWW	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					acksonville)		AC adapter	45W or 65W USB Type-C AC adapter
	vPro mod					9-LM (	Jacksonvilĺe	)		Optional: Windows® 10 Home 64 or Windows 10 Pro 64
WLAN + Bluetooth™ (optional)	<ul> <li>Realtek®</li> <li>Intel Dua</li> </ul>	RTL8	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	4	8	1.6 GHz	4.1 GHz	6MB	DDR4-2400	1	HD Graphics 620	1	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				]	HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader,
Graphics	Intel UHD (discrete r supports e supports t	Graph nodels externa hree in	nics 620 in are NOT al digital r ndepende	available i monitor via ent displays	and AMD n EMEA); HDMI or U ;	Radec 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  One of the following, configurable by model:
Chipset Memory	Intel SoC (System on Chip) platform 64GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIM * Installed memory is actually 2666MHz but run at 2133MHz or 2400MHz due to In									1 ''	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek ALC3287 codec /
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		16:9		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 Pi	rotection Sy	stem™		System Mgt (opt)	Intel vPro Technology r <i>Optional:</i> Touch style fingerprint reader on the palm rest Near Field Communication
Optane™ memory	* Installed I	N.2 228	0 SSD is I	PCIe 3x4 but	run at PCIe	<i>3x2 due</i> Cle 3.0	e to M.2 SSD ) x 2	adapter	limitation	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical Ethernet	Non-vPro			nernet Conr						Max battery life  AC adapter	MobileMark® 2014: 12 hr * Battery life varies significantly with settings, usage, & other factors 45W, 65W, or 65W slim USB-C AC adapter
WLAN +	VPro mod			rable by mod		9-LIVI (	Jacksonville	:)		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ (optional)	<ul> <li>Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card (NOT available in EMEA)</li> <li>Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0</li> <li>Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0</li> </ul>									Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
			,			etooth	5.0			Mil-Spec test	MIL-STD-810G military testing
WWAN (optional)	<ul><li>Wireless</li><li>Integrate</li><li>Integrate</li><li>* For non-V</li></ul>	WAN ed Mob	upgradal ile Broad	ble (special Iband 4G L	bid only in TE, Fiboco	m L830	n) D-EB, M.2 ca 350-GL, M.2 apgradable	ard (EM card	IEA only)	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
SIM card Note: The specifica	None	movin	not be ave	ilable in all r	ogione					<u> </u>	Lenov



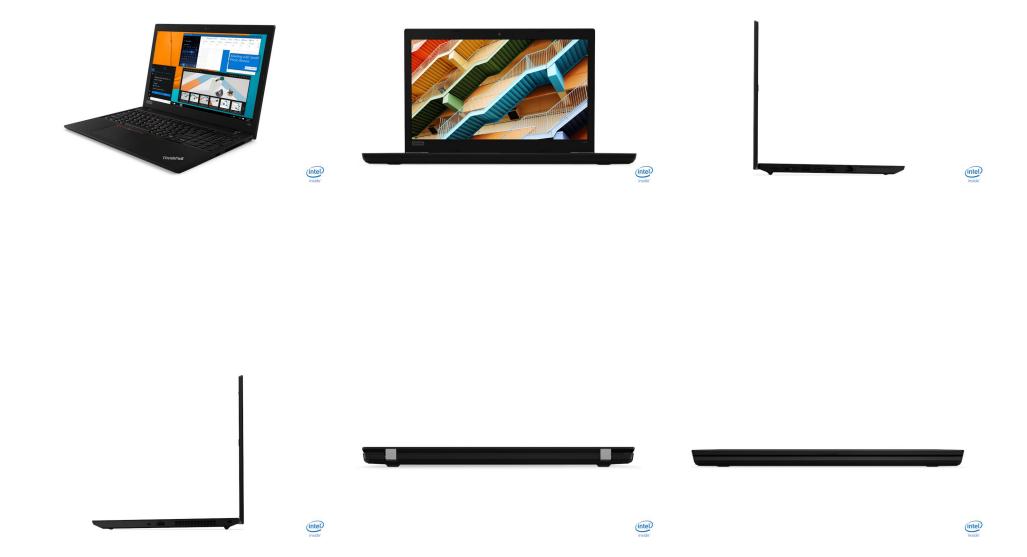
### ThinkPad L570 Platform Specifications

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, o <u>r</u> 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® Celero	on® P	rocessor	, 7th Gene	ration Intel	Core™	i3 / i5 Proc	essor or	WWAN (optional)	One of the following, configurable by model:
		# of Cores	# of Threads	Base Frequency	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>
	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	2		2.3 GHz	-	3MB	DDR4-2133		SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card
	i3-7130U	_	4	2.7 GHz	- 0.4 011-	3MB	221112100	Intel HD Graphics 620	Dimensions	<i>WxDxH</i> : 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm
	i5-7200U i5-7300U			2.5 GHz 2.6 GHz	3.1 GHz 3.5 GHz	3MB 3MB		620	Weight Case color	Starting at 4.46 lb / 2.0 kg Black
	8th Generat	tion Ir	ntel Core	i3 / i5 / i7 l	Processor				Case material	PC/ABS plastic
		# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		None or <i>Optional:</i> Smart card reader
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB	.,,,,,	Grapinos	Media reader	MicroSD card reader
	i5-8250U i5-8350U i7-8550U	4	8	1.6 GHz 1.7 GHz 1.8 GHz	3.4 GHz 3.6 GHz 4.0 GHz	6MB 6MB 8MB	DDR4-2400	Intel UHD Graphics 620	Ports	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), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
	* i3-7130U is	NOT	available i			02		I.		microSD card reader, side docking connector, security keyhole
Graphics	Intel HD Gra Intel HD Gra AMD Radeo	aphic aphic	s 610, 62 s 620 or	20 or Intel Untel UHD	JHD Graph Graphics 6	ics 620 20 in p	in process ocessor an	or only or d	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 VGA: Lenovo USB-C to VGA Adapter
	(discrete mo supports ex supports thr	odels terna ree in	are NOT I digital n depende	available inonitor via ent displays	in EMEA); HDMI or U ;;	•		30Hz (HDMI)		)HD720p camera, fixed focus HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ / dual array microphone, headphone / microphone combo jack
Chipset Memory	Intel SoC (S	Syster / 2400	m on Chi DMHz DE	p) platform	channel car	able, t	wo DDR4 S	O-DIMM sockets	Keyboard UltraNav™ Security	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
Display	Some: 15.6 220 Some: 15.6	5" (39 nits, 5" (39	6mm) HI 16:9 asp 6mm) Fl	D (1366x76 ect ratio, 5 HD (1920x	58), anti-gla 00:1 contra 1080), anti-	re, LEI st ratio glare, I	D backlight,	ht, IPS,	Security chip vPro <i>(optional)</i> Fingerprint reader	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	None		<u> </u>						NFC (optional)	Near Field Communication
Storage	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 Syste  Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD)  Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s  Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s,								Battery Max battery life AC adapter	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter  *MobileMark* 2014: 12 hr  *Battery life varies significantly with settings, usage, & other factors  45W or 65W USB Type-C AC adapter
Optical	in V None	1AWV	N slot as	2nd Storag	ge, mutually	exclus	sive with WV	VAN		Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Ethernet	Non-vPro m	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville) One of the following, configurable by model:							Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
WLAN +										3-year/1-yr battery limited onsite service
Bluetooth™ <i>(optional)</i>	<ul> <li>Realtek® F</li> <li>Intel Dual</li> <li>* Intel 8265a</li> </ul>	Band	l Wireless	s-AC 8265,	Wi-Fi 2x2	802.11	ac + Blueto	card (US only) oth 4.1, M.2 card	Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Note: The specific						-т. 1 <i>Dy</i> V	viiluuws US			Lenow



### ThinkPad L590 Platform Specifications

Processor	Intel® Cele	eron® F	rocesso	r or 8th Ger	eration Int	el Core	e™ i3 / i5 / i7	7 Proces	sor	Dimensions	<i>WxDxH:</i> 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 aphics	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		D Graphics 310	Smart card reade	r Optional: Smart card reader
	i3-8145U	2	8	2.1 GHz	3.9 GHz	4MB 6MB				Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i5-8265U i5-8365U	4	8	1.6 GHz 1.6 GHz	3.9 GHz 4.1 GHz		DDR4-2400		D Graphics	;	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		6	520		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 Graph nodels externa hree ir	nics 610 c 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	ly or Radec 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	(Syste	m on Chi	n) platform		,,	wo DDR4 S or 2400MHz c	`	,	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 Gamut			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		16:9 16:9		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	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 Pi	rotection Sy	stem™			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 F	PCIe 3x4 but	run at PCIe	3x2 due	to M.2 SSD	adapter li	imitation	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Optical	None	iiilei C	plane m	emory, FO	e in vivie, F	Ole 3.0	7 X Z			Max battery life	MobileMark® 2014: 12 hr
Ethernet	Non-vPro vPro mode			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		3-LIVI (C	Jacksonville	•)		Operating system	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ (optional)	<ul> <li>Realtek® RTL8822BE, Wi-Fi 2x2 802.11ac + Bluetooth 4.2, M.2 card (NOT available in EMEA)</li> <li>Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0</li> <li>Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0</li> </ul>									Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service
	<ul> <li>Intel Wi-</li> </ul>	Fi 6 A	<200, Wi-	Fi 2x2 802.	11ax + Blu	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	ble (special Iband 4G L	bid only in	m L830	.) 0-EB, M.2 ca 550-GL, M.2 pgradable	ard (EME card	EA only)	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
SIM card Note: The specifica	None	movr	ot be ave	ilable in all r	ogiono						Lenov



### ThinkPad P1 Platform Specifications

Processor	8th Generation Intel®	<sup>®</sup> Core <sup>™</sup> i5 / i7 Pr	ocessor or Intel X	(eon® E Pro	ocessor	Smart card reade	r Optional: Smart card reader
	Number Cores Three	eads Frequency	Max Turbo Frequency Cache	Memory Types	Processor Graphics	ExpressCard Media reader Ports	None SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On),
	i7-8750H	8 2.5 GHz 2.2 GHz 2.6 GHz	4.2 GHz 8MB 4.1 GHz 9MB 4.3 GHz 9MB	DDR4-2666	Intel UHD Graphics 630	Forts	two USB 3.1 Gen 1 (one Always Cn), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack, optional smart card reader, SD card reader, security keyhole
	E-2176M 6 1	2.7 GHz	4.4 GHz 12MB	55111 2000	Intel UHD Graphics P630	Monitor cable	* 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
Graphics	Intel UHD Graphics 6 NVIDIA® Quadro® P1 supports external dig	1000 or P2000, '4	IGB GDDR5 mer			(optional) Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
	supports external dig supports four indeper Max resolution: 5K@	ndent displays;		-			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 ( 64GB max / 2666MH Xeon processor), dua	lz DDR4, ECC o al-channel capa	ble, two DDR4 S0	O-DIMM so	ckets	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" (396mr 300 nits, 16:9	9 aspect ratio, 70	00:1 contrast ratio	LED backlio o,	ght, IPS,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	Some: 15.6" (396mr 400 nits. 16:9	9 aspect ratio. 12		tio.	acklight, IPS,	Security Security chip vPro (optional)	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 Supports pen access	i-touch, supports sory, please see	s 10-finger gestur	e (4K only)	for details	Color calibration	rTouch style match on chip fingerprint reader on the keyboard bezel None None
Storage RAID (optional) Optical	Up to 2 drives (two M.2 M.2 SSD / PCIe NVN RAID 0/1 support None		, 32Gb/s			Battery Max battery life (MobileMark 2014) AC adapter	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 7.36 hr; Hybrid mode: 13.87 hr  * Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native Intel Ethernet via bundled or option	nal ThinkPad Eth	ernet Extensión	Cable `			One of the following, configurable by model:  • Windows® 10 Home 64
WLAN Bluetooth™	Intel Wireless-AC 956 Bluetooth 5.0 wireles						<ul><li>Windows 10 Pro 64</li><li>Windows 10 Pro 64 for Workstations</li></ul>
WWAN SIM card	None None					Limited warranty	One of the following, configurable by model:  1-year depot repair service
Dimensions	WxDxH (non-touch): WxDxH (multi-touch)	): 14.24" x 9.67	" x 0.74"; 361.8		7mm x 18.4mm 7mm x 18.7mm		<ul> <li>1-year depot with 2-year system board 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: S					Mil-Spec test	MIL-STD-810G military testing
Case color Case material	Black  Display cover: CFRI  Bottom: Alum	P/GFRP hybrid; ninum alloy				Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant













### ThinkPad P1 (2nd Gen) Platform Specifications

Processor	9th Gen	eration l	ntel® Co	re™ i5 /	i7 / i9 Pr	rocessor or	Intel Xe	eon® E P	rocesso	r	Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Processo		_, # of	Bas		x Turbo Cach		emory	Proces		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;
	Number i5-9400H	Cores 4	Threads 8	Frequ 2.5 C		equency Cach 3 GHz 8ME	1)	/pes	Graph	nics		Multi-touch model: starting at 4.0 lb / 1.81 kg
	i7-9750H	6	12	2.6 (		5 GHz   12M	_	In	tel UHD (	Graphics	Case color Case material	Black paint (FHD model) or black weave (UHD model)  Display cover: CFRP/GFRP hybrid;
	i7-9850H	6	12	2.6 (		6 GHz   12M	ᆔ	4-2666	630		Case material	Bottom: Aluminum allov
	i9-9880H	8	16	2.3 (	GHz 4.	8 GHz 16M	В	4-2000			Smart card reade	r Optional: Smart card reader
	E-2276M	6	12	2.8 (	GHz 4.	7 GHz   12M	В	In	tel UHD ( P63			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	NVIDIA® supports supports	D Graph Quadro externa four inc	nics 630 T1000 al digital depende	or P630 or T20 monito nt displ	0 in proc 00, 4GB r via HD ays;	oly or essor and GDDR5 me MI or Thund t); 4K@60H	erboĺt™	•			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 In										Dundled Assu	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
Memory						on-ECC (EC two DDR4				nly on	Bundled Accy	Optional. Infinkrad Ethernet Extension Cable  ) One of the following, configurable by model:
Display			, addi oi		оаравіо,	1		Contrast		Viewing	_Camera ( <i>optional</i> , I	HD720p camera with ThinkShutter camera privacy, fixed focus
Бюріцу	Size Res	solution		Туре	Surface	Brightness	Ratio	Ratio	Gamut	Angle	A I'	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	15 6" FH	D (1920x <sup>-</sup>	1080)	IPS /	Anti-glare	300 nits	16:9	700:1	72% NTSC	170°	Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /
	EU	D (1920x			THE GIGHT	000 11110	10.0	700.1				optional dual array far-field microphone, headphone / microphone combo jack,
	15.6" Dol	by Vision	™ HDR	IPS /	Anti-glare	500 nits	16:9	1200:1	72% NTSC	170°		Dolby Atmos® sound system
	15.6" UH Dol	D (3840x by Vision	2160) HDR	IPS /	Anti-glare	500 nits	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" Dol	D (3840x by Vision lti-touch	2160) HDR,	OLED	Anti- reflection / Anti- smudge	SDR 400nit, HDR 500nit (peak)	16:9	100000:1	100% DCI-P3	170°		Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt)	Capaciti	ve-type i	multi-tou	ch. sur	ports 10	)-finger gest	ure (U	HD OLEI	Only),		'  Fingerprint reade   Color calibration	rTouch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)
Pon (ontional)	AR (anti	reflectio	n) / AS (	(anti-sr	nudge) d	coating					NFC	None
Pen (optional) Storage	Lenovo I	M.2 SSE	)								Battery Max battery life	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 13.8 hr
RAID (optional)	M.2 228 RAID 0/			/ivie 3.0	) X 4						AC adapter	* Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
Optical	None											One of the following, configurable by model:
Ethernet	Native Ir	itel Ethe led or or	rnet Cor ptional T	nectio hinkPa	n I219-V d Ethern	( <i>Non-vPro</i> ) net Extension	or I219 n Cable	9-LM ( <i>vF</i> e	Pro))		Operating system	Windows® 10 Home 64     Windows 10 Pro 64
	// Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0 // Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter										Limited warranty	Windows 10 Pro 64 for Workstations One of the following, configurable by model:
WWAN SIM card	None None			- 2 g. san							Limited warranty	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board 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 P43s Platform Specifications

Processor	8th Generation Inte	l® Core <sup>™</sup>	™ i7 Proces	sor					Dimensions	WxDxH: 12.95" x 8.94" x 0.70"; 329mm x 227mm x 17.9mm				
		# of		Max Turbo C	ache	Memory	Proces		Weight	Models FHD FHD Low Power WQHD				
	Number Cores Th i5-8365U i7-8565U 4 i7-8665U	8	1.6 GHz 1.8 GHz	4.6 GHz 8	SMB D	Types DR4-2400	Graph el UHD ( 620	Graphics	Case color Case material	Weight       3.43 lb / 1.55 kg       3.28 lb / 1.49 kg       3.24 lb / 1.47 kg         Black       Display cover:       PPS / 50% GF;         Bottom:       PA / 50% GF				
Graphics	Intel UHD Graphics NVIDIA Quadro® P5 supports external d supports three inde Max resolution: 384	520, 2G igital mo penden	B GDDR5 r onitor via H t displays:	nemory; DMI or USE	• •		DMI)		Smart card reade Media reader Ports	r Optional: Smart card reader 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 of 48GB max / 2400M 8GB or 16GB memory is a	Hz DDF	R4, dual-ch	annel capal stemboard, trun at 2400/	ole, one DE MHz due	DR4 SO-DIM e to Intel limita	IM sock	et	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 thee HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  (optional)  USB-C to VGA: Lenovo USB-C to VGA Adapter  USB-C to HDMI: Lenovo USB-C to HDMI Adapter					
Display	Size Resolution	Тур	e Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	(optional)	USB-C to HDMI: Lenovo USB-C to HDMI Adapter				
	14.0" FHD (1920x108	0) IPS	Anti-glare	250 nits (non-touch) 300 nits (multi-touch)	16:9	700:1	45%	170°	Bundled Accy Camera (optional)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None  One of the following, configurable by model:				
	14.0" FHD (1920x108 Low Power	0) IPS	Anti-glare	400 nits	16:9	800:1	72%	170°	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec /				
	FHD (1920x108 14.0" ThinkPad Privac Guard	0) by IPS	Anti-glare	400 nits	16:9	1000:1	72%	170°		stereo speakers, $2W \times 2$ , Dolby® Audio™ Premium / optional dual array far-field microphone, headphone / microphone combo jacl				
	14.0" WQHD (2560x1 Dolby Vision™ H	440) IDR IPS	Glossy	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 touchpa				
Multi-touch (opt) Pen	On-cell touch, supp		finger gest	ure (FHD o	nly)	l			Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology				
Storage	• M.2 2280 SSD / S • M.2 2280 SSD / F	Cle NV	'Me, PCIe 3							The VPTO Technology r (Ptional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication				
Optical	<ul> <li>M.2 2242 SSD / F</li> <li>Intel Optane™ Me M.2 2280, PCle N None</li> </ul>	emory H	10 with So		orage,				Battery Max battery life AC adapter	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  *MobileMark** 2014: 14.7 hr  *Battery life varies significantly with settings, usage, & other factors  65W or 65W slim USB Type-C AC adapter				
Ethernet	Non-vPro model: In vPro model: In			ection I219- ection I219-					Operating system	Windows® 10 Home 64 or Windows 10 Pro 64				
WLAN Bluetooth™	Intel Wireless-AC 98 Bluetooth 5.0 wirele	560, Wiess, inte	-Fi 2x2 802 grated in W	.11ac + Blu /i-Fi + Bluet	etooth	5.0	er		Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year/1-yr battery depot repair service				
WWAN (optional)	<ul><li>One of the following, of</li><li>Wireless WAN up</li></ul>				MEA)				Mil Spee test	3-year/1-yr battery limited onsite service				
	<ul><li>Integrated Mobile</li><li>Integrated Mobile</li></ul>	Broadb	and 4G LTI	E, Fibócom	L830-E			only)	Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant				
SIM card (opt)	* For non-WWAN mod Nano-SIM card slot	lel, it mea , option	ans the mode al Verizon L	el is NOT WN .TE (US) SI	/AN upo	gradable	ii u		Z.iviioiiiioiit	E. E. I. O. O., E. E. E. O. M. F. I., Horio compilant				













### 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	-1		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™;					'x2/	
	Max resoluti	38	40x2160 40x2160	@60Hz (Th	iunderbolt);	4096x2160@	24Hz (HDMI)		6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backligh 3-button TrackPoint® pointing device and			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 lacioi	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	Ceon® E Pro	ocessor	Dimensions	WxDxH: 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	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
	E-2176M			2.7 GHz	4.4 GHz	12MB		Intel UHD Graphics P630	Smart card reade ExpressCard	r <i>Optional:</i> Smart card reader None
Graphics	NVIDIA Que P3200 (60 supports of supports of Max resol	uadro® GB mea externatiour inc ution:	P1000 (4 mory, VR al digital n dependen 3840X21 5120X28	monitor via it displays; 60@60Hz 80@30Hz	ry), P2000 HDMI, Min (DisplayPo	) (4GB ii Displa ort via N	ayPort, or T Ini Display	or 'hunderbolt™; '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
Chipset Memory	only on Xe	on-ECC eon pro DIMMs a	C or 64ĠE ocessor), <i>are actuall</i>	B ECC max	nel capable but run at 24	e, four [	DDR4 SO-E	ction supported DIMM sockets imitation	Camera (optional)	* Depending on many factors, actual data transfer speed may be lower than theoretical speed ) 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® ALC3286 codec /
Display	30 72	00 nits, 2% gan	, 16:9 asp nut, 160°	HD (1920x1 pect ratio, 7 viewing an HD (3840x2	00:1 contra	ast ratio	),			and Addid, nearlest Alcosoo codec / stereo speakers, 2W x 2, Dolby® Addio™ Premium / optional dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Multi-touch (opt)	40 10	00 nits, 00% ga	, 16:9 asp amut, 170	pect ratio, 1 of viewing a of, support	000:1 cont ingle, multi	rast rat -touch	io,		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 Storage  Optane™ memory	Supports Up to 3 driv Some: Some:	pen ac /es (two HDD / M.2 St Intel O	ccessory, 0 M.2 SSD 1 SATA 6.0 SD / PCIe 0 ptane me	please see and one HD DGb/s, 2.5" e NVMe, PO	the acces D) wide, 7mn Cle 3.0 x 4	sory con high, , 32Gb	Active Prot		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
Optical Éthernet	None Non-vPro vPro mod	model lel:	l: Intel Eth Intel Eth	nernet Coni nernet Coni	nection I21	9-LM (	Jacksonvill	e)	Battery Max battery life (MobileMark® 2014) AC adapter	Swappable Li-ion 90Wh battery  Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr  * Battery life varies significantly with settings, usage, & other factors  170W slim tip AC adapter
WLAN Bluetooth™ WWAN (optional)	Bluetooth	5.0 wii	reless, int g, configui	Vi-Fi 2x2 80 tegrated in rable by mod ble	Wi-Fi + Blu					One of the following, configurable by model:  Windows® 10 Home 64  Windows 10 Pro 64  Windows 10 Pro 64 for Workstations
SIM card (opt)	<ul> <li>Integrate Intel XM</li> </ul>	ed Mob M™ 73	oile Broad 360 (Fibod	lband 4G L com L850-( nal Verizon	GL), M.2 ca		ırd		Limited warranty (optional)	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® 6.1; RoHS-compliant



### ThinkPad P52s Platform Specifications

Processor 8th Generation Intel® Core™ i5 / i7 Processor D										<i>WxDxH</i> : 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm				
		# of Cores	# of Threads 8	Base Frequency 1.7 GHz 1.8 GHz	Max Turbo Frequency 3.6 GHz 4.0 GHz	6MB	Memory Types DDR4-2400	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	Intel UHD G					8MB		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),				
	NVIDIA Quadro® P500, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)									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,				
Chipset Memory	* System cloc	2400 cks do	MHz DE vn for pro	À, dual-c cessors with	channel ca lower mem	ory conti	roller	SO-DIMM sockets	Monitor cable	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	Some: 15.6 16:9	6" (396 ) aspe	6mm) FF ect ratio.	ID (1920x1 700:1 cont	1080), anti- rast ratio. 4	-glare, L 45% gai	.ED backlig mut. 170° v	ht, IPS, 250 nits, riewing angle	(optional)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Multi-touch (opt) Pen	Some: 15.6	6" (396 aspe	6mm) ÚH ct ratio,	HD (3840x2 1000:1 cor	2160), anti ntrast ratio,	-glarĕ, L , 72% g:	ED backlig	ght, IPS, 300 nits, viewing angle	Camera (optional) 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 /  stereo speakers, 2W x 2, Dolby® Audio™ Premium /					
Storage	System has o							tion System™		dual array microphone, headphone / microphone combo jack				
	Some: SSI	D/SA	TA 6.0G	b/s, 2.5" w	ide, 7mm l	high (e.g			Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
Optane™ memory	<i>(Optional:</i> In	SGB N VWAN	1.2 SSD I slot as	/ PCIe NVI 2nd Storag	Me, PCIe 3 ge, mutuall	3.0 x 2, y exclus	sive with W	WAN	Security Security chip vPro (optional)	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 palm rest				
Optical Ethernet	None Non-vPro m								anti-spoofing technology  NFC (optional)  Near Field Communication					
WLAN +	vPro model:						Jacksonville Lacksonville	e) th 4.1, M.2 card	Battery	Optional integrated Li-ion 32Wh battery and				
Bluetooth™	* Intel 8265a	c card	supports	BT4.2 buť is	limited to B	T4.1 by V	Vindows OS		Max battery life	swappable Li-ion 24Wh, 48Wh, or 72Wh battery    Models				
WWAN (optional)	<ul><li>One of the foll</li><li>Wireless V</li></ul>	۷AN ر	ipgradal	ole					(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				
	<ul> <li>Integrated Intel XMM</li> </ul>					ard (EM	EA only)		AC adapter 65W USB Type-C AC adapter					
	<ul> <li>Integrated</li> </ul>	l Mobi	le Broad	band 4G L	TÉ-A.	•	, ,,		Operating system Windows® 10 Home 64 or Windows 10 Pro 64					
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								Limited warranty	<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> <li>3-year (including battery) limited onsite service</li> </ul>				
									Mil-Spec test	MIL-STD-810G military testing				
Note: The specifica									Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant				













#### ThinkPad P53 Platform Specifications

Processor	9th Gene	,					or Int	el Xeon®	E Pro	cessor	<u> </u>	Dimensions	WxDxH (non-touch): 14.86" x 9.93" x 0.96-1.16";
	Processor Number	# of Cores	# of Threads		ncy Fre	equency	Cache	Memory Types	′	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	6	8 12	2.5 G 2.6 G		.3 GHz	8MB 12MB		Inte	ALLIUD (	Orombias	Weight	Non-touch model: starting at 5.51 lb / 2.5 kg;
	i7-9750H			2.6 G		4.5 GHz 12M 4.6 GHz 12M		DDD4 00	İ	ntel UHD Graphics 630		Case color	Multi-touch model: starting at 6.4 lb / 2.9 kg Black
	i9-9880H	8	16	2.3 G	Hz 4	.8 GHz	16MB	DDR4-26		A LIND (	Graphics	Case material	Display cover: Glass-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
	E-2276M	6	12	2.8 G	Hz 4	.7 GHz	12MB		IIILE	P63			er Optional: Smart card reader
Graphics	Intel UHD NVIDIA® ( RTX 3000 RTX 5000 supports supports Max reso	Quadro ) (6GB ) (16GE externa five ind	T1000 GDDR6 GDDR GDDR al digital lepende	(4GB G s, VR rea 66, VR rea monitor nt displa	iDDR5) dy), R1 ady); via HD ys;	), T2000 ΓΧ 4000 MI, Mini	(4GB (8GB Displa	GDDR6, ayPort, or	VR re	nderbolt		ExpressCard Media reader Ports	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 DisplayPort), 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, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole
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											Monitor cable	* 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	olution		Type S	urface	Brightne	ess As	spect Con atio Ra		Color Gamut	Viewing Angle		USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	15.6" FHD		,	IPS A	nti-glare	300 ni	ts 1	6:9 70	0:1	72%	160°	Bundled Accy	None
	Dolb	(1920x) y Vision	™ HÓR	IPS A	nti-glare	500 ni	ts 1	6:9 120	00:1	72%	160°	Camera (optional	I) One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus
		(3840x y Vision		IPS A	nti-glare	500 ni	ts 1	6:9 120	00:1	100%	170°	Audio support	• IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 /
	15.6" Dolb	(3840x y Vision -touch	2160) HDR,	OLED re	Anti- flection Anti-	SDR 400 HDR 50 (peak	0nit   1	6:9 1000	000:1	100% DCI-P3	170°	Keyboard	optional dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system
Multi-touch (opt)	Capacitive anti-reflect			ıch, sup			gestur	e (UHD d	only),			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 (optional)	Lenovo P					oating						Security	Power-on password, hard disk password, supervisor password, security keyhole
Storage  Optane™ memory	Up to 3 dri • HDD / S • M.2 228 * HDD is o	SATA 6. 30 SSD nly avail	.0Gb/s, 2 ) / PCIe lable for T	2.5" wide NVMe, I 1000 and	e, 7mm PCIe 3. <i>I T2000</i>	high, Áo 0 x 4 <i>graphics</i> :	model		Syste	m™		Security chip vPro (optional) Fingerprint reade Color calibration NFC (optional)	Discrete TPM 2.0, TCG Certified Intel vPro Technology For Touch style match on chip fingerprint reader on the palm rest Optional: X-Rite Pantone factory color calibration (UHD model only) Near Field Communication
RAID (optional) Optical	RAID 0/1/ None	5 supp	ort	•								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
Ethernet	Non-vPro vPro mod							cksonvill Jacksonv				( <i>MobileMark</i> ® <i>2014</i> ) AC adapter	* Battery life varies significantly with settings, usage, & other factors 170W or 230W slim tip AC adapter
WLAN (optional) Bluetooth™ (opt)	Intel Wi-F Bluetooth								dapte	er		Operating system	<ul> <li>One of the following, configurable by model:</li> <li>Windows® 10 Home 64</li> <li>Windows 10 Pro 64</li> </ul>
WWAN (optional)	One of the • Wireless					l only in	EME 4						Windows 10 Pro 64 for Workstations
SIM card (opt)	Integrat     * For non-Nano-SIM	ed Mob <i>WWAN r</i>	oile Broa <i>nodel, it r</i>	idband 4 means the	G LTE- model	-A, Fibod <i>is NOT</i> И	om L8 /WAN ι	850-GL, N Ipgradable		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® 7.1; RoHS-compliant



### ThinkPad P53s Platform Specifications

Processor	8th G	enerati	on Int	tel® Co	re™	i7 Proces	sor					Dimensions	<i>WxDxH</i> : 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm								
	Proce Numb	er C	f of ores	# of Threads	s Fre	equency 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	NVID suppo	A Quad orts extents	dro® F ernal ee inc	P520, 2 digital depend	2GB mon lent d	displays:	nemory; DMI or US		e-C; 60@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 DisplayPo 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	48GE	max / or 16Gl	2400 3 mer	MHz D mory s	DR4 olde	red to sys		one D	DR4 SO-D ue to Intel lim		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	Resolut	ion	-	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	920x10	080)	IPS	Anti-glare	250 nits	16:9	700:1	45%	170°	Camera (optional)	One of the following, configurable by model:								
	15.6"	UHD (3: Dolby V	840x2 ision™	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		n, sup	oports	10-fii	nger gest	ure (FHD o	nly)				stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack	stereo speakers, 2W x 2, Dolby® Audio™ Premium /								
	• M.2		SSD /	/ PCle	NVN	le, PCle 3						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED back TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpace.								
Optical	• Inte	Optan 2280,	e™ M	lemory	/ 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	Non-		odel:	Intel E	therr	net Conne	ection I219	·V (Ja	cksonville) acksonville)			Fingerprint reade NFC (optional)	r Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication								
WLAN Bluetooth™	Intel \	Virelessooth 5.0	s-AC ) wire	9560, ' eless, ii	Wi-F ntegr	i 2x2 802 rated in W	.11ac + Blı /i-Fi + Blue	uetoot				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)						e <i>by model</i> (special b		EMEA	)				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>										Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card     * For non-WWAN model, it means the model is NOT WWAN upgradable						L830 om L8 <i>NAN uj</i>	-EB, M.2 ca 50-GL, M.2 ogradable	rd (EME <i>l</i> card	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.

Lenovo August 2019













### ThinkPad P72 Platform Specifications

Processor	8th Generation Intel® Core	e™ i7 Processor or Intel Xeon®	E Processor	Dimensions	<i>WxDxH:</i> 16.38" x 11.06" x 0.96-1.16"; 416mm x 281mm x 24.5-29.4mm			
	Processor # of H of Threads i7-8750H i7-8850H	Frequency Frequency Cacrie  2.2 GHz 4.1 GHz 9MB  2.6 GHz 4.3 GHz 9MB	Memory Processor Types Graphics Intel UHD Gra 630	Case color Case material	Starting at 7.5 lb / 3.4kg Black Display cover: GFRP + PPS; Bottom: Magnesium/Aluminum			
	E-2186M 6 12	2.7 GHz 4.4 GHz 12MB 2.9 GHz 4.8 GHz 12MB	DDR4-2400 Intel UHD Gra P630	ExpressCard Media reader	er <i>Optional:</i> Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card			
Graphics	P3200 (6GB memory), P4 supports external digital n supports four independen Max resolution: 3840X21 5120X28	GB memory), P2000 (4GB me 4200 (8GB memory), or P5200 monitor via HDMI, Mini Display It displays; 60@60Hz (DisplayPort via Mi 80@30Hz (Thunderbolt); 4096	0 (16GB memory); /Port, or Thunderbolt™; ni DisplayPort cable);	Ports  Monitor cable	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 processor), * Installed DIMMs are actually	B ECC max / 2400MHz DDR4 dual-channel capable, four DI ly 2666MHz but run at 2400MHz di	DR4 SO-DIMM sockets ue to Intel limitation	Audio support	I)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 aspect ratio, Some: 17.3" (439mm) UF	HD (1920x1080), anti-glare, LE 800:1 contrast ratio, 72% gam HD (3840x2160), anti-glare, LE 1000:1 contrast ratio, 100% A	nut, 170° viewing angle ED backlight, IPS, 400 i	Keyboard	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	Up to 3 drives (two M.2 SSD	please see the accessory con		Color calibration	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 None			
RAID (optional) Optical	Some: M.2 SSD / PCIe y Optional: Intel Optane me RAID 0/1 support None	e NVMe, PCIe 3.0 x 4, 32Gb/s emory, PCIe NVMe, PCIe 3.0	x 2	NFC (optional)  Battery Max battery life  AC adapter	Near Field Communication  Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  MobileMark® 2014: 16 hr  * Battery life varies significantly with settings, usage, & other factors			
Ethernet		nernet Connection I219-V (Jac nernet Connection I219-LM (Ja			230W slim tip AC adapter  One of the following, configurable by model:			
WLAN Bluetooth™	Intel Wireless-AC 9560, W Bluetooth 5.0 wireless, int	Vi-Fi 2x2 802.11ac + Bluetooth tegrated in Wi-Fi + Bluetooth c	n 5.0, M.2 card	(optional)	<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	None None			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™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant			

May 2019











### ThinkPad P73 Platform Specifications

Processor				e™ i5 / i7 / i9						Dimensions	WxDxH: 16.38" x 11.06" x 1.02-1.22"; 416mm x 281mm x 25.9-31mm			
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types		ocessor raphics	Weight Case color Case material	Starting at 7.5 lb (3.4kg) Black Display cover: GFRP + PPS;			
	i5-9400H	4	8	2.5 GHz	4.3 GHz	8MB					Bottom: Magnesium/Aluminum			
	i7-9750H	6	12	2.6 GHz	4.5 GHz	12MB			HD Graphics	Smart card reade	er Optional: Smart card reader			
	i7-9850H	6	12 16	2.6 GHz	4.6 GHz 4.8 GHz	12MB 16MB	DDR4-266	6	630	ExpressCard	None			
	i9-9880H	8		2.3 GHz				Intel I II	HD Graphics	Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card			
	E-2276M	6	12	2.8 GHz	4.7 GHz	12MB			P630	Ports	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	NVIDIA Qu RTX 3000 or RTX 50 supports 6 supports f	uadro® (6GB 00 Ma externa ive ind	P620 (4 GDDR6, x-Q (160 al digital r ependen	or P630 in p GB GDDR5 VR ready), GB GDDR6, monitor via It displays; Hz (Thunde	), T2000 ( RTX 400 VR ready HDMI or T	4GB GI ) Max-0 ); hunder	Q (8GB GI bolt™;	·	3,7	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 signal to VGA:  Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter			
Chipset	Mobile Inte				,,		(	,		7`'	USB-C to DP: Lenovo USB-C to DisplayPort Adapter			
Memory	128GB ma	ax / 26	66MHz E	DR4 (ECC	function s	upporte	ed only on	Xeon pr	rocessor),	Bundled Accy	None			
	dual-chan	nel cap	pable, fou	ır DDR4 SC	)-DIMM so					Camera (optional)	IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus			
Display	Size Reso			Type Surfac		Brightness Asp Ra		o Gam	nut Angle		HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2 / dual array far-field microphone, headphone / microphone combo jack, Dolby Atmos® sound system			
	17.3" FHD	•		IPS Anti-glare	ire 300 i	nits 1	6:9 700	1 729	% 160°	 Keyboard	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight			
N.A. dati a da	Dolby	(3840x Vision	2160) ™ HDR	IPS Anti-gla	400 i	nits 1	6:9 1000	100	% 170°	UltraNav™	3-button Mylar surface multi-touch touchpad			
Multi-touch Pen	None None									Security	Security Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Fingerprint reader Touch style match on chip fingerprint reader on the palm rest Color calibration Optional: X-Rite Pantone factory color calibration (UHD model only)			
Storage  Optane™ memory RAID (optional)	<ul> <li>HDD / S</li> <li>M.2 228</li> <li>Optional:</li> </ul>	ATA 6. 0 SSD Intel 0	0Gb/s, 2 / PCIe N Optane m	and one HDI .5" wide, 7r NVMe, PCIe nemory, PCI	nm high, A 3.0 x 4			ystem™						
Optical	RAID 0/1 : None	suppor	ι							Battery	Integrated Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1			
Ethernet		model el:	: Intel Eth	nernet Conr	ection I21	9-V (Ja 9-LM (,	cksonville Jacksonvil	) le)		Max battery life	MobileMark® 2014: 17.2 hr * Battery life varies significantly with settings, usage, & other factors			
WLAN (optional)				i 2x2 802.1						AC adapter	170W or 230W slim tip AC adapter			
				tegrated in				lapter		Operating system	η One of the following, configurable by model:  • Windows® 10 Home 64			
WWAN SIM card	None None										Windows 10 Pro 64     Windows 10 Pro 64 for Workstations			
									Limited warranty					
											MIL-STD-810G military testing			
									Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant				

October 2019







### 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	2	4	2.4 GHz 2.5 GHz	3.0 GHz 3.1 GHz	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			
									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			
		ssor # of # of Base Max Turbo Cache Memory Processor								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	Case color Case material	Black Display cover: Magnesium Hybrid or PPS; Bottom: Glass-Fiber Reinforced Plastic			
	i7-7500U i7-7600U	-7500U 2.7 GHz 3.5 GHz 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)								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   11.9 hr   13.9 hr   20.9 hr   20.9 hr   27.1 hr			
					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>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> </ul>									through downgrade rights in Windows 10 Pro 64  • Windows 10 Home 64  • Windows 10 Pro 64			
								, 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 F	Processor			Dimensions	WxDxH: 13.03" x 8.93" x 0.67-0.74"; 331mm x 226.8mm x 16.9-18.8mm
	Number Cores Thro	f of Base Frequency 2.3 GHz 4 2.4 GHz	Max Turbo Frequency Cache 2.8 GHz 3MB 3.0 GHz 3MB	Memory Types DDR4-2133	Processor Graphics Intel HD Graphics	Weight Case color Case material	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 Three		<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	4 2.5 GHz 2.6 GHz 2.7 GHz 2.8 GHz	3.1 GHz 3MB 3.5 GHz 3MB 3.5 GHz 4MB 3.9 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
0 1:						Camera (optional	/)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 via pendent displays	HDMI or USB Typs:	•		Audio support	HD Audio, Realtek® ALC3268 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack
Chipset	Max resolution: 4096			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 for	7 / 2400MHz DD y soldered to sy	R4, dual-channel stemboard, one D	DR4 SÓ-DI	IMM socket	Security 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
Display		9 aspect ratio, 7	700:1 contrast ratio	o, 160° view	ing angle	Fingerprint reade NFC (optional)	or Optional: Touch style match on chip fingerprint reader on the palm rest Near Field Communication
Multi-touch (opt)	Some: 14.0" (355mr 300 nits, 16:9 On-cell touch, suppo	9 aspect ratio, 7	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. • M.2 SSD / SATA 6.0					AC adapter	45W slim tip AC adapter, 45W or 65W USB Type-C AC adapter  One of the following, configurable by model:
Optical	M.2 SSD / PCle N\ None	VMe, PCIe 3.0	x 4, 32Gb/s (e.g. x	xxGB SSD	M.2 PCIe NVMe)	Operating system	Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64
Ethernet	Non-vPro model: Inte		nection I219-V (Ja nection I219-LM (		<u> </u>		Windows 10 Home 64     Windows 10 Pro 64
	One of the following, co Intel Dual Band Wir Intel Dual Band Wir Intel Tri-Band Wirele	onfigurable by mod reless-AC 8260 reless-AC 8265	del (WiGig is mutually , Wi-Fi 2x2 802.11 , Wi-Fi 2x2 802.11	y exclusive wa ac + BT4.1, ac + BT4.1,	ith WWAN): 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
	M.2 card	,	J		,	Mil-Spec test	MIL-STD-810G military testing
Bluetooth™	Bluetooth 4.1 wireles * Intel 8265ac / 18265a	ac card support B	T4.2 but is limited to E	BT4.1 by Wind	dows OS	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
(-7/	One of the following, co  • Wireless WAN upgg  • Integrated Mobile E  Qualcomm® Snapd  • Micro-SIM card slo	<sub>l</sub> raďable Broadband 4G I dragon™ X7 LTI	_TE-A, E-A (Sierra Wireles	ss EM7455)	), M.2 card		
Olivi Cara (Opt)	WHOID ONVI CAI'U SIO	7., OPT VOIIZOII E	12 (30) 01 201000	, 30111100t (	(LIVILA) Olivi Galu		Lenovo

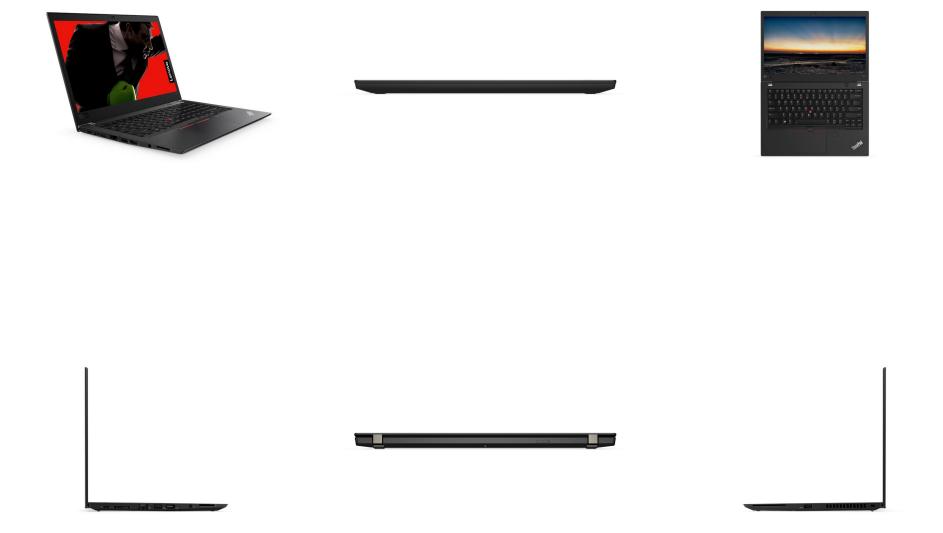






#### ThinkPad T480 Platform Specifications

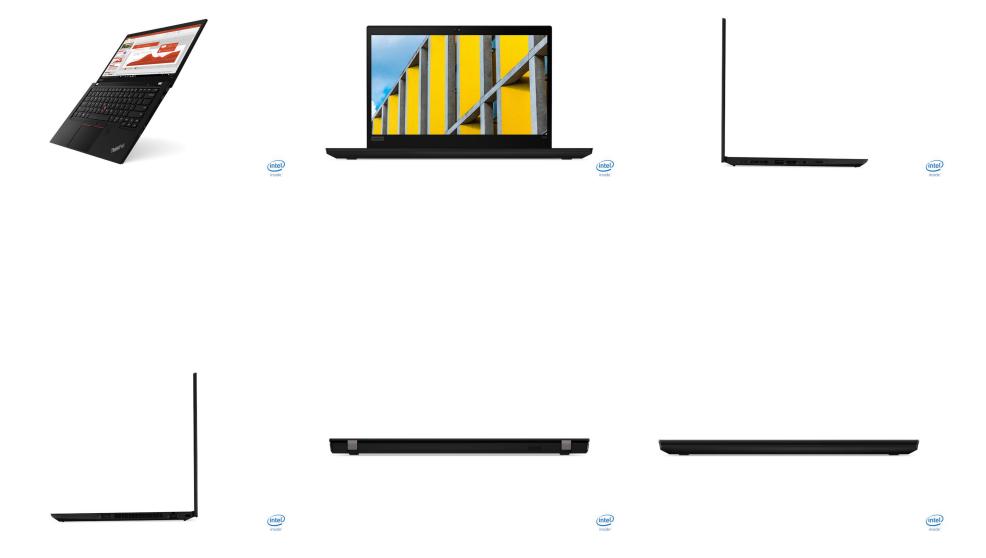
Processor	7th Gener	ation I	ntel® Cor	e™ i5 Proc	essor				Dimensions	WxDxH:	13.25" x 9	).15" x 0.79	"; 336.6m	m x 232.5ı	mm x 19.95mr	n
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	Weight	Models			4Wh + 24Wh		2Wh, or 24Wh +	
	Number	Cores	Threads		Frequency		Types	Graphics		Integrated N		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	3MB		620		Discrete Ma			/ 1.60 kg		3.97 lb / 1.80	
	or 8th Gei	neratio	n Intel Co	ore i3 / i5 / i	7 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 Hybr -Fiber Rein		tic		
	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 (with the fu	r Delivery and unction of PD a	DisplayPort), and DP),
Graphics	Intel HD ( NVIDIA® ( (discrete ( supports ( supports (	Araphic GeForc graphic externa three ir	es 620 or ce® MX15 cs is avail al digital r ndepende	Intel UHD ( 50, 2GB GD lable only o nonitor 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), na one combo MMC, SD, S or, security	no-SIM car jack, option SDHC, SDX keyhole data transfer VGA Monit	d slot (WW nal smart o (C), speed may or Adapter	VAN models), card reader, be lower than th	,
Chipset Memory	Intel SoC 32GB ma	(Syste x / 240	m on Chi 0MHz DI	ip) 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	itter camera a, fixed foci		ixed focus	
Display		220 nì	ts, 16:9 a	aspect ratio	, 400:1 cor	itrast ra		•	Addio Support	stereo spea	akers, 2W	x 2, Dolby® e, headpho	Audio™ Pre		bo iack	
	Some:	250 ni 14.0" (3	ts, 16:9 a 355mm) \	spect ratio WQHD (25)	, 700:1 cor 60x1440),	ntrāst ra anti-gla	, LED backli atio, 170° vie are, LED bac	ewing angle cklight, IPS,	Keyboard UltraNav™	6-row, spill-	resistant, ı	multimedia	Fn keys, or	tional LEC		touchpad
Multi-touch (opt)		170° vi	ewing an				tio, 72% gar	nut,	Security Security chip vPro (optional)						rity keyhole	
Storage	System has	one H	DD slot or	one M.2 228 ab/s, 2.5" w	30 slot exclusion	sively for		ion System™	Fingerprint reader	r Optional: 🛚	Touch style anti-spoofir	match on ong technolog		rint reader	on the keyboa	ard bezel,
	Some: N Some: 1:	I.2 SSE 28GB N	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 I 48Wh, or 7				
Optane™ memory Optical	* Installed I Intel Opta	M.2 SSL	D is PCIe 3	3.0 x 4 but rū	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	24W nodel 7.2 h	<i>h</i> 48Wh 14.4 hr	72Wh 24 21.8 hr		24Wh + 48Wh 21.8 hr 19.8 hr	24Wh + 72Wh 29.0 hr 26.4 hr
Ethernet	None  Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)  vPro model: Intel Ethernet Connection I219-LM (Jacksonville)							<u> </u>	Discrete model   6.6 hr   13.2 hr   19.8 hr   13.6 hr   19.8 hr   26.4    * Battery life varies significantly with settings, usage, & other factors    * AC adapter   45W or 65W USB Type-C AC adapter						20.4111	
WLAN +						,		,	Operating system	Optional: \	Windows® -	10 Home 64	1 or Windov	vs 10 Pro 6	64	
Bluetooth™ (opt)		tel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 ( Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS							Limited warranty	One of the fo			model:			
, , ,	<ul><li>Wireless</li><li>Integrate</li></ul>	One of the following, configurable by model (mutually exclusive with Intel Optane memor Wireless WAN upgradable Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)							(optional)	<ul><li>1-year de</li><li>1-year de</li><li>3-year/1-</li><li>3-year/1-</li></ul>	pot with 2- yr battery o	-year syster depot repair	service	air service	9	
	<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 neans the mo nal Verizor	del is NOT l	NWAN ι			Environment	EPEAT™ G	old (US or	nly); ENERC	GY STAR® 6	6.1; RoHS-	compliant	



#### ThinkPad T480s Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Dimensions	<i>WxDxH:</i> 13.03" x 8.93" x 0.73"; 331mm x 226.8mm x 18.45mm
	Processor # of # of Base Max Turbo Cache Memory Processor		Starting at 2.9 lb / 1.32 kg Black or Silver
	Number Cores Inreads Frequency Frequency Types Graphics	Case material	Display cover: CFRP Hybrid;
	i5-7200U   2   4   2.5 GHz   3.1 GHz   3MB   DDR4-2133   Intel HD Graphics   620   620		Bottom: Magnesium
	or 8th Generation Intel Core i5 / i7 Processor		Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)
	Processor Number         # of Cores         # of Threads         Base Frequency         Max Turbo Frequency         Cache Types         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   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   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   1.9		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	* 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 digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)		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	Audio support	The carrier a and rib72b carriera, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Disales	* System clocks down for processors with lower memory controller	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Display	Some: 14.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 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	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology 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)	NFC (optional)	Near Field Communication
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s		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		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
	vPro model: Intel Ethernet Connection I219-LM (Jacksonville)	,	Optional: Windows® 10 Home 64 or Windows 10 Pro 64
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	,	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 system board 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 LTÉ-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	I	Lenovo

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



#### ThinkPad T490 Platform Specifications

Processor	8th Genera	ation Ir	itel® Cor	e™ i5 / i7 F	rocessor					Dimensions	WxDxH:	12.95" x 8.94	" x 0.70"; 329m	nm x 227mm x 17.9mm	
	Processor	# of	# of	Base	Max Turbo	ache	Memory	Proce		Weight	Models	HD	FHD	FHD Low Power / WQHD	<u> </u>
	Number	Cores	Threads	Frequency	Frequency		Types	Grapi	hics	0	Weight	3.37 lb / 1.53 kg	3.41 lb / 1.55 kg	3.23 lb / 1.46 kg	3.56 lb / 1.61 kg
	i5-8265U i5-8365U			1.6 GHz 1.6 GHz		6MB 6MB		Intel UHD	Cropbico	Case color Case material	Black	cover: PPS / 50	% GF·		
	i7-8565U	4	8	1.8 GHz		BMB	DDR4-2400	filler UHD		Case material	Bottom:	PA / 50%			
	i7-8665U			1.9 GHz		BMB				Smart card reade			ader		
	or 10th Ge	eneration	n Intel C	ore i5 / i7	Processor (N	IOT a	vailable in	EMEA)		Media reader Ports		card reader 3 3.1 Gen 1 (one	Always On)		
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	ache	Memory Types	Proce Grap		Ports	one USB	3.1 Type-C`Gei	n 1 (with the func	tion of Power Delivery ar 3 (with the function of P	nd DisplayPort), D and DP).
	i5-10210U i7-10510U	4	8	1.6 GHz 1.8 GHz		6MB 8MB	DDR4-2400	Intel UHD	Graphics		HDMI 1.4	4b, Ethernet (RJ ne / microphone	-45), nano-SIM c	ard slot (WWAN models ional smart card reader.	3),
Graphics	Intel UHD NVIDIA® G supports e supports t	Graphi GeForce externa hree in	cs 620 c e® MX25 digital r depende	r Intel UHI 0, 2GB GE nonitor via nt displays	O Graphics in O Graphics in ODR5 memor HDMI or Thu s; (Thunderbolt	procey; indert	essor and oolt;		MI)	Monitor cable (optional)  Bundled Accy	HDMI to USB-C to USB-C to	<i>VGA:</i> Lenovo o <i>VGA:</i> Lenovo o <i>HDMI:</i> Lenovo	le docking conne s, actual data trans HDMI to VGA M USB-C to VGA M USB-C to HDMI USB-C to Displa	Adapter Adapter	n theoretical speed
Chipset	Intel SoC					,,	707.2.000	(	,	Camera (optional		e followina. confiau	ırable by model:		
Memory	48GB max 8GB or 16	₹ / 2400 GB me	MHz DI mory so	Ŕ4, dual-d ldered to s	channel capa ystemboard, out run at 2400	one [			ket	Audio support	<ul><li>HD720</li><li>IR cam</li></ul>	p camera with T	hinkShutter came camera with Th	era privacy, fixed focus inkShutter camera priva	cy, fixed focus
Display	Size Reso	lution	T	pe Surface	Brightness	Aspe Ratio			Viewing t Angle	]	stereo sp	eakers, 2W x 2	, Dolby® Audio™ I	Premium / eadphone / microphone	combo jack
	14.0" HD (1	366x76	8) -	N Anti-gla		16:9	400:1	45%	90°	Keyboard UltraNav™				optional LED backlight s Mylar surface multi-tou	ah tauahnad
	14.0" FHD	(1920x1	080)	PS Anti-gla	re 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, har TPM 2.0. TCG (	d disk password,	supervisor password, se	
	Low F	(1920x1 Power	′   1	PS Anti-gla	re 400 nits	16:9	800:1	72%	170°	Fingerprint reade NFC <i>(optional)</i>	er Optional:	: Touch style ma ld Communicati		erprint reader on the palr	n rest
	14.0" FHD Think Guard		080) /acy   I	PS Anti-gla	re 400 nits	16:9	1000:	1 72%	170°	Battery	Integrate with 65W	d Li-ion 50Wh b / AC adapter	attery, supports I	Rapid Charge (charge սր	o to 80% in 1hr)
		D (2560 Dolby \		PS Glossy	500 nits	16:9	1500:	1 100% Adobe	170°	Max battery life  AC adapter	* Battery			sage, & other factors	
Multi-touch (opt)	On-cell tou	uch, su	pports 1	0-finger ge	sture (FHD o	nly)				Preload		e following, configu		<del>.</del>	
Storage	<ul><li>M.2 228</li><li>M.2 224</li></ul>	0 SSD 2 SSD tane™ I	/ PCIe N / PCIe N Memory	IVMe, PČI IVMe, PCI H10 with S			,				<ul><li>Window</li><li>Window</li><li>Window</li><li>No OS</li></ul>	vs® 10 Home 64 vs 10 Pro 64 vs 10 Pro in S m	ode		
Optical	None	0, 1 010	INVIVIC	J.U X 4						Limited warranty (optional)		e following, configu depot repair serv			
Ethernet	Non-vPro vPro mode				nection I219- nection I219-					- (Орионан	• 1-year o	depot with 2-yea	nce ir system board r ot repair service	epair service	
WLAN +	One of the i									1	• 1-year -	+ 2-year/1-yr ba	ttery limited onsit		
Bluetooth™					802.11ac + B					NATION AND ADDRESS		<del>, , , , , , , , , , , , , , , , , , , </del>	ed onsite service		
(optional)				ocessor or	.11ax + Blue <sup>r</sup> ly)	lootii	5.0			Mil-Spec test		-810G military t		IIC same liant	
WWAN (optional)  SIM card (opt)	One of the in • Wireless • Integrate • Integrate • Integrate * For non-W	following WAN and Mob ed Mob ed Mob ed Mob WAN m	n, configu upgradal ile Broad ile Broad ile Broad ile Broad	rable by mod ble (specia lband 4G L lband 4G L lband 4G L eans the mod	• ,	L830 om L8 om L8 VAN u	-EB, M.2 c 50-GL, M.2 60-GL, MIN ogradable	2 card		- Environment	EPEAI™	Sliver; EINERG	Y STAR® 7.1; Ro	ns-compliant	
Note: The specifics						iivi Ud	u								اما



#### ThinkPad T490 Secure Access / Healthcare Edition Platform Specifications

Processor	8th Gener	ation Ir	ntel® Core	e™ i5 / i7 P	rocessor					Dimensions	WxDxH:	12.95" x 8.94" x 0.70"	; 329mm x 227mm x 17.9mm
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Proces		Weight	Models	FHD	Privacy Guard
	Number	Cores	Threads		rrequericy		Types	Graph	nics	1	Weight	3.41 lb / 1.55 kg	3.56 lb / 1.61 kg
	i5-8265U i5-8365U i7-8565U i7-8665U	- - 4	8	1.6 GHz 1.6 GHz 1.8 GHz 1.9 GHz	4.1 GHz 4.6 GHz	6MB 6MB 8MB 8MB	DDR4-2400	Intel UHD ( 620	Graphics )	Case color Case material	Black Display control Keyboard Bottom:	cover: PC/ABS + Magn	nesium alloy compliant anti-microbial surface treatment);
Graphics	Intel UHD NVIDIA® ( supports e supports t	Graphi GeForce externa three in	ics 620 ir e® MX25 I digital n depende	nonitor via l nt displays	<sup>·</sup> and DR5 memoi HDMI or Thu	inderb		24Hz (HDN	MI)	Smart card reade RFID reader Media reader Ports	rNone RFID read MicroSD Two USB one USB		
Chipset Memory	48GB max 8GB or 16	x / 2400 GB me	OMHz DC emory so	dered to sy	hannel capa estemboard, ut run at 2400	one D		nitation		= Monitor cable	HDMI 1.4 headphor microSD * Dependir	b, Ethernet (RJ-45), nan ne / microphone combo i	no-SIM card slot (WWAN model), ack, optional smart card reader, g connector, security keyhole lata transfer speed may be lower than theoretical speed
Display	Size Reso	olution	Ту	pe Surface	Brightness	Aspec Ratio		t Color Gamut	Viewing Angle	(optional)	USB-C to	VGA: Lenovo USB-C to HDMI: Lenovo USB-C to	o VGA Adapter
	14.0" FHD	(1920x1	1080) IF	PS Anti-glare	300 mis	10.9	700:1	45%	170°	Bundled Accy	None	DP: Lenovo USB-C t	, , ,
	14.0" Think Guar	d	vacy IF	PS Anti-glare		16:9	1000:1	72%	170°	Audio support	<ul> <li>HD720<sub>i</sub></li> <li>IR came</li> <li>HD Audio</li> </ul>	camera with ThinkShut	tter camera privacy, fixed focus a with ThinkShutter camera privacy, fixed focus dec /
Multi-touch (opt)	On-cell to	uch, su	pports 10	O-finger ges	sture (FHD o	nly)							eadphone / microphone combo jack
Storage		80 SSD	/ PCIe N	.0Gb/s VMe, PCle VMe, PCle						Keyboard UltraNav™	6-row, spi	II-resistant, multimedia F	Fn keys, optional LED backlight uttonless Mylar surface multi-touch touchpad
Optical Ethernet	<ul> <li>Intel Op M.2 228</li> <li>None</li> </ul>	tane™ l 80, PCle	Memory e NVMe (	H10 with S 3.0 x 4	olid State State State State					Security Security chip System Mgt (opt) Fingerprint reade	Discrete Intel vPro	TPM 2.0, TCG Certified Technology fingerprint reader on pa	ssword, supervisor password, security keyhole
Linemei	vPro mode				nection 1219			<del>!</del> )		NFČ		oort via RFID reader	
WLAN (optional) Bluetooth™ (opt) WWAN (optional)	Bluetooth Wireless V	5.0 wir NAN ur	eless, int	egrated in 'e (special b	id only in EN	tooth o	ombo ada <sub>l</sub>	pter		Battery Max battery life AC adapter	MobileMa * Battery I	ark® 2014: 16.11 hr	upports Rapid Charge (charge up to 80% in 1hr)  tettings, usage, & other factors C adapter
` ' '	* For non-V	VWAN 'n	nodel, it m	eàns the mo	del is NOT WI	NAN up	gradable			Operating system	Optional:	Windows® 10 Pro 64	·
SIM card (opt)	None									Limited warranty	One of the 1-year d 3-year/1 3-year/1	following, configurable by n epot repair service -yr battery depot repair s -yr battery limited onsite	service
										Mil-Spec test	MIL-STD-	810G military testing	
										Environment	EPEAT™	Silver; ENERGY STAR®	7.1; RoHS-compliant



#### ThinkPad T490s Platform Specifications

Processor	8th Genera	ation Ir	ntel® Coi	e™ i5 / i	Processo	r					Dimensions	WxDxH (l		/ Privacy Guard):			
	Processor Number	# of Cores	# of Threads	Base Frequen		ncy Cacr	ne Ty	emory ypes	Proces Graph			WxDxH (£	black with FHD	x 8.90" x 0.66"; 329.0mm x 2 Low Power / WQHD): x 8.89" x 0.63"; 328.8mm x 2			
	i5-8265U i5-8365U i7-8565U	4	8	1.6 GH 1.6 GH 1.8 GH	4.1 Gl	lz 6MI	B	4-2400	Intel UHD G 620	Graphics	Weight	WxDxH (s		x 8.92" x 0.68"; 329.15mm x			
	i7-8665U			1.9 GH								Weight	2.98 lb / 1.35 kg	/ WQHD / Privacy Guard 2.81 lb / 1.27 kg	3.29 lb / 1.49 kg		
Graphics	Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or Thunderbolt; supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI)								4Hz (HDM	11)	Case color Case material Smart card reade	Bottom:	over: CFRP Hy Magnesiu				
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	MicroSD of Two USB one USB	card reader 3.1 Gen 1 (one 3.1 Type-C Gen	Always On), 1 (with the function of Power	Delivery and DisplayPo		
Display	Size Reso	lution	-	Type Sui	face Brig	htness	Aspect Ratio	Contras Ratio	St Color \			HDMI 1.4	b, Ethernet exte	n 2 / Thunderbolt 3 (with the fuension connector, nano-SIM c	ard slot (WWAN models		
	14.0" FHD	`	·	IPS Anti	glare (non	0 nits -touch) 0 nits i-touch)	16:9	700:1	45%	170°	Monitor cable	microSD o * Dependin HDMI to \	card reader, siden on many factors  VGA: Lenovo	e combo jack, optional smart of e docking connector, security s, actual data transfer speed may HDMI to VGA Monitor Adapte	keyhole be lower than theoretical sp		
	14.0" FHD Low F	(1920x1 Power	1080)	IPS Anti	glare 40	0 nits	16:9	800:1	72%	170°	(optional) Bundled Accy	USB-C to	DP: Lenovo	USB-C to VGA Adapter USB-C to DisplayPort Adapter	er o		
	14.0" FHD Think Guard		1080) vacy	IPS Anti-	glare 40	0 nits	16:9	1000:1	72%	170°	Camera	Optional: ThinkPad Ethernet Extension Adapter Gen 2 One of the following, configurable by model:  • HD720p camera with ThinkShutter camera privacy, fixed focus					
	14.0" WQH HDR,	D (2560 Dolby \	0x1440) Vision™	IPS Glo	ssy 50	0 nits	16:9	1500:1	100% Adobe	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed for HD Audio, Realtek® ALC3287 codec /</li> </ul>					
Multi-touch (opt)			• • • • • • • • • • • • • • • • • • • •		gesture (F	HD only	')					stereo speakers, 1W x 2, Dolby® Audio™ Premium / optional dual array far-field microphone, headphone / microphone combo jac					
Storage	<ul><li>M.2 228</li><li>M.2 228</li><li>M.2 224</li></ul>	0 SSD	/ PCIe I	VMe, P	Cle 3.0 x 4 Cle 3.0 x 2						Keyboard UltraNav™	6-row, spi TrackPoin	ill-resistant, mult t®pointing device	timedia Fn keys, optional LEI ce and buttonless Mylar surfa	backlight ce multi-touch touchpad		
Optical	<ul> <li>Intel Opt M.2 228</li> <li>None</li> </ul>	tane™	Memory	H <sub>10</sub> wit			ıge,				Security Security chip System Mgt (opt)	Discrete T	ГРМ 2.0. TCG C	d disk password, supervisor p Certified	assword, security keyho		
Ethernet	Native Inte										Fingerprint reader NFC (optional)	r Optional:	Touch style mad Communication	atch on chip fingerprint reader on	on the palm rest		
WLAN + Bluetooth™ (optional)	One of the i	following eless-A Fi 6 AX	<i>g, configu</i> AC 9560, (200, Wi	rable by r Wi-Fi 2x -Fi 2x2 8	odel: 2 802.11a 02.11ax +	c + Blue	tooth 5				Battery Max battery life AC adapter	with 65W MobileMa * Battery li	AC adapter ark® 2014: 20 h ife varies significal	attery, supports Rapid Chargo or ntly with settings, usage, & other JSB-C AC adapter			
WWAN (optional)	<ul> <li>Wireless</li> </ul>	One of the following, configurable by model:  • Wireless WAN upgradable											·	Home 64 or Windows 10 Pro	64		
SIM card (opt)	<ul> <li>Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA or</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> <li>Nano-SIM card slot, optional Verizon LTE (US) SIM card</li> </ul>									only)	Limited warranty	One of the 1-year of 1-year of 3-year/1	following, configu depot repair serv depot with 2-yea 1-yr battery depo	rable by model:			
											Mil-Spec test	est MIL-STD-810G military testing					
											Environment	EPEAT™	Gold; ENERGY	STAR® 7.1; RoHS-compliant			



#### ThinkPad T495 Platform Specifications

Processor	AMD Ryze	en™ PF	RO Mobil	e Proc	cessors	with Rad	eon™ Ve	ga Graphics	<del></del>		Dimensions	WxDxH:	12.95" x 8.	.94" x	0.70"; 329mm	x 227mm x 17.9mm
	Processor	# of	_ # of	Bas		ax Turbo	Cache	Memory		essor	Weight	Models	HD		FHD	FHD Low Power
		Cores	Threads	Freque	ency   Fre	equency	2MB L2 /	Controller		ohics		Weight	3.46 lb / 1.57	7 kg	3.46 lb / 1.57 kg	3.39 lb / 1.54 kg
	Ryzen 3 Pro 3300U	4	4	2.1 G	GHz 3.		4MB L3		Grap	vega 6 ohics	Case color Case material	Black Display c	over: PPS/	50% (	GF:	
	Ryzen 5 Pro 3500U	4	8	2.1 G	GHz 3.		MB L2 / 4MB L3	DDR4-2400	Radeon Gran	vega 8	0	Bottom:	PA / 50	0% GF	= ´	
	Ryzen 7 Pro 3700U	4	8	2.3 G	GHz 4.	0.00- 2	MB L2 / 4MB L3		Radeon		Smart card reade Media reader Ports	MicroSD	card reader		r s On), one USB (	3.1 Gen 2,
	AMD Rad supports of supports f Max resol	externatiour inc	aľ digital depende	monitont disc	or via US olavs:	SB-C or I	HDMI;	orocessor; 60@60Hz (H	HDMI)			HDMI 2.0 headphor microSD	), Ethernet (R ne / micropho card reader.	RJ-45) one co side d	, nano-SIM card mbo jack, option locking connecto	n of Power Delivery and DisplayPort), slot (WWAN models), lal smart card reader, ir, security keyhole speed may be lower than theoretical speed
Memory	AMD SoC 32GB max 8GB or 16 * Installed r	x / 240 SGB m	0MHz D emory so	DŘ4, o oldere	dual-cha d to syst	temboard	d, one D	DR4 SO-DII ue to AMD lim	MM socl	ket	Monitor cable (optional) Bundled Accy	HDMI to	<i>VGA:</i> Leno <i>VGA:</i> Leno	ovo HE	DMI to VGA Moni SB-C to VGA Ada SB-C to DisplayP	tor Adapter apter
Display	Size Reso	lution	7	Гуре Ѕ	Surface	Brightnes	s Aspec	ct Contrast Ratio		Viewing Angle	Camera (optional					privacy, fixed focus
	14.0" HD (	1366x7	68)	TN Ar	nti-glare	220 nits	16:9	400:1	45%	90°	1	• IR came	era and HD72	20p ca	amera with Think	Shutter camera privacy, fixed focus
	14.0" FHD	(1920x	1080)	IPS Ar	nii-giare	250 nits (non-touch 300 nits (multi-touc	<sup>n)</sup> 16:9	700:1	45%	170°	Audio support	stereo sp dual array	y far-field mic	x 2, Do cropho	olby® Audio™ Pre one, headphone /	microphone combo jack
		(1920x Power	1080)	IPS Ar	nti-glare	400 nits	1	800:1	72%	170°	Keyboard UltraNav™					tional LED backlight lylar surface multi-touch touchpad
Multi-touch (opt)	On-cell to	uch, sı	upports 1	10-fing	er gestu	ıre (FHD	only)				Security Security chip					pervisor password, security keyhole
Storage	• M.2 228	80 SSD	/ SATA	6.0Gb	/s	•					System Mgt	DISCIPLE DASH Ma	TPM 2.0, TC( anagement	G Cer	unea	
	<ul><li>M.2 228</li><li>M.2 224</li></ul>										Fingerprint reade NFC	r <i>Optional:</i> None	Touch style	match	n on chip fingerpi	rint reader on the palm rest
-	None	DTI 04	11 Oinel	:4 [74]							Battery			h batte	ery, supports Rap	pid Charge (charge up to 80% in 1hr)
	Realtek® F							. F O			Max battery life		AC adapter ark® 2014: 1	3.4 hr		
	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	* Battery I 45W or 6	life varies signit 5W USB Type	ficantly e-C A	<i>with settings, usag</i> C adapter	ge, & other factors
WWAN (optional)					y model:						Operating system		71			<u> </u>
	<ul><li>Wireless</li><li>Integrate</li></ul>				I 4G LTF	E-A. Fibo	com L8	50-GL. M.2 c	ard		Limited warranty		following, conf			
	* For non-V Nano-SIM							50-GL, M.2 o <i>gradable</i> d				• 1-year	depot repair s 1-yr battery d		e epair service	
											Mil-Spec test	MIL-STD	-810G militar	y testi	ing	
											Environment	EPEAT™	Silver; ENEF	RGY S	STAR® 7.1; RoHS	-compliant

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

Lenovo July 2019



#### ThinkPad T495s Platform Specifications

Processor	AMD Ryze	en™ PR	O Mobil	le Pro	ocessors	s with Rac	deon™ Ve	ga Graphics	3		Dimensions	WxDxH (F	FHD / Privacy Gua				
	Processor	# of	# of			/lax Turbo	Cache	Memory	Proce			WyDyH (I	12.95" x 8 Low Power):	3.90" x 0.66"; 329.0mm x	226.15mm x 16.7mm		
	Number Ryzen 5		Threads			requency	2MB L2 /	Controller	Grap Radeon			VVXDXII (L		3.89" x 0.63"; 328.8mm x	225.8mm x 16.1mm		
	Pro 3500U	4	8	2.1	GHz		4MB L3	DDR4-2400	Grap	hics	Weight	Models	FHD	FHD Low Power	FHD Privacy Guard		
	Ryzen 7 Pro 3700U	4	8	2.3	GHz		2MB L2 / 4MB L3	DDN4-2400	Radeon \	/ega 10	Case color	Weight Black	2.92 lb / 1.33 kg	2.76 lb / 1.25 kg	2.89 lb / 1.31 kg		
Graphics	AMD Rade	oon Vo	an Q or	Voga	10 Gra				Спар	11100	Case material	Display co	over: CFRP Hybri				
Graphics	supports e	externa	l digital	moni	itor via Ü			,				Bottom:	Magnesium/				
	supports three independent displays; Max resolution: 4096x2304@60Hz (USB-C); 4096x2160@24Hz (HDMI)										Smart card reader Optional: Smart card reader  Media reader MicroSD card reader						
Chipset		Max resolution: 4096x2304@60Hz (USB-C); 4096x2160@24Hz (HDMI)  AMD SoC (System on Chip) platform										One USB	3.1 Gen 1 (Always	s On), one USB 3.1 Gen 2			
Memory	8GB or 16	ĠB´/24	400MHz	z ĎĎĺ	R4 / solo	dered to s		ard, no soci				HDMI 2.0	, Ethernet extension	on connector, nano-SIM c	er Delivery and DisplayPort), ard slot (WWAN models),		
Display			is actual	ly 266	66MHZ DL	it run at 240		e to AMD lim		\ <i>t</i> : .	 	headphon	ne / microphone co	ombo jack, optional smart locking connector, securit	card reader,		
Display	Size Resol	lution	-	Туре	Surface	Brightnes	ss Aspec Ratio		Gamut	Viewing Angle		* Dependin	ng on many factors, a	ctual data transfer speed may	y be lower than theoretical speed		
						250 nits	1.3				Monitor cable (optional)			DMI to VGA Monitor Adap BB-C to VGA Adapter	ter		
	14.0" FHD (	(1920x1	1080)	IPS /	Anti-glare	300 nits	16:9	700:1	45%	170°	Bundled Accy	Optional:	ThinkPad Etherne	et Extension Adapter Gen	2		
	14.0" FHD (	(1920x1	1080)	IDC	Anti-glare	<u> </u>	-1	800:1	72%	170°	Camera		following, configurab	<i>le by model:</i> kShutter camera privacy,	fixed focus		
	LOW F	ower (1920x1		IF3 /	Anti-giare	400 11118	10.9	000.1	12%	170	Audia augaset	<ul> <li>IR came</li> </ul>	era and HD720p ca	amera with ThinkShutter o	camera privacy, fixed focus		
	14.0" Think	Pad Pri		IPS /	Anti-glare	400 nits	16:9	1000:1	72%	170°	Audio support	stereo spe	, Realtek® ALC328 eakers. 1W x 2. Do	olbv® Audio™ Premium /			
NAIA: 4b (4)	Guard	_		10 6:			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				J	dual array far-field microphone, headphone / microphone combo jack					
Multi-touch (opt) Storage	M.2 2280		• • • • • • • • • • • • • • • • • • • •			· ·	only)				_Keyboard UltraNav™	6-row, spi	Il-resistant, multim	edia Fn keys, optional LE and buttonless Mylar surfa	D backlight		
Optical	None	00071	I CIE IN	v ivic,	i Ole J.	.0 7 4					Security	-	<u> </u>	<b>*</b>	password, security keyhole		
Ethernet	Realtek® F	RTL811	11EPV (	Gigab	oit Ether	net conne	ction				Security chip	Discrete T	ΓPM 2.0, TCG Cer		, , , ., ., ., ., ., ., ., .,		
WLAN <i>(optional)</i> Bluetooth™	Intel Wirele							i 5.0 combo adap	tor		System Mgt Fingerprint reader	r Optional:	nagement Touch style match	n on chip fingerprint reade	er on the palm rest		
WWAN (optional)							Je looli i C	orribo adap	iCi		NFČ .	None					
i i i i i (op nond)	<ul> <li>Wireless</li> </ul>	WAN	upgrada	able				0 OL MO			Battery		d Li-ion 57Wh batte AC adapter	ery, supports Rapid Charg	ge (charge up to 80% in 1hr)		
	* For non-W	/WAN n	nodel, it r	neans	s the mod	del is NOT V	NWAN up	60-GL, M.2 o gradable	ard		Max battery life	MobileMa	<i>rk® 2014:</i> 16.4 hı	v with settings, usage, & other	r footoro		
SIM card (opt)	Nano-SIM	card s	lot, opti	onal '	Verizon	LTE (US)	SIM car	d			AC adapter		5W USB Type-C A		Taciors		
											Operating system	Optional:	Windows® 10 Hor	me 64 or Windows 10 Pro	64		
											Limited warranty		following, configurab depot repair service				
												• 3-year/1	iepot repair servic I-yr battery depot i	epair service			
											Mil-Spec test	_	810G military test				
											Environment	EPEAT™ :	Silver; ENERGY S	STAR® 7.1; RoHS-complia	nt		
Note: The specifica	ations above	may n	ot be av	ailabl	e in all re	egions.									Lenov		

October 2019







#### ThinkPad T580 Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Dimensions	WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm
	Processor # of # of Base Max Turbo Cache Memory Processor		Integrated model: starting at 4.29 lb / 1.95 kg; Discrete model: starting at 4.39 lb / 1.99 kg
	Number Cores Threads Frequency Frequency Types Graph	Case color	Black
	15-7200U   2   4     2.5 GHz   3.1 GHz   3MB   DDR4-2133   Intel HD G   620		Display cover: GFRP + PPS; Bottom: GFRP
	or 8th Generation Intel Core i5 / i7 Processor		ler Optional: Smart card reader
	Processor # of # of Base Max Turbo Cache Types Processor Types Graph		4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (one Always On), Two USB 3.1 Gen
	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   1.9 GH		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 Graphics 620 or Intel UHD Graphics 620 in processor only or Intel HD Graphics 620 or Intel UHD Graphics 620 in processor and NVIDIA® GeForce® MX150, 2GB GDDR5 memory;	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 external digital monitor via HDMI or USB Type-C;	Camera (optiona	al) One of the following, configurable by model:
-	supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDM	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3287 codec /
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM s * System clocks down for processors with lower memory controller	'''	stereo speakers, 2W x 2, Dolby <sup>®</sup> Audio <sup>™</sup> Premium / dual array microphone, headphone / microphone combo jack
Display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 700:1 contrast ratio, 170° viewing 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
Multi-touch (opt)	Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, IPS, 30 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° viewing an On-cell touch, supports 10-finger gesture (FHD only)	gle Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	System has one HDD slot or one M.2 2280 slot exclusively for storage	vPro (optional) Fingerprint read	Intel vPro Technology  ler Optional: Touch style match on chip fingerprint reader on the palm rest,
Storage	Some: HDD / SATA 6.0Gb/s. 2.5" wide. 7mm high. Active Protection System	0	anti-spoofing technology Near Field Communication
	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD) Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s	Battery	Optional integrated Li-ion 32Wh battery and
	Some: 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s,		external Li-ion 24Wh, 48Wh, or 72Wh battery
Optane™ memory Optical	in WWAN slot as 2nd Storage, mutually exclusive with WWAN Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 None	Max battery life (MobileMark® 201	4) Models 24Wh 48Wh 72Wh 32Wh + 24Wh 32Wh + 48Wh 32Wh + 72Wh Max battery life 5.8 hr 12.5 hr 18.1 hr 13.8 hr 20.3 hr 26.1 hr
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WLAN +	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2	card I	m 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 (optional)	
(-1	One of the following, configurable by model:  Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)  Integrated Mobile Broadband 4G LTE-A.		<ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board 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™ 7360 (Fibocom L850-GL), M.2 card	Mil-Spec test	MIL-STD-810G military testing
SIM card (opt)	* For non-WWAN modèl, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card	Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant

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

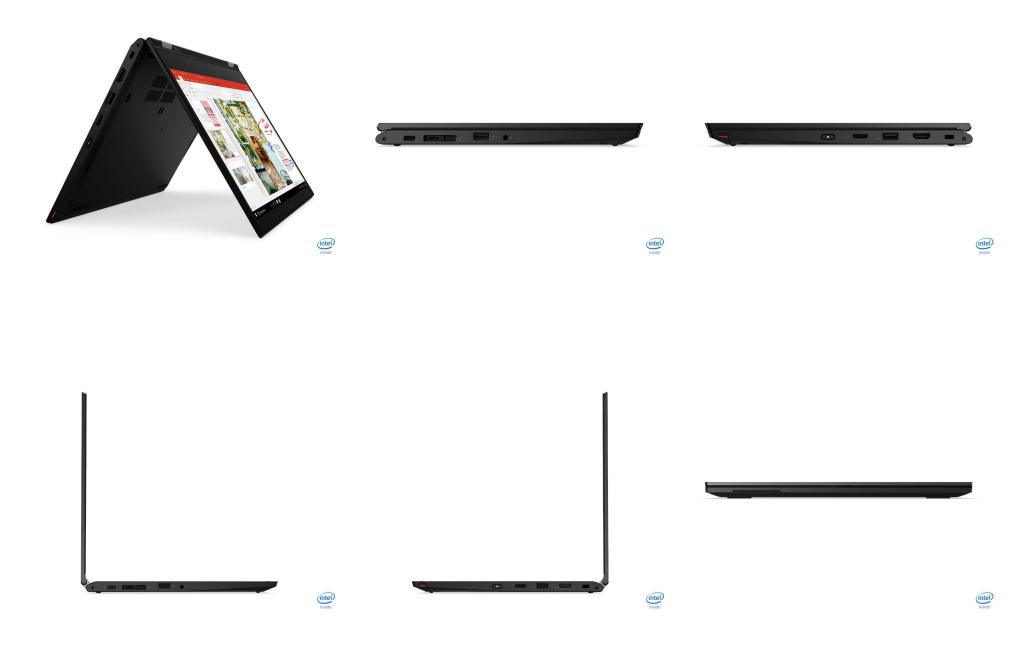


#### ThinkPad T590 Platform Specifications

Processor	8th Gener	ration I	ntel® Cor	e™ i5 / i7 P	rocessor					Dimensions	<i>WxDxH:</i> 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
	Processor Number		# of Threads		Max Turbo Frequency	Cache	Memory Types	Proce Graph		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;
	i5-8265U			1.6 GHz	3.9 GHz	6MB					Bottom: PA / 50% GF;
	i5-8365U i7-8565U	4	8	1.6 GHz 1.8 GHz	4.1 GHz 4.6 GHz	6MB 8MB	DDR4-2400	Intel UHD 62		Smart card reade	er Optional: Smart card reader
	i7-8665U	1		1.9 GHz	4.8 GHz	8MB		02	o .	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	Intel UHD NVIDIA® ( supports e supports t	Graph GeFord externa three in	nics 620 in ce® MX25 al digital n ndepende	n processon n processon 0, 2GB GD nonitor via nt displays 04@60Hz (	r and DR5 memo HDMI or Th ;	underb	•	24Hz (HDN	ИI)	- 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	Intel SoC	(Syste	m on Chi	p) platform						(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter (NOT available in EMEA)
				R4, dual-c ldered to s				NMM sock	ot.	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA) None
	* Installed r	memory	is actually	2666MHz b	ut run at 240	0MHz d	ue to Intel lin	nitation	ioi		I) One of the following, configurable by model:
Display	Size Reso	olution	T	/pe Surface	Brightnes	s Aspec	t Contras Ratio	t Color Gamut	Viewing Angle		HD720p camera with ThinkShutter camera privacy, fixed focus     IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" FHD	•	· /	PS Anti-gla	re 250 nits	16:9	700:1	45%	170°	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /
	15.6" UHD	(3840x I, Dolby	(2160) Vision™ I	PS Anti-gla	re 500 nits	16:9	1200:1	100% Adobe	170°	 Keyboard	optional dual array far-field microphone, headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight
Multi-touch (opt)	On-cell to	uch, sı	upports 1	O-finger ge	sture (FHD	only)				UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	<ul><li>M.2 224</li><li>Intel Op M.2 228</li></ul>	30 SSD 12 SSD tane™	/ PCle N / PCle N	VMe, PCIe VMe, PCIe H10 with S	3.0 x 2	Storage	,			Fingerprint rèadé	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 palm rest Near Field Communication
Optical	None									Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Ethernet	Non-vPro vPro mod			nernet Con				<del>5</del> )		Max battery life	with 65W AC adapter  MobileMark® 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics)
WLAN <i>(optional)</i> Bluetooth™	Intel Wirel	ess-AC	C 9560, W	/i-Fi 2x2 80	2.11ac + B	luetootl	า 5.0	,		AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WWAN (optional)				able by mod						Operating system	n Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	<ul><li>Wireless</li><li>Integrate</li><li>Integrate</li><li>* For non-V</li></ul>	ed Mob ed Mob <i>WWAN n</i>	oile Broad oile Broad <i>nodel, it m</i>	ole (special band 4G L' band 4G L' eans the mo nal Verizon	ΓΕ, Fibóco ΓΕ-Α, Fibo del is NOT V	m L830 com L8! /WAN up	-EB, M.2 ca 50-GL, M.2 ogradable		only)	Limited warranty	One of the following, configurable by model:  1-year depot repair service  1-year depot with 2-year system board 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
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Note: The specifications above may not be available in all regions.

Lenovo August 2019



# ThinkPad L13 Yoga Platform Specifications

		1	
Processor	10th Generation Intel® Core™ i3 / i5 / i7 Processor  Processor # of Number Cores Threads Frequency Frequency Frequency Graphics  i3-10110U 2 4 2.1 GHz 4.1 GHz 4MB  i5-10210U 4 8 1.6 GHz 4.9 GHz 8MB  DDR4-2666 Intel UHD	Camera Audio support	One of the following, configurable by model:  • HD720p camera, with ThinkShutter™ camera privacy, fixed focus  • IR camera and HD720p camera, with ThinkShutter camera privacy, fixed focus  • World facing camera, 5MP resolution, auto focus (Fingerprint model only)  HD Audio, Synaptics® CX11880-11Z / stereo speakers, 2W x 2,  Dolby® Audio™ Premium / dual array microphone,
Graphics	Intel UHD Graphics in processor only; supports external digital monitor via HDMI or USB Type-C;	 Keyboard UltraNav™	headphone / microphone combo jack  6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Security	Power-on password, hard disk password, supervisor password, system management password, security keyhole
Chipset Memory	Intel SoC (System on Chip) platform 4GB, 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets	Security chip System Mgt	Discrete TPM 2.0 TCG Certified  None
Display	13.3" (337.8mm) FHD (1920x1080), LED backlight, IPS, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, Color Gamut 72%, 170° viewing angle,	Fingerprint reade NFC	er Optional: Touch style match on host fingerprint reader on the palm rest None
Multi-touch Hinge Convert-mode	AR (anti-reflection) capacitive-type multi-touch, supports 10-finger gesture, could reduce the brightness by up to 10% Yoga hinge, 360 degree Laptop, tent, stand and tablet	Battery Max battery life AC adapter	Integrated Li-ion 46Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter  MobileMark® 2014: 12.23 hrs  * Battery life varies significantly with settings, usage, & other factors  45W USB Type-C, 65W USB Type-C or 65W Slim USB Type-C AC adapter
Pen Storage	ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable  One of the following, configurable by model:  • M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4	Light sensor G-sensor Gyroscope	None Yes None
Optical	M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 None	Preload	Windows® 10 Pro 64 or Windows 10 Pro in S mode
Ethernet	Gigabit Ethernet via USB-C to Ethernet Adapter Dongle or Mechanical Dock	Limited warranty	One of the following, configurable by model:
WLAN + Bluetooth™	One of the following, configurable by model:  • Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0		<ul><li>1-year depot repair service</li><li>1-year depot with 2-year system board service</li><li>3-year depot repair service</li></ul>
14/14/4 1	• Intel Wi-Fi 6 AX201, Wi-Fi 2x2 802.11ax + Bluetooth 5.0, M.2 card	Mil-Spec test	MIL-STD-810G military testing
WWAN	None	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant
Dimensions Weight Case color Case Material	WxDxH: 12.26" x 8.62" x 0.69"; 311.5mm x 219mm x 17.6mm Starting at 3.17lb / 1.43kg Black or silver Display cover: Magnesium + Aluminum Bottom: GFRP (Glass Fiber Reinforced Polymer)		
Smart card reade Media reader Ports	erOptional: Smart card reader MicroSD card reader Two USB 3.1 Type-A Gen 1 (one Always On), two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and Display Port), HDMI 1.4b, 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		
Monitor cable (optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to HDMI: Lenovo USB-C to HDMI Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter		
Bundled Accy (optional)	USB-C to USB-A: Lenovo USB-C to USB-A ddapter USB-C to USB-C: Lenovo USB-C to USB-A ddapter USB-C to USB-C to USB-C to USB-C cable 2M		
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Note: The specifications above may not be available in all regions.











#### 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 nreads 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	
	Draceson Haf Haf Base May Turks Mamory Draceson	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	Processor Number     # of Cores   Threads   Frequency   Frequenc	l orto	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
	i5-8350U   4   8   1.7 GHz   3.6 GHz   6MB   620	Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
<u> </u>		(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,	radio oapport	dual array microphone, headphone / microphone combo jack
Wellioly	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), LED backlight, IPS, 300 nits,	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Multi-touch (opt)	16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle, AR (anti-reflection) Capacitive-type multi-touch, AR (anti-reflection), supports 10-finger gesture		Intel vPro Technology
Hinge ` ' / '	Yoga hinge, 360 degree	Fingerprint rèadéi	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 11 1	<ul> <li>M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxGB SSD M.2 PCIe NVMe)</li> </ul>	Max battery life	MobileMark® 2014: 12.85 hrs * Battery life varies significantly with settings, usage, & other factors
Optical	None	AC adapter	45W or 65W USB Type-C AC adapter
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> )) via optional ThinkPad Ethernet Extension Cable Gen 2	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
WLAN +	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card	Limited warranty	One of the following, configurable by model:
Bluetooth™	* Wireless card supports BT4.2 but is limited to BT4.1 by Windows OS		1-year depot repair service
WWAN	None		<ul> <li>1-year depot with 2-year system board service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
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 November 2019



## ThinkPad L390 Yoga Platform Specifications

Processor	8th Generation Intel® Core™ i3 / i5 / i7 Processor	Smart card readerNone			
	Processor # of # of Base Max Turbo Cache Types Graphics	Ports 1	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         2         4         2.1 GHz         3.9 GHz         4MB           i5-8265U         4         8         1.6 GHz         3.9 GHz         6MB           i5-8365U         4         8         1.6 GHz         4.1 GHz         6MB           i7-8565U         4         8         1.8 GHz         4.6 GHz         8MB	Honitor cable	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:  Lenovo USB-C to VGA 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)	U U Bundled U	USB-C to VGA + Power Adapter: USB-C to HDMI:  USB-C to HDMI + Power Adapter: Lenovo USB-C to HDMI Adapter USB-C to HDMI + Power Adapter: Lenovo USB-C to HDMI plus Power Adapter Lenovo USB-C to DisplayPort Adapter USB-C to RJ45: Lenovo USB-C to Ethernet Adapter		
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets		USB-C to USB-A: Lenovo USB-C to USB-A Adapter USB-C to USB-C: Lenovo USB-C to USB-C Cable 2M		
Display	13.3" (338mm) FHD (1920x1080), LED backlight, IPS, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, 72% gamut, 170° viewing angle, AR (anti-reflection)	I	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		
Multi-touch Hinge	Capacitive-type multi-touch, AR (anti-reflection), supports 10-finger gesture, could reduce the brightness by up to 10% Yoga hinge, 360 degree		(mutually exclusive with fingerprint reader) HD Audio, Realtek ALC3287 codec, Dolby® Audio™ Premium / stereo speakers, 2W x 2 / dual array microphone, headphone / microphone combo jack		
Multi-mode Pen <i>(optional)</i>	Notebook, stand, tent, tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board garage	Keyboard 6 UltraNav™ 7	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch		
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s  • M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2  • M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4  • Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4	Security chip [System Mat (opt) ]	Power-on password, supervisor password, system management password, hard disk password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Optional: Touch style fingerprint reader on the palm rest (mutually exclusive with World facing camera)		
Optical	None	NFC (optional)	Near Field Communication		
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)	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: 12.17 hrs		
Optical Ethernet	None  Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)		* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter		
Linemei	via optional ThinkPad Ethernet Extension Cable or		Windows® 10 Home 64 or Windows 10 Pro 64		
WLAN Bluetooth™	Lenovo USB-C to Ethernet Adapter  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	•	One of the following, configurable by model:  1-year depot repair service  1-year depot with 2-year system board service		
WWAN	None		<ul> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>		
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		MIL-STD-810G military testing		
Case color Case material	Black or Silver  Display cover: Magnesium / Aluminum  Bottom: GFRP	Environment E	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant		







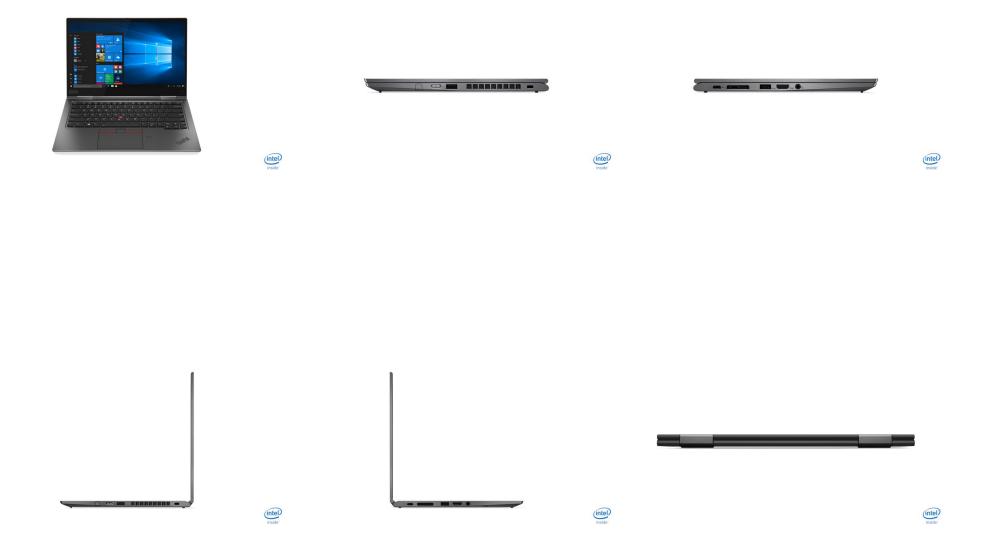






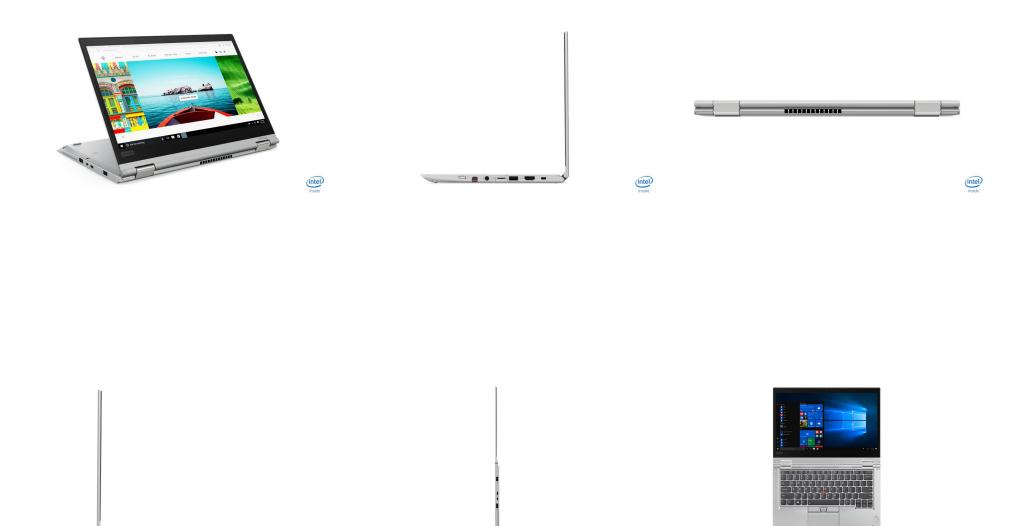
## ThinkPad X1 Yoga (3<sup>rd</sup> Gen) Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Consult assistance day	.Alama
110000001	Processor # of # of Number Cores Threads Frequency Frequency Cache Memory Types Processor Graphics    Frequency   Graphics   Graphic	Ports	MicroSD card reader, supports UHS-II Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (Power Delivery, DisplayPort, Data transfer), HDMI 1.4, Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, microSD card reader * Depending on many factors, actual data transfer speed may be lower than theoretical speed None 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 I) One of the following, configurable by model: 720p: HD720p camera with ThinkShutter camera privacy, fixed focus
	8th Generation Intel Core i5 / i7 Processor  Processor # of Number Cores Threads Frequency Frequency Frequency Frequency I.6 GHz 3.4 GHz 6MB  Replace Graphics 620  8th Generation Intel Core i5 / i7 Processor  Max Turbo Cache Memory Types Processor  Graphics 620	WiGig dock Monitor cable (optional)	
	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   1.0 GHz	, , , ,	
	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; Max resolution: 5120x2880@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Audio support	IR & 720p: IR camera and HD720p camera, fixed focus * WWAN models and HDR panel models can not support IR camera HD Audio, Realtek® ALC3286 codec, Dolby® Audio™ Premium / stereo speakers, 1W x 2 /, 360° Noise-cancelling Dual Array Far Field, headphone / microphone combo jack
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets	Keyboard UltraNav™	6-row wave keyboard (rise & fall), spill-resistant, multimedia Fn keys, LED backlit TrackPoint® pointing device and 3+2 buttons multi-touch clickpad
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, AR (anti-reflection)  Some: 14.0" (355mm) WQHD (2560x1440), LED backlight, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle,	Security chip System Mgt (opt) Fingerprint reader	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 Near Field Communication
Multi-touch	IPS, AR (anti-reflection)  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, AR (anti-reflection)  Capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge), supports 10-finger gesture, reduces overall display brightness by 10%	Max battery life	Integrated Li-Ion 54Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter MobileMark® 2014: 15.4 hrs  * Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Pen (optional)	Yoga hinge, 360 degree Laptop, tent, stand, and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable	G-sensor 3D ac Gyroscope 3D gy	Ambient Light Sensor 3D accelerometer 3D gyrometer GPS function is integrated into WWAN module
Storage Optical	Some: M.2 SSD / SATA 6.0Gb/s (e.g. xxxG SSD) Some: M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (e.g. xxxG SSD PCIe NVMe) None	Preload	Windows® 10 Pro 64
Ethernet	Native Intel Ethernet Connection WGI219-LM ( <i>vPro</i> ) via optional ThinkPad Ethernet Extension Cable	,	<ul><li>1-year depot repair service</li><li>1-year depot with 2-year system board service</li></ul>
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	Mil-Spec test	3-year/1-yr battery depot repair service  MIL-STD-810G military testing
SIM card (opt)	Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card	Environment	EPEAT™ Silver; ENERGY STAR®; RoHS-compliant
Dimensions Weight Case color Case material	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 Display cover: Carbon-Fiber and Glass-Fiber hybrid; Bottom: magnesium-PPS hybrid		
			Lenovo



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

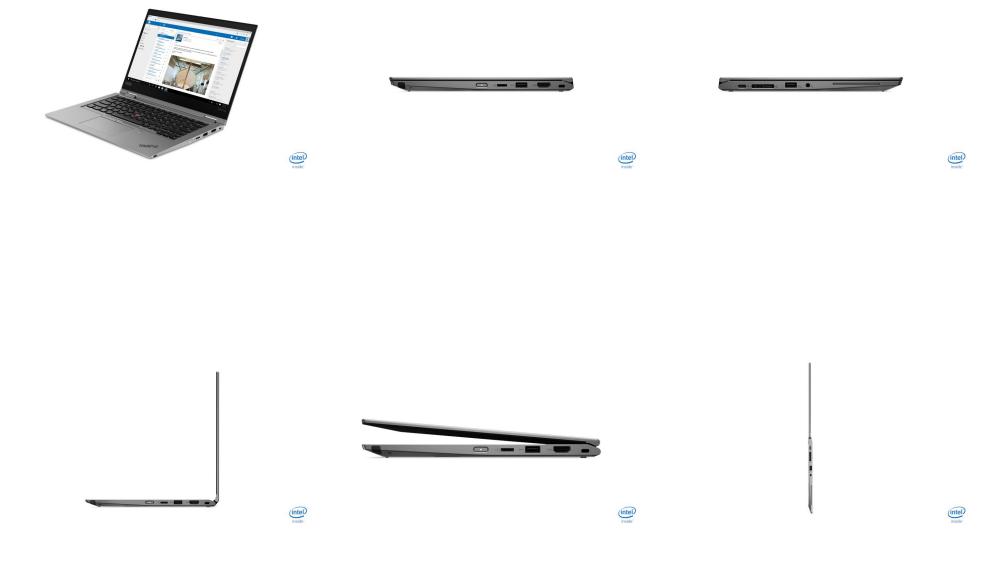
Processor	8th Generation Intel® Core™ i5 / i7 Processor or 10th Generation Intel® Core™ i5 / i7 Processor (Not available in EMEA)											Dimensions	WxDxH (Privacy Guard): 12.71" x 8.58" x 0.63"; 323mm x 218mm x 15.95mm						
	Proces	ssor	# of # Cores Thre	of	Bas Freque	e Max	Turba	avallable Memo	ĺ	Proc	essor ohics	Weight	WxDxH (Other model): 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Privacy Guard model: starting at 3.24lb / 1.47kg Other model: starting at 2.99lb / 1.36kg						
	i5-8265 i5-8365 i7-8565	5U	4 8		1.6 G 1.6 G 1.8 G	Hz 4.1	GHz 6ME GHz 6ME GHz 8ME	3		Intel Graphi	UHD ics 620	Case color Case material	Iron Grey Display cover: Aluminium; Bottom: Magnesium						
	i7-8669 i5-102 i7-105	10U 10U		2	1.9 G 1.6 G 1.8 G 1.1 G	Hz 4.2 Hz 4.9	GHz 8ME GHz 6ME GHz 8ME GHz 12M	3	R3-2133		UHD	Smart card reade Media reader Ports	None None None Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models).						
Graphics	Intel U suppo suppo	Intel UHD Graphics 620 or Intel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C™ / Thunderbolt; supports three independent displays; Max resolution: 5120x2880@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)						Type-C™		,	OMI)	Monitor cable Bundled Accy	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 Optional: ThinkPad Ethernet Extension Adapter Gen 2						
Chipset Memory	Intel S	SoC (S	System or	n Ch	ip) plat	form	ered to sys				,	Camera (optional	) One of the following, configurable by model:  HD720p camera with ThinkShutter camera privacy, fixed focus  IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus						
Display	Size	R	esolution		Туре		Brightness	Aspect Ratio	Contrast Ratio	Color Gamut		Audio support	HD Audio, Realtek® ALC1012L codec, 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 (1920x1080) Low Power			AR (anti-re- flection) /	400 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 (1920x1080) 14.0" ThinkPad Privacy Guard			AS (antismudge)  AR (anti-reflection) / AS (anti-		400 nits	16:9	1000:1	72%	170°	Security Security chip System Mgt Fingerprint reade NFC	Power-on password, supervisor password, system management password, hard disk password Discrete TPM 2.0 TCG Certified Optional: Intel vPro Technology er Touch style match on chip fingerprint reader on the palm rest Optional: Near Field Communication							
	14.0" WQHD (2560x1440)			AR (anti-re- IPS flection) AS (anti- smudge		300 nits	16:9	800:1	72%	170°	Battery Max battery life AC adapter	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  * Battery life varies significantly with settings, usage, & other factors 45W USB Type-C, 65W USB Type-C or 65W Slim USB Type-C AC adapter							
	14.0"	UHD Dolby HDR	(3840x216 ⁄ Vision™ 400	60)	IPS	AR (anti-re- flection) / AS (anti-	500 nits	16:9	1400:1	90%	170°	G-sensor Gyroscope GPS Preload	3D accelerometer 3D gyrometer GPS function is integrated into WWAN module One of the following, configurable by model:						
Multi-touch Hinge Convert-mode Pen	Capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge), supports 10-finger gesture, could reduce the brightness by up to 10% Yoga hinge, 360 degree Laptop, tent, stand, and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable  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  • Intel Optane™ Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4								up to 10		le	Limited warranty	<ul> <li>Windows® 10 Pro 64</li> <li>Windows 10 Home 64</li> </ul> One of the following, configurable by model: <ul> <li>1-year depot repair service</li> <li>1-year depot with 2-year system board service</li> <li>3-year/1-yr battery depot repair service</li> </ul>						
Storage												Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant						
Optical	None											_							
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									2 ′									
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																		
WWAN (optional) SIM card (opt)									3L, M.2 c	ard	M.2 card		Lenov						



# ThinkPad X380 Yoga Platform Specifications

Processor	8th Generation Intel® Core™ i3 / i5 / i7 Processor    Processor	Smart card reade Media reader Ports	rOptional: Smart card reader (mutually exclusive with NFC) One microSD card slot (microSD, microSDHC, microSDXC), UHS-I Two USB 3.1 Gen 1 (one Always On), Ethernet extension connector,
	3-8130U   2   4   2.2 GHz   3.4 GHz   4MB   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	WiGig dock Monitor cable (optional)	one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (Power Delivery, DisplayPort, Data transfer), HDMI 1.4b, microSD card reader, nano-SIM card slot (WWAN models), headphone / microphone combo jack * Depending on many factors, actual data transfer speed may be lower than theoretical speed None USB-C to VGA: Lenovo USB-C to VGA Plus Power Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Graphics	Intel UHD Graphics 620 in processor only; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	Camera	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  One of the following, configurable by model: 720p: HD720p camera, fixed focus
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets * System clocks down for processors with lower memory controller	Audio support	IR & 720p: IR camera and HD720p camera, fixed focus HD Audio, Conexant® CX11771 codec / stereo speakers, 2W x 2 / optional dual array microphone, headphone / microphone combo jack
Display	13.3" (337.8mm) FHD (1920x1080), LED backlight, IPS 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and 3+2 buttons Mylar surface multi-touch click pad
Multi-touch Hinge Convert-mode	AR (anti-reflection) Capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge), supports 10-finger gesture Yoga hinge, 360 degree Laptop, tent, stand, yoga and tablet	Security Security chip System Mgt (opt) Fingerprint readel NFC (optional)	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 (mutually exclusive with smart card reader)
Pen Storage	ThinkPad Pen Pro, áctive pen for multi-touch display, on-board rechargeable  Some: M.2 SSD / SATA 6.0Gb/s (e.g. xxxG SSD)	Battery Max battery life	Li-lon 51Wh battery  MobileMark® 2014: 13.6 hrs
Optical	Some: M.2 SSD / PCle NVMe, PČle 3.0 x 4, 32Gb/s (e.g. xxxG SSD PCle NVMe) None	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W AC adapter (slim tip), 45W or 65W USB Type-C AC adapter
Ethernet	Native Intel Ethernet Connection I219-V ( <i>Non-vPro</i> ) or I219-LM ( <i>vPro</i> ) via optional ThinkPad Ethernet Extension Cable	Light sensor G-sensor/ eCompass	Ambient Light Sensor 3D accelerometer and 3D magnetometer 3D compass
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	Gyroscope	3D gyrometer
WWAN (optional)	One of the following, configurable by model:  • Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only)	Preload	Some: Windows® 10 Home 64 Some: Windows 10 Pro 64
SIM card (opt)	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Nano-SIM card slot	Limited warranty	1-year depot repair service
Dimensions Weight	WxDxH: 12.34" x 8.75" x 0.72"; 313.5mm x 222.2mm x 18.2mm Starting at 3.17 lb / 1.43kg		<ul> <li>1-year depot with 2-year system board service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
Case color Case Material	Black or silver Carbon-Fiber Hybrid	Mil-Spec test Environment	MIL-STD-810G military testing  EPEAT™ Gold; ENERGY STAR®; RoHS-compliant
		Little	Longo

Lenovo November 2019



#### 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 Service Se	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 Cacne Memory Types Graphics  i5-8265U 4 8 1.6 GHz 3.9 GHz 6MB	Ports	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and Display Port).	
	15-836511 4 8 1.6 GHz 4.1 GHz 6MB		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),	
	1.8 GHz		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,	
Graphics	Intel UHD Graphics 620 in processor only;		side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed	
·	supports external digital monitor via HDMI or USB Type-C;	Monitor cable	USB-C to HDMI: Lenovo USB-C to HDMI Adapter	
	supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@24Hz (HDMI)	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter	
Chipset	Intel SoC (System on Chip) platform	Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2	
Memory	8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets	Camera	One of the following, configurable by model:	
Dianlay	* Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation  13.3" (337.8mm) FHD (1920x1080), LED backlight, IPS, 300 nits,	1	HD720p camera, with ThinkShutter camera privacy, fixed focus	
Display	16:9 aspect ratio, 800:1 contrast ratio, Color Gamut 72%, 170° viewing angle,	Audio support	• IR camera and HD720p camera, with ThinkShutter camera privacy, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2,	
	AR (anti-reflection)		Dolby® Audio™ Premium, dual array far-field microphones,	
Multi-touch	capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge), supports 10-finger gesture, could reduce brightness by up to 10%		headphone / microphone combo jack	
Hinge	Yoga hinge, 360 degree	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight 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	1	hard disk password, security keyhole	
Storage	• M.2 2280 SSD / CAIA 0.00b/s • M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4	Security chip	Discrete TPM 2.0 TCG Certified Intel vPro Technology	
	<ul> <li>M.2 2242 SSD / PCle NVMe, PCle 3.0 x 2</li> </ul>	Fingerprint reade	rTouch style match on chip fingerprint reader on the palm rest	
	<ul> <li>Intel Optane™ Memory H10 with Solid State Storage,</li> <li>M.2 2280, PCIe NVMe 3.0 x 4</li> </ul>	NFC (optional)	Near Field Communication	
Optical	None	Battery	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr)	
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)	Max battery life	with 65W USB Type-C AC adapter  MobileMark® 2014: 14.5 hrs	
	via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2	]	* Battery life varies significantly with settings, usage, & other factors	
WLAN	One of the following, configurable by model:  Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0	AC adapter	45W USB Type-C, 65W USB Type-C or 65W Slim USB Type-C AC adapter	
	<ul> <li>Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0</li> </ul>	Light sensor G-sensor	None 3D accelerometer	
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Gyroscope	3D gyrometer	
WWAN (optional)	One of the following, configurable by model:  Integrated Mobile Broadband 4G LTE, Fibocom L830-EB,	Preload	Windows® 10 Home 64 or Windows 10 Pro 64	
	M.2 card (EMEA only)	Limited warranty	One of the following, configurable by model:	
	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 repair service</li> <li>1-year depot with 2-year system board service</li> </ul>	
Discouries		-	3-year/1-yr battery depot repair 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		3-year/1-yr battery limited onsite service	
Case color	Black or silver (Silver is not available in EMEA)	Mil-Spec test	MIL-STD-810G military testing	
Case Material	Display cover. Carbon-Fiber Hybrid Bottom: Carbon-Fiber Hybrid	Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant	
	Dollotti. Carbott-i ibet i tybita		Lenovo	

Lenovo July 2019



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

Processor	7th Genera or Intel Pe				Processo	r, Intel	Celeron® prod	cessor,	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 i5-7Y54	2		1.0 GHz 1.2 GHz	2.6 GHz 3.2 GHz	4MB 4MB	LPDDR3-1866	Intel HD Graphics 615	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1,
	Cel N4100	4	4	1.1 GHz	2.4 GHz	4MB	DDD4 0400	Intel UHD Graphics 600		one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI1.4,Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole
	Pen N5000			1.1 GHz	2.7 GHz	4MB	DDR4-2400	Intel UHD Graphics 605	Control buttons	Power button, volume control button
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)								Camera Audio support	One of the following, configurable by model:  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 /
Chipset Memory	Intel SoC ( 4GB or 8G soldered to	B/ 18	366MHz	ĽÝDDR3 (	or 2400MH	lz DDF	R4 /		Keyboard UltraNav™	monaural microphone, headphone / microphone combo jack  6-row, multimedia Fn keys Two buttons click pad below keyboard, multi-touch
Display  MultiTouch Hinge	16:9 aspect Capacitive Yoga hinge	ct ratio -type   e, 360	o, 800:1 ( multi-tou degree	contrast ra ich, suppo	ıtio, 170° v	iewing	klight, IPS, 25 angle, Cornir	50 nits, ng® Gorilla® Glass	Security Security chip System Mgt (opt) Fingerprint reader	
Convertible mode Pen	E Laptop, ter Optional:	nt, stai ThinkF	nd and t Pad Pen	ablet Pro, batte	ries requir	ed, on-	board garage	•	Battery Max battery life	Integrated Li-lon 42Wh battery  MobileMark® 2014: 12 hrs
Storage	eMMC flash memory on board or M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s								AC adapter	*Battery life varies significantly with settings, usage, & other factors 45W or 65W slim tip AC adapter or USB Type-C AC adapter
Optical Ethernet	None Realtek RTL8111GUS-CG Gigabit Network Connection								Preload	Some: Windows® 10 Home 64 Some: Windows 10 Pro 64
WLAN	One of the following, configurable by model:  Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card								Limited warranty	One of the following, configurable by model:  1-year depot repair service 3-year depot repair service
Bluetooth™ WWAN	Bluetooth wireless, integrated in Wi-Fi + Bluetooth combo adapter  None							r	Mil-Spec test	MIL-STD-810G military testing
VVVVAIN									Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant

Lenovo March 2019







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

Processor	7th Generation Intel® Core™ i5 Processor		WxDxH: 12.74" x 8.55" x 0.63"; 323.5mm x 217.1mm x 15.95mm
	Processor # of # of Number Cores Threads Frequency Frequency Cache Memory Types Graphics	Case color	Starting at 2.49 lb / 1.13 kg Black or Silver (silver case is NOT available in EMEA) Display cover: CFRP/GFRP hybrid;
	i5-7300U 2 4 2.6 GHz 3.5 GHz 3MB LPDDR3-1866 Intel HD Graphics 620		Bottom: magnesium alloy / PPS hybrid
	or 8th Generation Intel Core i5 / i7 Processor	Smart card reader Media reader	None MicroSD card reader, supports UHS-II
	Processor Number Cores Threads Frequency 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   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   8MB   1.9 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   4.2 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   4.	Monitor cable	Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, microSD card reader, sided 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	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;	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 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	Audio support	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.		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 chip vPro (optional)	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,
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)		anti-spoofing technology
Storage	One of the following, configurable by model:  • M.2 SSD / SATA 6.0Gb/s (e.g. xxxGB SSD M.2)	(-/ /	Near Field Communication
	• M.2 SSD / SAIA 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)	Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W 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	l	* Battery life varies significantly with settings, usage, & other factors 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		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  Integrated Mobile Broadband 4G LTE-A,		One of the following, configurable by model:  1-year depot repair service
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		<ul> <li>1-year depot with 2-year system board repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
2 54.4 (561)	Trails of the said story optional voltage in ETE (00) of the said		MIL-STD-810G military testing
		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
·	-		Lenovo

Lenovo August 2019

















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

Processor	8th Generation Intel® Core	™ i5 / i7 Pr	ocessor					WWAN (optional)	One of the following, configurable by model:
	Processor # of # of Number Cores Threads   15-8265U	requency F	requency	iche M	Memory Types		essor phics	CIM cord (out)	<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>
	i5-8365U i7-8565U 4 8	1.6 GHz 1.8 GHz	4.1 GHz 6 4.6 GHz 8	MB MB	PDDR3-2133		UHD ics 620	SIM card (opt) Dimensions	Nano-SIM card slot, optional Verizon LTE (US) SIM card  WxDxH (Privacy Guard): 12.72" x 8.54" x 0.61"; 323mm x 217mm x 15.4mm  WxDxH (other model): 12.72" x 8.54" x 0.59"; 323mm x 217mm x 14.95mm
	or 10th Generation Intel C			MB   OT av	railable in EM	1E		Weight	Privacy Guard model: starting at 2.66 lb / 1.21 kg; Other model: starting at 2.4 lb / 1.09 kg
	Processor # of # of		May Turbo			Proc	essor	Case color	Black paint or black weave
	Number Cores Threads	Frequency I	Frequency C		Memory Types	Graphics		Case material	Display cover: Carbon Fiber; Bottom: magnesium alloy
	i5-10210U 4 8 - i7-10510U 6 12	1.6 GHz 1.8 GHz 1.1 GHz	4.9 GHz 8	MB MB L	_PDDR3-2133		UHD phics	Smart card reade Media reader	rNone None
Graphics	Intel UHD Graphics 620 or Intel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C / Thunderbolt; supports three independent displays; Max resolution: 5K@60Hz (Thunderbolt); 4K@24Hz (HDMI)  Intel SoC (System on Chip) platform							Ports  - Monitor cable	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, 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 spee Optional: Lenovo HDMI to VGA Monitor Adapter
Memory	8GB or 16GB / 2133MHz		oldered to s	ystem	nboard, no so	ockets		Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2  One of the following, configurable by model:
Display	Size Resolution Ty	ype Surface Brightness		Aspec Ratio	t Contrast Ratio	Color Gamut	Viewing Angle		<ul> <li>HD720p camera with ThinkShutter camera privacy, fixed focus</li> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed foc</li> </ul>
1	14.0" FHD (1920x1080) IFMulti-touch	S Anti- reflection Anti- smudge	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 / 4 array far-field microphones, headphone / microphone combo jack
	14.0" FHD (1920x1080) IF	S Anti-glare	400 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 (1920x1080) 14.0" ThinkPad Privacy IP Guard	S Anti-glare	400 nits	16:9	1000:1	72%	170°	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
		S Anti-glare	300 nits	16:9	700:1	72%	170°	Fingerprint reade	rTouch style match on chip fingerprint reader on the palm rest Near Field Communication
	UHD (3840x2160) HDR 400, Dolby Vision™	S Glossy	500 nits	16:9	1400:1	90%	170°	NFC (optional) Battery	Integrated Li-ion 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
Multi-touch (opt)	Capacitive-type multi-touc anti-reflection (AR), anti-si			sture	(FHD only),			Max battery life	MobileMark® 2014: 18.3 hr * Battery life varies significantly with settings, usage, & other factors
Storage	One of the following, configura • M.2 2280 SSD / SATA 6.		l:					AC adapter	45W, 65W, or 65W slim USB-C AC adapter an Optional: Windows® 10 Home 64 or Windows 10 Pro 64
	<ul> <li>M.2 2280 SSD / PCIe N'</li> </ul>	VMe 3.0 x 4	1					Limited warranty	One of the following, configurable by model:
	<ul> <li>Intel Optane™ Memory F M.2 2280, PCIe NVMe 3</li> </ul>		lid State Sto	rage,				Ztoa warranty	1-year depot repair service
Optical	None							]	<ul> <li>1-vear depot with 2-year system board repair service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
Ethernet	Native Intel Ethernet Conr via bundled or optional Th	ection I219	-V (Non-vPi	o) or l	l219-LM ( <i>vPi</i>	ro)		LATI O	3-year/1-yr battery limited onsite service
WLAN +	One of the following, configura			1011710	aaptor Gon Z	•		Mil-Spec test	MIL-STD-810G military testing
Bluetooth™	<ul> <li>Intel Wireless-AC 9560, Very Intel Wi-Fi 6 AX201, Wi-Fi (AX201 for 10th Gen pro</li> </ul>	Ni-Fi 2x2 80 Fi 2x2 802.1	02.11ac + Bl 11ax + Bluet					Environment	EPEAT™ Gold; ENERGY STAR® 7.1; RoHS-compliant
Note: The specific	ations above may not be avai	able in all re	egions.						Lenovo

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





















# ThinkPad X1 Extreme Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor		rOptional: Smart card reader	
	Processor # of # of Base Max Turbo Cache Threads Frequency Frequency Cache Types 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	
	i5-8300H		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	
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;		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, 72% gamut, 170° viewing angle		stereo speakers, 2W x 2, Dolby® Audio™ Premium / optional dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone	
	Some: 15.6" (396mm) HDR UHĎ (3840x2160) with Dolby Vision™, LED backlight, IPS, 400 nits, 16:9 aspect ratio, 1200:1 contrast ratio,	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 (optional)	100% gamut, 170° viewing angle, multi-touch, anti-reflection (AR) Capacitive-type multi-touch, supports 10-finger gesture (4K only) Lenovo Pen Pro (special bid only)	Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology	
Storage	Up to 2 drives (two M.2 SSD)  • 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)	Fingerprint reader Color calibration	r Touch style match on chip fingerprint reader on the keyboard bezel	
RAID <i>(optional)</i> Optical	RAID 0/1 support None		Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  Discrete mode: 9.5 hr; Hybrid mode: 14.9 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 Cable	(MobileMark 2014) AC adapter	* Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter	
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		Optional: Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:	
WWAN SIM card	None None	(optional)	<ul><li>1-year depot repair service</li><li>3-year/1-yr battery depot repair service</li></ul>	
Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm WxDxH (multi-ouch): 14.24" x 9.67" x 0.74"; 361.8mm x 245.7mm x 18.7mm		3-year/1-yr battery limited onsite service  MIL-STD-810G military testing	
Weight	Non-touch model: starting at 3.76 lb / 1.7 kg;		EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant	
Case color Case material	Multi-touch model: starting at 4.06 lb / 1.8 kg Black Display cover: CFRP/GFRP hybrid; Bottom: Aluminum alloy			

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

Lenovo August 2019





















# ThinkPad X1 Extreme (2nd Gen) Platform Specifications

Processor	9th G	eneration	Intel® Co	re™ i5	/ i7 / i9 P	rocessor					Dimensions	WxDxH (non-touch): 14.24" x 9.67" x 0.72"; 361.8mm x 245.7mm x 18.4mm
	Proce Numb	oer Cores	# of Threads	Freq	uency Fre	x Turbo equency Cach	ie Ty	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; Multi-touch model: starting at 4.0 lb / 1.81 kg
	i5-9300H     4     8       i5-9400H     4     8       i7-9750H     6     12       i7-9850H     6     12			2.5 2.6	GHz 4.		3 B DDR	4-2666 Ir	ntel UHD ( 630		Case color Case material	Black paint (FHD model) or black weave (UHĎ model)  Display cover: CFRP/GFRP hybrid;  Bottom: Aluminum alloy
	i7-98		12 16			6 GHz 12M 8 GHz 16M	_				Media reader	er Optional: Smart card reader SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card
Graphics	Intel UHD Graphics 630 in processor and NVIDIA® GeForce® GTX 1650, 4GB GDDR5 memory; supports external digital monitor via HDMI or Thunderbolt™; supports four independent displays; Max resolution: 5K@60Hz (Thunderbolt); 4K@60Hz (HDMI)										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 Intel CM246 Chipset 64GB max / 2666MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets									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	Size	Resolution		Туре	Surface	Brightness	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle		Optional: ThinkPad Ethernet Extension Cable
	15.6"	FHD (1920x	(1080)	IPS	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 (1920x Dolby Vision	ı™ HĎR	IPS	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>
	15.6"	UHD (3840) Dolby Visior	(2160) 1 HDR	IPS	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"	UHD (3840) Dolby Visior Multi-touch	(2160) n HDR,	OLED	Anti- reflection Anti- smudge	SDR 400nit, HDR 500nit (peak)	16:9	100000:1	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-r	eflection (A	AR), anti-	smud	ipports 10 ge (AS) c	O-finger gest oating e accessory				l.	Security Power-on password, hard disk password, supervisor password, security keyh Discrete TPM 2.0, TCG Certified System Mgt (opt) Intel vPro Technology	
Storage	Up to	two M.2 SSI 2280 SSD /	<u> </u>	· I		2 docc3301 y	соттра	don'ty lo	details		Color calibration	rTouch style match on chip fingerprint reader on the keyboard bezel  Optional: X-Rite Pantone factory color calibration (UHD model only)  None
RAID (optional) Optical		0/1 suppo			.o x 1						Battery Max battery life	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr)  MobileMark® 2014: 14 hr
Ethernet						( <i>Non-vPro</i> ) net Extension			Pro))		AC adapter	* Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
WLAN (optional) Bluetooth™						+ Bluetooth Fi + Bluetoo		bo adap	ter		Operating system Limited warranty	n Windows® 10 Home 64 or Windows 10 Pro 64  One of the following, configurable by model:
WWAN SIM card	None None	)		nogra		TTT Blactor	00111	o adap			_ Limited warranty	<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>
											Mil-Spec test	MIL-STD-810G military testing
											Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

September 2019

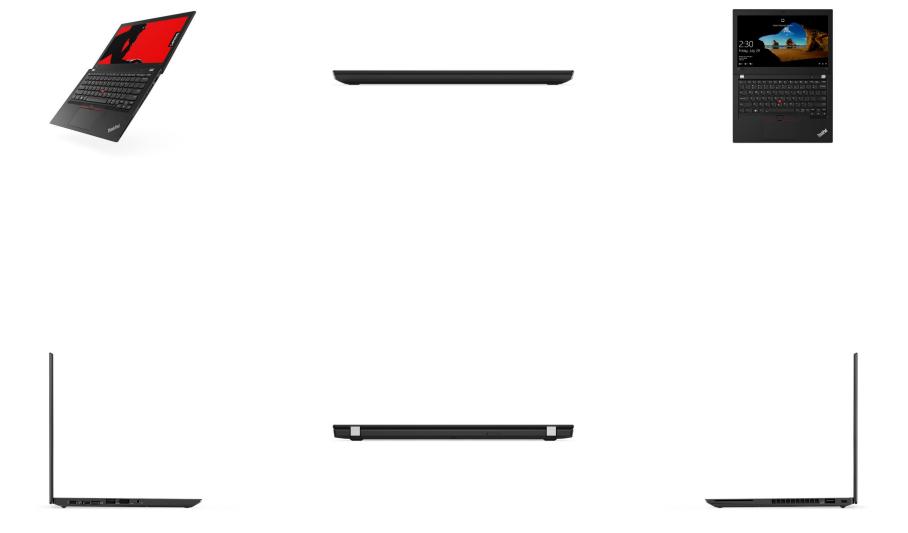






# ThinkPad X270 Platform Specifications

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				Intel HD Graphics	0	
	i5-6300U		2.4 GHz	3.0 GHz 3MB 3.1 GHz 4MB	-	520	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	3.4 GHz 4MB	-		Ports	Two USB 3.1 Gen 1 (USB 3.0, one Always On),
	or 7th Generatio	n Intel Co						USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	Processor # of	# of	Base	Max Turbo	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			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	One of the following, configurable by model:
Ü				ide, 7mm high, Ad				<ul> <li>Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64</li> </ul>
				de, 7mm high (e.		SD)		Windows 10 Home 64
				e 3.0 x 2, 16Gb/s Gb/s, in WWAN sl		torage.		Windows 10 Pro 64
	mutually			N and WiGig	0. 40	.torago,	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>One of the following</li> <li>Realtek® RTL8</li> </ul>			el (WiGig is mutuall) 02 11ac ± RT4 1	y exclusive w	itn vvvvAN):	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>	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	ıbanu 4G L n™ X7 I TF	ī E-A, ∃-A (Sierra Wireles	ss FM7455	١		
	<ul> <li>Integrated Mob</li> </ul>	oile Broad	lband 4G L	TE,		,		
CIM cord (and)				AÚ) (EMEA only)				
SIM card (opt)	Micro-SIM card	siot, opt \	erizon Li E	(US) or Lenovo®	Connect (E	w∟A) SIM card		:
								Lenovo



# ThinkPad X280 Platform Specifications

Processor				e™ i3 / i5 P n US and EN		OU is NO	T available ir	n 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	# of Threads	Base	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	020U 2.3 GHz - 3MB 130U 2.7 GHz - 3MB DDR4.2133 Intel HD Graphics		Case color Case material	Black Display cover: Carbon Fiber (FHD non-touch model) or Glass Fiber (HD & FHD multi-touch model); Bottom: Magnesium/Aluminum					
	i5-7300U		 	2.6 GHz	3.5 GHz	3MB			Smart card reade Media reader	er <i>Optional:</i> Smart card reader MicroSD card reader, in the combo slot with nano-SIM card
	Processor	# of	# of	Base	i7 Processo Max Turbo	Cache	Memory	Processor	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),
	Number i3-8130U	Cores 2	Threads 4	Frequency 2.2 GHz	Frequency 3.4 GHz	4MB	Types	Graphics		one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet extension connector.
	i5-8250U i5-8350U i7-8550U i7-8650U	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	- Monitor cable	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	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; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)								(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	4GB, 8GB * 4GB mem	, or 16 ory is N	GB / 240 VOT availa	ble in US an	R4 / soldere	,	•	, no sockets	Audio support	<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	22 Some: 12	20 nits, 2.5" (31	16:9 aśp I7.5mm)	ect ratio, 4 FHD (1920	00:1 contra 0x1080), an	ist ratio ti-glare	, LED back	ight, IPS,	 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 to	uch. sí	ipports 1	ect ratio, 7 0-finger ge OT available	sture (FHD	st ratio only)	, 170° view	ing angle	Security Power-on password, hard disk password, supervisor password, security Security chip Discrete TPM 2.0, TCG Certified	Power-on password, hard disk password, supervisor password, security keyhole
Storage	<ul> <li>M.2 SSE</li> </ul>	/ SAT	A 6.0Gb/	rable by mod s (e.g. xxx0 PCIe 3.0 x	GB SSD M.	.2) (e.g. x)	vGB SSD	M.2 PCIe NVMe)	" '	er Optional: Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology
Optical	None								NFC (optional) Battery	Near Field Communication  Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Ethernet							1219-LM (ı dapter Ger		Max battery life	with 65W AC adapter  MobileMark® 2014: 16.6 hr
WLAN + Bluetooth™					Vi-Fi 2x2 80 limited to B1			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) SIM card (opt)	<ul> <li>al) One of the following, configurable by model:         <ul> <li>Integrated Mobile Broadband 4G LTE,</li> <li>Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)</li> </ul> </li> <li>Integrated Mobile Broadband 4G LTE-A,</li> <li>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 system board repair service</li> <li>3-year/1-yr battery depot repair service</li> <li>3-year/1-yr battery limited onsite service</li> </ul>
(-1-7)	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	8th Ger			e™ i3 / i	/ i7 Process					Dimensions	Models	FHD Non-tou	ch	HD/	FHD Multi-touch	
	Process Number	-	# of Threads	Base Frequen	Max Turbo Frequency		Memory Types	Proces Graph			Carbon Fiber	311.9mm x 217.0mm 12.28" x 8.54" x			-	
	i3-8145l		4	2.1 GH		4MB 6MB					PPS	312.0mm x 217.2mm 12.28" x 8.55" x 9			217.2mm x 16.9mm 3" x 8.55" x 0.67"	
	i5-8265l			1.6 GH 1.6 GH		6MB	DDR4-2400	Intel UHD (		Weight	Models	FHD Non-touch	HD		FHD Multi-touch	
	i7-8565l	— A	8	1.8 GH		8MB		620	J	Troigin.	Carbon Fiber	2.70 lb / 1.22 kg	-	,	-	
	i7-8665l			1.9 GH		8MB				_	PPS	2.85 lb / 1.29 kg	2.93 lb / 1	1.33 kg	2.84 lb / 1.28 kg	
	or 10th Generation Intel Core i5 / i7 Processor (NOT available in EMEA)						Case color Case material	Black	Carbon Fiber (FHD r	on touch on	dy) or DDS					
	Process Number		# of Threads	Base Freguen	Max Turbo		Memory Types	Proces Graph		Case material	Bottom:	Magnesium/Aluminu	m	ily) ol FF3	,	
	i5-10210	U 4	8	1.6 GH	4.2 GHz	6MB 8MB	DDR4-2400	·		Smart card reade Media reader		art card reader reader, in the combo s	lot with nand	o-SIM card		
Graphics	Intel UHD Graphics 620 or Intel UHD Graphics in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (Thunderbolt); 4096x2160@24Hz (HDMI)								<b>Л</b> I)	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 DisplayPoone 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, 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 sp. HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter  USB-C to VGA: Lenovo USB-C to VGA Adapter				n of PD and DP),	
Chipset Memory	Intel SoC (System on Chip) platform 4GB, 8GB, 16GB or 32GB / 2400MHz DDR4 / soldered to systemboard, no sockets * 32GB memory is NOT available for models with 10th Gen processor * Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation									Monitor cable (optional)						
Display	Size Re			ype Surf		nauc	Ratio	Gamut	Viewing Angle	Bundled Accy	Optional: Thir	Lenovo USB-C to EnkPad Ethernet Extens	ion Adapter			
	13.3" H[	) (1366x7	68)	ΓN Anti-	lare 250 nit	s 16:9		45%	90°	Camera (optional	One of the follow	ving, configurable by mod	el:			
		ID (1920x		PS Anti-	lare 300 nit	s 16:9	800:1 (non-touch 700:1 (multi-touc	/ /2%	170°	Audio support	<ul> <li>IR camera a HD Audio, Rea</li> </ul>	HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus D Audio, Realtek® ALC3287 codec / ereo speakers, 1W x 2, Dolby® Audio™ Premium /				
	13.3" Th	ID (1920x inkPad Pr ıard	1080) rivacy I	PS Anti-	lare 400 nit	16:9	1000:1	72%	178°	Keyboard	optional dual a	array far-field micropho sistant, multimedia Fn I	ne, headpho	ne / micro	· · · · · · · · · · · · · · · · · · ·	
Multi-touch (opt)			pports 1	0-finger	gesture (FHI	only)				UltraNav™	TrackPoint® po	inting device and butto	nless Mylar	surface mu	ılti-touch touchpad	
Storage	<ul><li>M.2 2</li><li>M.2 2</li><li>Intel 0</li></ul>	280 SSD 242 SSD Optane™	/ PCIe N	IVMe, Po IVMe, Po H10 with	Cle 3.0 x 4 Cle 3.0 x 2 Solid State	Storage	),			Security Security chip System Mgt (opt) Fingerprint reade NFC (optional)	gt (opt) Intel vPro Technology It reader Optional: Touch style match on chip fingerprint reader on the palm rest					
Optical	None									Battery	Integrated Li-ic	on 48Wh battery, supp	orts Rapid C	harge (cha	arge up to 80% in 1hr	
Ethernet	Native I via bund	ntel Ethe dled or o	rnet Cor ptional Tl	nection ninkPad	219-V ( <i>Non-</i> Ethernet Ext	<i>vPro</i> ) or ension <i>F</i>	· I219-LM ( <i>v</i> Adapter Ger	<i>/Pro</i> ) n 2		Max battery life	MobileMark® 2	2014: 17.6 hr		ath an factors		
WLAN (optional)			g, configu		odel: 2 802.11ac -	L Blueto	oth 5.0			AC adapter	45W, 65W, or	ries significantly with settii 65W slim USB-C AC a	dapter			
	<ul> <li>Intel V</li> </ul>	/i-Fi 6 A	(200, Wi	Fi 2x2 8	02.11ax + Bl	uetooth	5.0			<u> </u>		dows® 10 Home 64 or		Pro 64		
Bluetooth™					in Wi-Fi + Bl	uetooth	combo ada	pter		Limited warranty (optional)		<i>ving, configurable by mod</i> t repair service	el:			
WWAN (optional)	<ul> <li>One of the following, configurable by model:</li> <li>Wireless WAN upgradable (special bid only in EMEA)</li> <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>							only)	(optional)	<ul><li>1-year depo</li><li>1-year limite</li><li>3-year/1-yr b</li></ul>	t with 2-year system bo d onsite service pattery depot repair ser pattery limited onsite so	vice	ervice			
			,				. 5			Mil-Spec test	MIL-STD-8100	G military testing				
										Environment	EPEAT™ Gold	I; ENERGY STAR® 7.1	; RoHS-com	pliant		



# ThinkPad X395 Platform Specifications

Processor	AMD Ryze	en™ PR	O Mobile	e Process	ors with Rad	leon™ Ve	ga Graphics	3		Dimensions	<i>WxDxH:</i> 12.28" x 8.55" x 0.67"; 311.9mm x 217.2mm x 16.9mm
	Processor Number	# of	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Controller		essor phics	Weight	Models HD / FHD multi-touch FHD non-touch FHD Privacy Guard
	Ryzen 3	4	1 III Eaus	2.1 GHz	3.5 GHz	2MB L2 /	Controller		n Vega 6	Case color	Weight   2.91 lb / 1.32 kg   2.82 lb / 1.28 kg   3.01 lb / 1.37 kg
	Pro 3300U	4	4	2.1 GHZ		4MB L3			phics	Case material	Display cover: PPS/GF;
	Ryzen 5 Pro 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400		n Vega 8 phics	Smart card roads	Bottom: Magnesium/Aluminum er Optional: Smart card reader
	Ryzen 7 Pro 3700U	4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3			Vega 10 phics	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,
Graphics	AMD Radeon Vega 6, Vega 8, or Vega 10 Graphics in processor; supports external digital monitor via USB-C or HDMI; supports three independent displays; Max resolution: 4096x2304@60Hz (USB-C); 4096x2160@24Hz (HDMI)										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, side docking connector, security keyhole
Chipset Memory	AMD SoC (System on Chip) platform 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets * Installed memory is actually 2666MHz but run at 2400MHz due to AMD limitation									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 VGA: Lenovo USB-C to VGA Adapter
Display	Size Reso	olution	Т	ype Surfa	ce Brightnes	Aspect Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Bundled Accy Camera (optional	Optional: ThinkPad Ethernet Extension Adapter Gen 2  I) One of the following, configurable by model:
	13.3" HD (	1366x76	68)	TN Anti-g	are 250 nits	_	300:1	45%	90°	Camera (opnomal)	HD720p camera with ThinkShutter camera privacy, fixed focus
	13.3" FHD	,		PS Anti-g	are 300 nits	16:9	800:1 (non-touch) 700:1 (multi-touch)	72%	170°	Audio support	<ul> <li>IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus HD Audio, Realtek ALC3287 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack</li> </ul>
	13.3" FHD Think		1080) vacy I	PS Anti-g	are 400 nits	16:9	1000:1	72%	178°	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)	On-cell to	uch, su	pports 1	0-finger	esture (FHD	only)		1		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Storage	• M.2 228				N- 0 0 - 4					System Mgt	DASH Management
Optical	<ul> <li>M.2 228</li> <li>None</li> </ul>	10 SSD	/ PCIe i	NVIVIE, PC	ie 3.0 x 4					Fingerprint reade	er Optional: Touch style match on chip fingerprint reader on the palm rest None
Ethernet	Native Revia bundle	altek® F ed or op	RTL8153 otional Tl	Gigabit I	thernet con thernet Exte	nection ension A	dapter Gen 2	2		Battery	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W AC adapter
WLAN <i>(optional)</i> Bluetooth™	Bluetooth	5.0 wir	eless, in	tegrated			n 5.0 combo adapt	ter		Max battery life  AC adapter	MobileMark® 2014: 14.5 hr * Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WWAN (optional)					odel:					<u> </u>	n Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	Wireless WAN upgradable     Integrated Mobile Broadband 4G LTE-A, 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									Limited warranty	
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Silver; ENERGY STAR® 7.1; RoHS-compliant

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

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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.

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Cover	1
Contents	2
Summary Of Change	3
ThinkPad Tablets	4
ThinkPad X1 Tablet (3rd Gen)	4
ThinkPad X1 Tablet (3rd Gen) Platform Specifications	5
Legal Information	6

# **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 30, 2019 - Version 550

### Additions in this update

► New product(s)

None

► New model(s)

None

**▶** Others

ThinkPad X1 Tablet (3rd Gen) - 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	Control buttons	Power button, volume control button, reset switch
	Processor # of # of Base Max Turbo Cache Memory Types Processor	Dock (Optional)	Thin Keyboard (Magnetic Detachable)
	Number Cores Inreads Frequency Frequency Graphics	Monitor cable	USB-C Dock Gen 2  None
	1.6 GHz 3.4 GHz 6MB	Bundled Accy	USB-C to RJ45: Lenovo USB-C to Ethernet Adapter
	1.7 GHz   3.6 GHz   6MB   LPDDR3-2133   Intel UHD   Graphics 620	(optional)	USB-C to VGA: Lenovo USB C to VGA Plus Power Adapter
	i7-8650U 1.9 GHz 4.2 GHz 8MB		USB-C to HDMI: Lenovo USB-C to HDMI Plus Power Adapter
Cranhina	Intel UHD Graphics 620 in processor,	Camera	Front camera: 2.0-megapixel, fixed focus Rear camera: 8.0-megapixel, auto focus
Graphics	supports external digital monitor via USB Type-C	IR Camera	Optional: IR camera, fixed focus (mutually exclusive with NFC)
Chipset	Intel SoC (System on Chip) platform	Audio support	Realtek® ALC3278 codec / stereo speakers, 1W x 2 /
Memory	8GB or 16GB / 2133MHz LPDDR3, soldered to systemboard, no sockets		dual array microphones, combo audio/microphone jack
Display	13.0" (330mm) QHD+ (3000x2000), glossy, LED backlight, IPS,	Pogo keyboard	Magnetic attached thin keyboard, with TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch, backlit
	anti-figerprint display with Corning® Gorilla® Glass, WideView (160° viewing),	Keyboard color	Black
Multi-touch	400 nits, 3:2 aspect ratio, 1200:1 contrast ratio Capacitive touch panel, supports ten-finger gesture	Security	Kensington lock slot
Pen (optional)	Lenovo Pen Pro or Lenovo Active Pen (ThinkPad Pen Pro)	Security chip	Discrete TPM 2.0 TCG Certified
Kick stand	Opening angle up to 170 degrees	System Mgt (opt) Fingerprint reade	Intel vPro Technology er Optional: Touch style Fingerprint reader
Storage	One of the following, configurable by model:	NFC (optional)	Near Field Communication (mutually exclusive with IR camera)
	<ul> <li>M.2 2280 SSD / SATA 6.0Gb/s</li> <li>M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s</li> </ul>	Battery	Integrated Li-Ion 42Wh battery
Optical	None	Max battery life	MobileMark® 2014: 9.5 hrs
Storage extension	nOne MicroSD card reader, in the combo slot with nano-SIM card, support USH-I, microSDHC, microSDXC	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Ethernet	None	Light sensor	Ambient Light Sensor
WLAN		G-sensor	3D accelerometer
WLAIN 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	Gyroscope	3D gyrometer
	Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A	GPS (optional)	GPS function is integrated into WWAN module
, , ,	(Sierra Wireless EM7455)	Preload	One of the following, configurable by model:  • Windows® 10 Pro 64
SIM card (opt)	Nano-SIM card slot, in the combo slot with microSD card reader		• Windows 10 Home 64
Dimensions	Tablet only: 11.97" x 8.9" x 0.35"; 304.1mm x 226mm x 8.9mm	Limited warranty	One of the following, configurable by model:
Weight	Tablet + keyboard: 11.97" x 8.9" x 0.57"; 304.1mm x 226mm x 14.4mm  Tablet only: starting at 1.96 lb / 0.89kg		1-year depot repair service
· ·	Tablet+ keyboard: starting at 2.8 lb / 1.27kg		<ul> <li>1-year depot with 2-year system board service</li> <li>3-year/1-yr battery depot repair service</li> </ul>
Case color	Black		3-year/1-yr battery limited onsite service
Case material	Magnesium/Aluminum  Tue LIGB 0.1 Ture 0.0 Con 1. ((with the function of Bours Belliners and Bioglas Bert)	Mil-Spec test	MIL-STD-810G military testing
Ports	Two USB 3.1 Type-C Gen 1 ((with the function of Power Delivery and DisplayPort), one Pogo keyboard connector, one Pen holder slot,	Environment	EPEAT™ Silver, GREENGUARD, Low Halogen, RoHS
	headphone / microphone combo jack,		
	combo slot of nano-SIM card (WWAN models) and microSD card reader		
	* Depending on many factors, actual data transfer speed may be lower than theoretical speed		

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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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Cover	1	ThinkCentre M715 Tiny Thin Client	36
Contents	2	ThinkCentre M715 Tiny Thin Client Platform Specifications	37
Summary Of Change	4	ThinkCentre M715 Tiny Thin Client (2nd Gen)	38
M Series AIO	6	ThinkCentre M715 Tiny Thin Client (2nd Gen) Platform Specifications	39
ThinkCentre M810z AIO	6	ThinkCentre M715 Tower	40
ThinkCentre M810z AIO Platform Specifications	7	ThinkCentre M715 Tower Platform Specifications	41
ThinkCentre M820z AIO	8	ThinkCentre M720 SFF	42
ThinkCentre M820z AIO Platform Specifications	9	ThinkCentre M720 SFF Platform Specifications	43
ThinkCentre M910z AIO	10	ThinkCentre M720 Tiny	44
ThinkCentre M910z AIO Platform Specifications	11	ThinkCentre M720 Tiny Platform Specifications	45
ThinkCentre M920z AIO	12	ThinkCentre M720 Tower	46
ThinkCentre M920z AIO Platform Specifications	13	ThinkCentre M720 Tower Platform Specifications	47
M Series Desktop	14	ThinkCentre M720e SFF	48
ThinkCentre M600 Tiny	14	ThinkCentre M720e SFF Platform Specifications	49
ThinkCentre M600 Tiny Platform Specifications	15	ThinkCentre M725 SFF	50
ThinkCentre M600 Tiny Thin Client	16	ThinkCentre M725 SFF Platform Specifications	51
ThinkCentre M600 Tiny Thin Client Platform Specifications	17	ThinkCentre M75q Tiny	52
ThinkCentre M625 Tiny	18	ThinkCentre M75q Tiny Platform Specifications	53
ThinkCentre M625 Tiny Platform Specifications	19	ThinkCentre M75s SFF	54
ThinkCentre M625 Tiny Thin Client	20	ThinkCentre M75s SFF Platform Specifications	55
ThinkCentre M625 Tiny Thin Client Platform Specifications	21	ThinkCentre M90n-1 Nano	56
ThinkCentre M630e Tiny	22	ThinkCentre M90n-1 Nano Platform Specifications	57
ThinkCentre M630e Tiny Platform Specifications	23	ThinkCentre M90n-1 Nano IoT	58
ThinkCentre M710 SFF	24	ThinkCentre M90n-1 Nano IoT Platform Specifications	59
ThinkCentre M710 SFF Platform Specifications	25	ThinkCentre M910 SFF	60
ThinkCentre M710 Tiny	26	ThinkCentre M910 SFF Platform Specifications	61
ThinkCentre M710 Tiny Platform Specifications	27	ThinkCentre M910 Tiny	62
ThinkCentre M710 Tower	28	ThinkCentre M910 Tiny Platform Specifications	63
ThinkCentre M710 Tower Platform Specifications	29	ThinkCentre M910 Tower	64
ThinkCentre M710e SFF	30	ThinkCentre M910 Tower Platform Specifications	65
ThinkCentre M710e SFF Platform Specifications	31	ThinkCentre M920 SFF	66
ThinkCentre M715 SFF	32	ThinkCentre M920 SFF Platform Specifications	67
ThinkCentre M715 SFF Platform Specifications	33	ThinkCentre M920 Tiny	68
ThinkCentre M715 Tiny (2nd Gen)	34	ThinkCentre M920 Tiny Platform Specifications	69
ThinkCentre M715 Tiny (2nd Gen) Platform Specifications	35	ThinkCentre M920 Tower	70

ThinkCentre M920 Tower Platform Specifications	71
ThinkCentre M920x Tiny	72
ThinkCentre M920x Tiny Platform Specifications	73
Smart Office	74
ThinkSmart Hub 500	74
ThinkSmart Hub 500 Platform Specifications	75
ThinkSmart Hub 500 for Zoom	76
ThinkSmart Hub 500 for Zoom Platform Specifications	77
Tiny-In-One	78
ThinkCentre Tiny-In-One 22 Gen3	78
ThinkCentre Tiny-In-One 22 Gen3 Platform Specifications	79
ThinkCentre Tiny-In-One 24 Gen3	80
ThinkCentre Tiny-In-One 24 Gen3 Platform Specifications	81
ThinkCentre Tiny-In-One 27	82
ThinkCentre Tiny-In-One 27 Platform Specifications	83
Legal Information	84

Summary of Changes	1	ThinkCentre M800z (10EW) - TopSeller	70
ThinkCentre Chromebox			71
ThinkCentre Chromebox Platform Specifications	3	ThinkCentre M800z (10EW)	72
ThinkCentre Chromebox (10H8) - TIO	4	ThinkCentre M800z (10EV)	73
ThinkCentre Chromebox (10H9) - TIO (TopSeller)	5	ThinkCentre M900 Tiny	74
ThinkCentre Chromebox (10H6) - TIO	6	ThinkCentre M900 Tiny Platform Specifications	75
ThinkCentre Chromebox (10H2)	7	ThinkCentre M900 Tiny (10FM) - TopSeller	76
ThinkCentre Chromebox (10H3) - TopSeller	8	ThinkCentre M900 Tiny (10FM) - TopSeller - II	77
ThinkCentre Chromebox (10H4)	9	ThinkCentre M900 Tiny (10NE) - TopSeller	78
ThinkCentre Chromebox (10H5) - TopSeller	. 10	ThinkCentre M900 Tiny (10NE) - TopSeller - II	79
ThinkCentre Tiny-in-One 22			
ThinkCentre Tiny-in-One (TIO) 22			
ThinkCentre Tiny-in-One 23			
ThinkCentre Tiny-in-One (TIO) 23			
ThinkCentre Tiny-in-One 24			
ThinkCentre Tiny-in-One (TIO) 24	. 16	ThinkCentre M900 Tower	85
ThinkCentre M600 Tiny			86
ThinkCentre M600 Tiny Platform Specifications			
ThinkCentre M600 Tiny (10G9) - TopSeller			88
ThinkCentre M600 Tiny (10KH) - Thin Client (TopSeller)			
ThinkCentre M600 Tiny (10GK) - Thin Client (TopSeller)	. 21		
ThinkCentre M600 Tiny (10KK) - TIO (Thin Client) - TopSeller			
ThinkCentre M600 Tiny (10GA) - OID			
ThinkCentre M600 Tiny (10G8) - OID			
ThinkCentre M600 Tiny (10GE) - TIO (OID)			
ThinkCentre M600 Tiny (10GC) - TIO (OID)			
ThinkCentre M600 Tiny (10KG) - Thin Client			
ThinkCentre M600 Tiny (10GJ) - Thin Client			
ThinkCentre M600 Tiny (10KJ) - TIO (Thin Client)			
ThinkCentre M700 Tiny		` ' '	
ThinkCentre M700 Tiny Platform Specifications			
ThinkCentre M700 Tiny (10HY) - TopSeller		· · · ·	
ThinkCentre M700 Tiny (10HY) - TopSeller - II			
ThinkCentre M700 Tiny (10J0)			
ThinkCentre M700 SFF			
ThinkCentre M700 SFF Platform Specifications			
ThinkCentre M700 SFF (10GT) - TopSeller		` ', '	
ThinkCentre M700 SFF (10GT) - TopSeller - II			
ThinkCentre M700 SFF (10GS)			
ThinkCentre M700 Tower		, , ,	
ThinkCentre M700 Tower Platform Specifications			
ThinkCentre M700 Tower (10GR) - TopSeller			
ThinkCentre M700 Tower (10GQ)			
ThinkCentre M700 lower (10GQ)			
ThinkCentre M700z Platform Specifications		, , , , , , , , , , , , , , , , , , , ,	
ThinkCentre M700z (10EY) - TopSeller		, , , , , , , , , , , , , , , , , , , ,	
ThinkCentre M700z (10E1) - 10p3ener			
ThinkCentre M79 SFF and Tower			
ThinkCentre M79 SFF Platform Specifications			
ThinkCentre M79 Tower Platform Specifications			
ThinkCentre M79 SFF (10CU) - TopSeller			
ThinkCentre M79 SFF (1000) - TopSeller		, , , , , ,	
ThinkCentre M79 SFF (10CT)			
ThinkCentre M79 SFF (1001)			
ThinkCentre M79 Tower (10CR) - TopSeller			
ThinkCentre M79 Tower (100h) - TopSeller			
, , ,			
ThinkCentre M79 Tower (10 IC)			
ThinkCentre M79 Tower (10J6)			
ThinkCentre M800 SFF			128
ThinkCentre M800 SFF Platform Specifications			
ThinkCentre M800 SFF (10FY) - TopSeller			
ThinkCentre M800 SFF (10FX)			
ThinkCentre M800 Tower Blotterm Charling			
ThinkCentre M800 Tower Platform Specifications			
ThinkCentre M800 Tower (10FW) - TopSeller			
ThinkCentre M800 Tower (10FV)			
ThinkCentre M800z All-In-One			
ThinkCentre M800z Platform Specifications			
ThinkCentre M800z (10EU) - TopSeller	. 69		

# **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	Processor	Security features	Security slot (in rear for attachment of optional Kensington® MicroSaver® cable;     Boot sequence control			
	Processor	Cores /	Frequency	Cache	Memory Support		,				
		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     Isothografiand may be a second and may			
	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 MB	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	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)			
Managan							-	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±I	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; Lift: 110mm; Swivel: +/-45°			
Media reader	Optional 9-in-1 me	dia card r	eader				Power supply	150 watts, autosensing, 85% PSU			
Graphics	Intel HD Graphics external monitor si	upport via	DisplayPort™;	-	•	DirectX® 12	Limited warranty <sup>3</sup>				
Display	Max resolution: 40 21.5" (546.1mm) F angle (+/- 89°), LE anti-glare, support	<b>Full HD 1(</b> D backligl	<b>080p (1920x108)</b> ht, 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 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	l Capacitiv	/e Touch (PCT) to	echnolog al microp	y, supports 10-po hone, LED indica	oint touch tor, physical					
Controls	Physical buttons for	r Microph	one mute, bright	ness up/	down, and power	on/off		- Only for Window 7			
Chipset	Intel B250 Chipse	et					]	<ul><li>Lenovo Solution Center</li><li>Lenovo ThinkVantage Tools</li></ul>			
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 le combo jack (3. ctual data transfer s	st chargi 5mm) speed may	e), optional card in the open than the open	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	ess, M.2 Cuetooth 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, Wi-Fi + Bluetooth 4.1 combo adapter, 2x2										
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	form Modu	ule) 2.0, TCG Ce	rtified	G Win7 32 OS						
See footnotes for	more detailed informa	tion						©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 (22 Some: Intel Optane <sup>TI</sup>	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: DVD-ROM S				Cittaiii i 1000330	1), IVI.Z		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, s	lim (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 supp	orts Smart Powe	r On), oi	ne etnernet (RJ-4	·5),	Livinoriinorii	TCO AIO Computer certified, GREENGUARD® certified, TUV Eye comfort certified		
Side ports*	one DisplayPort, one optional serial (9-pin), one USB 3.1 Gen2 (one is Always On and fast charge), one USB 3.1 Type-C Gen							(for Full Function Monitor Stand only), TUV Low Blue Light certified,		
	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 factors, actual data transfer speed may be lower than theoretical speed Two M.2 Card slots (one for WLAN, one for SSD/Optane)						MIL-SPEC test			
M.2 card slot								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 enesitie	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		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 down for the processors with lower memory controller					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		Wechanical	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	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 Burn	e: DVD-ROM SATA 1.5Gb/s Drive, slim (9.5mm) e: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, 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 530/630 in processor, uses main memory, DirectX <sup>®</sup> 12, external monitor support via DisplayPort™;							Tilt: 61° back,			
	Max resolution: 4096x2304 (DP)@60Hz, 1920x1080 (Panel)@60Hz 23.8" (604.5mm) Full HD 1080p (1920x1080) TFT color, WVA panel, wide viewing							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					olor, WVA panel,	wide viewing	1	Swivel: +/-45°			
	angle (+/- 89°), LED backlight, 250 nits, 16:9 aspect ratio, 1000:1 contrast ratio, anti-glare, support Low Blue Light Mode, work as standalone monitor via DisplayPort (DP in / out combo)					ast ratio,	Power supply	150 watts, autosensing, 85% PSU			
						πα					
Multi-touch	Optional Projected	l Capacitiv	ve Ťouch (PCT) t	echnolog	y, supports 10-po	oint touch	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	Optional 1080p ca switch on/offf	mera, fixe	ed focus, with dua	al microp	none, LED indica	tor, physical	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,		Some: Windows® 7 Professional 32/64 listed)  preinstalled through downgrade rights in Windows 10 Pro 64-bit Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Lenovo Companion			
Chipset	Intel Q270 Chipse	et					-				
Rear ports*	Four USB 3.1 Gen	1, etherne	et (RJ-45), Displa	ayPort in	out combo port,						
	optional serial (9-p							- Only for Window 7			
Side ports*	Two USB 3.1 Gen1 (one is Always On and fast charge), optional card reader, one headphone / microphone combo jack (3.5mm), optional USB 3.1 Type-C Gen1					reader,		Lenovo Solution Center     Lenovo Thirld (artern Tools)			
	* Depending on many factors, actual data transfer speed may be lower than theoretical speed							<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 /due	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)			
	Some: 11ac wirel	ess, M.2 (	1 combo adapte Card, Intel Dual E	Sand Wir	eless-AC 8265,		Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com			
			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 Ger	n Intel Co	ore™ 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	Caarreiter alain	adapter to enable vPro function through wireless connection)
	Core i5-8500	6/6	3.0G / 4.1G	9 MB 9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified  Security slot (in rear for attachment of Power-on, admin, hard disk password)
	Core i5-8600 Core i7-8700	6/6 6/12	3.1G / 4.3G 3.2G / 4.6G	12 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630	Security features	optional Kensington® MicroSaver® cable; • Boot sequence control
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	-	Kensington lock also locks chassis)  • Boot without keyboard and mouse
	Core i3-9300	4/4	3.7G / 4.3G	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 Mouse (USB connector), black
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	1	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
Memory  Storage	32GB max (16GB SC two 260-pin SO-DIMI * System clocks down for Some: Hard Drive / S	M sockets or the proce	, dual-channel c essors with lower m	apable nemory co	ntroller		Mechanical	Business black color     Toolless back cover, stand, disk, memory removal     Support VESA mount (100mm)
Olorage					support (RAID pr			Dimensions (WxDxH) Max weight (lb / kg) Adjustments
	available via  Some: Solid State D  Some: M.2 SSD / PO	rive (SSD Cle NVMe	) / SATÁ 6.0Gb/s e, PCIe 3.0 x 4*,	32Gb/s	0.4001/-	·		Without stand (No camera):  21.3 X 1.8 X 13.7 (inch) (Touch) 14.0 / 6.34 (Non-touch) 13.5 / 6.13 (Non-touch) 13.5 / 6.13
	* 128GB SSD M.2 (2242 Some: Intel Optane <sup>T</sup>	2) PCIE NV ™ Memory	ivie only supports i / (not support Ce	eleron / P	2, 16GB/S Pentium Processo	r) M 2		With Full Function Monitor stand (No camera):  21.3 X 9.9 X 15.9 to 20.2 (inch) (No camera) Tilt: 45° back, -5° forward;
Optical	Some: DVD-ROM S	ATA 1.5G	b/s Drive, slim (9	9.0mm)	CHIGHT 1 1000000	i), ivi		542 X 252 X 405 to 514 (mm) (Non-touch) 18.2 / 8.26 Lift: 110mm; Swivel: +/-45°
•	Some: DVD Burner	(DVD±RV	<li>V), SATA 1.5Gb/s</li>		lim (9.0mm)			With UltraFlex III stand (No camera):
Media reader Graphics	Optional 3-in-1 media Intel HD Graphics 6			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	oort via D	isplayPort™;				Power supply	150 watts, autosensing, 90% PSU
Display	Max resolution: 4096 23.8" (604.5mm) Ful WVA panel, wide view	I 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
Multi-touch	1000:1 contrast ratio, monitor via DisplayPo Optional multi-touch,	anti-glare ort (DP in supports	e, support Low B / out combo) 10-point, AIT (A	llue Light dvanced	t Mode, work as s In-cell Touch) ted	tandalone hnology	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit
Camera	Some: 1080p camer	a, with du	ial microphone, l	LED indic	cator, physical sw	itch on/off,		Preloaded applications (only some listed)
Controlo	Some: RGBIR came supports mul Windows Hel	era, 1080p ti-degree llo suppor	, with dual micro rotation (horizon t, only available	phone, p tal 0° to via speci	180°, vertical -25' al bid models	off.		<ul> <li>Lenovo Vantage</li> <li>Microsoft Office preloaded;purchase a product key to activate</li> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>
Controls	Physical buttons on s	side ioi iii	cropriorie mute a	and powe	51 UII/UII		-	LinkedIn
Chipset	Intel Q370 Chipset						Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models), ErP Lot 3,
Rear ports*	Four USB 3.1 Gen1 ( one DisplayPort in/ou one USB 3.1 Gen2 (	it combo	port, one optiona	al serial (	9-pin)			TCO AlO Computer certified, GREENGUARD® certified, TUV Eye comfort certified, TUV Low Blue Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant
Side ports*	USB 3.1 Type-C Gen combo jack (3.5mm)	1, one or	otional card read	er, one h	eadphone / micro	phone	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)
M.2 card slot	* Depending on many fa Two M.2 Card slots (	ctors, actu	al data transfer spe LAN, one for SS	ed may b D/Optan	e lower than theoret e)	tical speed	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com













## ThinkCentre M600 Tiny Platform Specifications

Processor	Intel® Celeron® F	Processor	N3000 Series or	Intel Penti	ium® Processor	N3000 Series	Keyboard		3 Keyboard (USB connector), Lenov	vo logo					
	Processor	Cores / Threads	Frequency (Base/Max)	Cache	Memory Types	Integrated Graphics	Mayraa	Some: Ultraslim Plus Wir	erprint Keyboard (USB connector) eless Keyboard (2.4GHz via USB re	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							
	Celeron J3060	2/2	1.6 / 2.48 GHz	2MB	DDR3L-1600	Intel HD 400	 Mechanical	• Tiny (1L), black color, m	<u> </u>	nvor), black					
	Pentium N3700	4/4	1.6 / 2.4 GHz	2MB	DDR3L-1600	Intel HD	Mechanica	Tilly (TE), black color, ill	Dimensions (WxDxH)	1					
	Pentium J3710	4/4	1.6 / 2.64 GHz	2MB	DDR3L-1600	Intel HD 405			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	Intel HD Graphic twoDisplayPort™ supports triple in	⁴, onė opti	essor, uses main ional 3rd DP (not	memory, D support D	DirectX® 11.1, P to HDMI dong	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)					
	Maximum resolu 1920x1080(DP t	ition: 3840 o VGA do	0x2160(ĎP)@30H ngle)@60Hz; 192	Hz; 1920x1 20x1080(D	200(optional VOP to DVI dongle	GA)@60Hz; e)@60Hz;		M600 Tiny (1L) with VESA mount & I/O box 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 of 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						
Storage Optical	Some: 500GB (NAND fl Some: Solid Sta Some: external	(5400 rpm ash memate 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>	90 watts AC/DC adapter, autosensing, 88% PSU (only for models with I/O box)  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 For Lenovo service upgrade options, please go to S-TC sheet							
Onboard SATA Media reader	Some: external Some: external	ODD box	(for TIO) with DV (for TIO) with DV one connectors or	/D-ROM, 9 /D±RW, 9.	5.5mm 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 Some: Windows 10 Hom	64-bit						
Danumantak	one headphone	/ microph	one combo jack (	stereo, 3.5	imm)			Preloaded applications (or							
Rear ports*			0 (optional extern n some models),					<ul> <li>Desktop Power Manage</li> </ul>							
	one optional por	t (VGA, 3ı	rd DP, or serial or	n some mo	dels), one head	lphone		<ul><li>Lenovo Solution Center</li><li>Lenovo REACHit</li></ul>							
I/O box*			extends two USE					Lenovo REACHIT     Lenovo SHAREit							
	rear, two USB 2.	.U on tront	t, via USB (occup actual data transfe	y two spec	the lower than the	M600 Tiny)		<ul> <li>Lenovo Bluetooth Lock</li> </ul>							
Audio oupport						·	-	McAfee® LiveSafe™ (30)							
Audio support WLAN <sup>13</sup>	High Definition (HD) Audio, Realtek ALC223 / optional internal speaker (1 watt)  Some: 11ac wireless, M.2 Card, Realtek RTL8821AE (dual band),					er (r watt)		<ul> <li>Microsoft Office preload purchase a product key</li> </ul>							
WLAN			2 Card, Realtek H 4.0 combo adapt		= (duai band),			<ul> <li>PowerDVD Create (DVI)</li> </ul>	D±RW)						
			2 Card, Qualcom		QCA9377 (dua	l band),		<ul> <li>Lenovo ThinkVantage To</li> </ul>	pols <sup>′</sup>						
			4.1 combo adapt					- Only for Window 10	210)						
	Some: 11ac wir	eless, M.2	2 Card, Qualcom	m Atheros	QCA6174 (dua	l band),		<ul> <li>Lenovo Companion (Wi</li> <li>Cyberlink PowerDVD (F</li> </ul>							
	Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,							<ul> <li>Cyberlink PowerDVD (DVD, DVD±RW)</li> <li>Lenovo QuickOptimizer</li> </ul>							
	Wi-Fi + E	Bluetooth	4.0 combo adapt	er, 1x1				- Only for Window 7							
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8260, Wi-Fi + Bluetooth 4.1 combo adapter, 2x2							<ul><li>Rescue and Recovery</li><li>Password Manager</li></ul>							
Bluetooth™														Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapter	
Ethernet Modem	One gigabit ethe	ernet port,	Realtek RTL811	1GN, Wak	e on LAN®	adapter		<ul> <li>Lenovo Message Cente</li> <li>Adobe® Reader®</li> </ul>							
Manageability Security chip	None Trusted Platform	Module,	TCG 1.2-complia	nt			Environment	ENERGY STAR® 6.0*, EP GREENGUARD®; RoHS-c	EAT™ Gold rating* (*not for non-OS compliant; Cisco EnergyWise compa	S models); atible; ErP Lot 3					
Security features	Kensington® M • Padlock loop • Smart USB pro	licroSaver otection, a ocks 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 a al USB port disa s intrusion switch	and mouse ablement	Accessories	For compatible accessorie	es, please go to TC-AQP sheet						
Can facturates for a										amaria Nariamahan C					













## 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) Some: Preferred Pro USB Keyboard (USB connector), Lenovo logo				
	Processor Cores / Threads Frequency (Base/Max) Cache Memory Types Integrated Graphics	Mouse	Some: Ultraslim Plus Wireless Keyboard (2.4GHz via USB receiver), black				
	Celeron N3000         2 / 2         1.04 / 2.08 GHz         2MB         DDR3L-1600         Intel HD	Wiodasc	Some: PS/2 Optical Wheel Mouse, black, Lenovo logo (for 2L models) Some: Enhanced Optical USB Mouse, black, Lenovo logo				
	Celeron N3010         2 / 2         1.04 / 2.24 GHz         2MB         DDR3L-1600         Intel HD 400		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 VDM dongle)@60Hz; 1920x1080(DP to VDM dongle)@60Hz;		M600 Tiny only (2L) 7.05" X 7.20" X 3.15" 4.2 lb (1.9 kg)				
Monitor cable	3840x2160(DP to HDMI dongle)@30Hz Optional DP to VGA, DP to DVI-D (single link), or DP to HDMI 1.4 dongle	VESA mount	Outing 1 VEOA				
Memory	8GB max / DDR3 Low Voltage, DDR3L-1600, non-parity, one 204-pin SO-DIMM	Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation				
<u> </u>	socket	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)				
Storage Optical	16GB, 32GB, or 128GB M.2 Solid State Drive (SSD), SATA interface None	Limited warranty <sup>3</sup>					
Onboard SATA	SATA 6.0Gb/s controller, one connectors on planar		Some: 1-year or 3-year, limited onsite service / service upgrades available				
Media reader	None		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,	Preload	Some: Windows Embedded Standard 7 (WES 7)				
riour porto	one optional port (VGA, 3rd DP, or serial on some models), one headphone;		Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise				
	additional four serial (9-pin), one parallel (25-pin), and two PS/2 ports on 2L models		Some: LeTOS (Lenovo Terminal Operating System, Linux-based)				
I/O box	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None		Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)				
Audio support	High Definition (HD) Audio, Realtek ALC223 / optional internal speaker (1 watt)	Environment	ENERGY STAR® 6.0*, EPEAT™ Gold rating* (*not for non-OS models);				
WLAN <sup>13</sup>	Some: 11ac wireless, M.2 Card, Realtek RTL8821AE (dual band),	Accessories	GREENGUARD®; RoHS-compliant; Cisco EnergyWise compatible; ErP Lot 3  For compatible accessories, please go to TC-AQP sheet				
	Wi-Fi + Bluetooth 4.0 combo adapter, 1x1  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band),	Accessories	For compatible accessories, please go to TC-AQP sheet				
	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)						
Bluetooth™ Ethernet	Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapter One gigabit ethernet port, Realtek RTL8111GN, Wake on LAN®						
Modem	None						
Manageability	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>Administrator password</li> <li>Hard disk password</li> </ul>						
	Padlock loop     Boot sequence control						
	<ul> <li>Smart USB protection, allows keyboard/</li> <li>Boot without keyboard and mouse</li> </ul>						
	mouse only, blocks all storage devices  • Power-on password  • Individual USB port disablement  • Chassis intrusion switch						
	tions of password • Onassis initiation switch						

























## ThinkCentre M625 Tiny Platform Specifications

Processor	AMD A9 series	APU					Keyboard	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		<ul> <li>Optional dust filter</li> <li>M625 Tiny only:</li> <li>7.05" W X 7.20" D X 1.36" H</li> <li>179mm W X 182.9mm D X 34.5mm H</li> </ul>			
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	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	Some: Bluetooth 4.2* wireless, integrated in Wi-Fi + BT combo adapter * Win 10 RS3 and Win10 earlier version only support Bluetooth 4.1 Gigabit ethernet, Realtek RTL8111HN, Wake on LAN® None						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Manageability Security chip Security features	None Discrete TPM 2.0, TCG Certified										























# 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 Pr	ocessor		Manageability	None			
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support	Integrated	Security chip	Firmware TPM 2.0,	integrated in chipse	Boot sequence	
	Pentium Gold 5405U	2/4	2.3G	2 MB	(Up to) DDR4-2133	Graphics UHD 610	Security leatures	<ul> <li>Security slot (in re Kensington® Micro</li> </ul>	control board and mouse		
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620		Chassis intrusion switch     Individual USB port disable			port disablement
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		<ul> <li>Power-on passwo</li> </ul>			ection, allows keyboard/
Memory	16GB max, DDR4-266						_	<ul><li>Administrator pas</li><li>Hard disk passwo</li></ul>		mouse only, blo	cks all storage devices
Wichiory	* System automaticall	y clocks	down for the prod	cessors	with lower memo	ry controller	Keyboard				
Storage	Some: Hard Drive / S	ATA 6.00	ab/s, 2.5", 5400 r	rpm or 7			Mouse	Some: Lenovo Cal			
	Some: Solid State Dr Some: M.2 SSD (228				PGh/s		Mechanical	Tiny (1L), black cold			
	Some: M.2 SSD (224							Optional dust filte     Ope 2.5" hav for l		clote (one for WI AI	N, one for M.2 SSD)
Onboard SATA	One onboard SATA 6.							Office 2.5 bay for i	·	·	· ,
Graphics	Intel HD Graphics 61					12, one			+	ns (WxDxH)	Weight (Approx.)
	DisplayPort™, one HD							Tiny only		20" X 1.36" 9mm X 34.5mm	2.91 lb (1.32 kg), vary by config
Monitor cable	Max resolution: 4096x Optional DP to VGA d	onale or	DP to HDMI 1.4	.2304 (n donale	DIVII) @ 24 HZ			0 11 11/504			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Chipset	Intel SoC (System or	n Chip) p	latform				VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation			
Front ports* (Std.)	One USB 3.1 Gen1, o				nicrophone (3.5m	ım),	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	vo USB 2	ombo jack (3.5n .0, one ethernet	nm) (RJ-45)	, one DisplayPor	t, one HDMI	Limited warranty	/ Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available			
	* Depending on many fac	ctors, actua	ıl data transfer spe	ed may b	e lower than theore	etical speed	Preload	Preloaded operating system			
Audio support	Realtek ALC233VB / i	nternal s	peaker (1.5 watt)	)				Some: Windows® Some: Windows 1	10 Pro 64-bit		
WLAN	Some: 11ac wireless,				dual band),			Preloaded applica		isted)	
	Wi-Fi + Blueto Some: 11ac wireless		ombo adapter, 1		(dual band)			<ul> <li>Lenovo Vantage</li> </ul>	` •	,	
			ombo adapter, 2		duai bariu),			Microsoft Office p			
	Some: 11ac wireless	, M.2 Car	d, Intel Dual Bar	nd Wirele	ess-AC 3165,			purchase a product key to activate  LinkedIn			
	Some: 11ac wireless		ombo adapter, 1 d. Intel Dual Bar		ess-AC 8265		Environment	ENERGY STAR® 7.	0. EPEAT™ Silver r	ating, ErP Lot 3, TO	CO, RoHS-compliant,
	Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 2	x2	,			WEEE, REACH	-,	J,	
Bluetooth	Some: Bluetooth 4.2			-Fi + BT	combo adapter		MIL-SPEC test	Coming soon			
Ethernet Ethernet (Opt.)	Gigabit ethernet, Real None	itek HTL	TITHN-CG				Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
							1				

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	(9.0 mm)	)	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 25ome: 1-year or 3-year, depot service / 1-year or 3-year, limited onsite states.	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™	Some: Bluetooth	uetooth 4. 4 1 wirele	1 combo adapter	r, 2x2 Wi-Fi	RT combo adante	r	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 disab</li> <li>Chassis intrusion switch</li> </ul>					
	Pentium G4600T	2/4	3.0G	3 MB	DDR4-2400	HD 630	Kaybaard	Some: Lenovo Calliope Keyboard (USB connector), black					
	Core i3-6100T	2/4	3.2G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calli	tional Keyboard (USB connector), blac	K ack			
	Core i5-6500T	4/4	2.5G / 3.1G	6 MB	DDR4-2133	HD 530		Some: Lenovo Callid	ope Wireless Keyboard (2.4GHz via	USB receiver), black			
	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					
	Core i5-7500T	4/4	2.7G / 3.3G	6 MB	DDR4-2400	HD 630		Toolless chassis on					
	Core i5-7600T	4/4	2.8G / 3.7G	6 MB	DDR4-2400	HD 630		<ul> <li>Toolless HDD, SSE</li> <li>Optional toolless c</li> </ul>					
	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		nt bracket kit, supports VESA 75mm				
Onboard SATA Media reader	One onboard SATA None	4 6.0GD/S	connector				Floor Stand	Optional system floor stand for vertical orientation  65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)					
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 (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						rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel					
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				
	* Depending on many	/ factors. ac	tual data transfer s	peed may	be lower than theo	retical speed		<ul> <li>Lenovo Companio</li> </ul>					
Audio support	High Definition (HD			· ·				- Only for Window 7	ontor				
WLAN <sup>13</sup>	Some: 11ac wirele	, .			•	,	1	<ul><li>Lenovo Solution C</li><li>Lenovo ThinkVanta</li></ul>					
VVLAIN		etooth 4.	1 combo adapter	, 1x1	`	,.		Create Recovery N     Adobe® Reader®					
		etooth 4.	1 combo adapter	, 2x2	,	banuj,		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	For compatible accessories, please go to http://www.lenovoquickpick.com					

See footnotes for more detailed information













## ThinkCentre M710 Tower Platform Specifications

Processor	Intel® Celeron®, Int	el Pentiu	m®, or 6/7th Gen	eration Ir	ntel Core™ i3 / i5 /	i7 Processor	Manageability	None
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	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
	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 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 Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630	Mouse	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				•		<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> </ul>
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S Some: Intel Optan	Drive (Satate Driv	SD) / SATA 6.0G e (SSD) / PCIe N	b/s, 2.5" VMe, Po	Cle 3.0 x 4, 32Gb/	's		Bay 1: Slim external ODD bay 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 er (DVD±	5Gb/s Drive, slim RW), SATA 1.5G	(9.0mm	)			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	dia reade	r					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 one VGA, two Disp discrete graphics the Max resolution: 40th Some: NVIDIA Ge two Display	olayPort™ o support 96x2304 f <b>orce® G</b> rPort, 35 v	, supports 3 inde more displays; (DP) @ 60Hz; 204 <b>T 730</b> , DirectX 12 watts;	pendent 18x1536 2, 2GB, F	displays, works a (VGA)@50Hz PCIe 2.0 x8 adapt	long with	Power supply  Limited warranty	optional rear 2x USB2.0 / parallel occupies one expansion slot  Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU 210 watts, autosensing, 92% PSU (only available via special bid)  Some: 1-year or 3-year, depot service / service upgrades available
	Some: AMD Rade	on™ R7∶		2GB, PC	le 3.0 x8 adapter,		Preload	Some: 1-year or 3-year, limited onsite service / service upgrades available  Preloaded operating system  Preloaded applications (only some
Monitor Cable	Max resolu	tion: 4096	, 75 watts, occup 5x2160 (HDMI)@	24Hz; 20	048x1536 (VGA)@	85Hz	rolodd	Some: Windows® 7 Professional 32/64 listed) preinstalled through downgrade • Microsoft Office preloaded;
	Optional DP to VG		ט-ועכ (single iink	(), DP (0	dual DP, of DP to	DUNI 1.4	_	rights in Windows 10 Pro 64-bit purchase a product key to activate
Chipset Front ports*	Four USB 3.1 Gen	1, optiona	al two USB 3.1 Ty	/pe-C Ge	en 2 (only available	e via special	_	(not available with 7th Gen Intel processor)  Some: Windows 10 Pro 64-bit  - Only for Window 10  • Lenovo Companion - Only for Window 7
Rear ports*	bid), microphone (3 Two USB 3.1 Gen1 serial (9-pin), optio two PS/2 ports (ke additional VGA, Dis	I, two ÚS nal parall yboard/m	B 2.0, optional tw el (25-pin), ether ouse);	vo USB 2 net (RJ-	45), one VGA, two	DisplayPort,		Some: Windows 10 Home 64-bit  • Lenovo Solution Center  • Lenovo ThinkVantage Tools  • Create Recovery Media  • Adobe® Reader®
Rear audio ports* IEEE 1394*	Line-in (3.5mm), lir	ne-out (3.	5mm), micropho	ne-in (3.	5mm)	74010		<ul> <li>Cyberlink PowerDVD Create (DVD±RW)</li> </ul>
	* Depending on many	/ factors, a	ctual data transfer s	speed may	be lower than theo	retical speed	Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America),
Audio support	High Definition (HD	) Audio,	Realtek ALC662	/ optiona	al internal speaker	(1.5 watt)		ErP Lot 3, GREENGUARD®, RoHS-compliant,
WLAN <sup>13</sup>	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),						Accessories	TUV low noise verified (on some models)  For compatible accessories, please go to http://www.lenovoquickpick.com
	Some: 11ac wirele Wi-Fi + Blu Some: 11ac wirele	ıetooth 4.	1 combo adapter	r, 2x2		pand),		
	Wi-Fi + Blu Some: 11ac wirele	ietooth 4. ess, M.2 (	1 combo adapte Card, Intel Dual E	r, 1x1 Band Wir	,			
Bluetooth™ Ethernet Modem	Wi-Fi + Blu Some: Bluetooth 4 Gigabit ethernet, F None	4.1 wirele		Wi-Fi + E				
*	stions above may not							Langua Juna 201













#### ThinkCentre M710e SFF Platform Specifications

Processor	Intel® Celeron® Int	tel Pentiu	m® or 6/7th Gen	eration l	ntel Core™ i3 / i5 /	i7 Processor	Security features	Security slot (in rear for optional     Power-on password
1 10003301		Cores /	Frequency		Memory Support		Coounty leatures	Kensington® MicroSaver® cable)  • Administrator password
	Processor		Base/Max(GHz)	Cache	(Up to)	Graphics		Padlock loop
	Celeron G3900	2/2	2.8G	2 MB	DDR4-2133	HD 510		Smart USB protection, allows keyboard     Boot sequence control     Boot sequence control     Boot sequence control     Boot without look and make
	Celeron G3930	2/2	2.9G	3 MB	DDR4-2133	HD 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 G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		lock both keyboard and mouse  Optional chassis intrusion switch
	Pentium G4500	2/2	3.5G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610	1	Some: Lenovo Traditional Keyboard (USB connector), black
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB connector), black
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, b
	Core i5-6400	4/4	2.7G / 3.3G	6 MB	DDR4-2133	HD 530	Mechanical	• SFF (7.4L), black color, metal case
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530		• (WxDxH) 3.9" X 11.9" X 10.8"; 100mm X 303.5mm X 273.5mm
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		<ul> <li>Approx. 9.37 lb (4.25 kg), weight may vary by configuration</li> <li>Bay 1: Slim external ODD bay</li> </ul>
	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/SSD (2.5 to 3.5 bracke
	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), PCle 3.0 x16*
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		Slot 2: low-profile (length < 152mm, height < 64mm), PCIe 3.0 x1* M.2 card slots: one for SSD
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630		*Optional rear 2x USB2.0 / parallel occupies one expansion 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	(WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 390mm X 500mm     Cross weight (approx.) 14.22 lb (6.45 kg)
	*System automation						Power supply	Some: 180 watts, autosensing, 85% PSU
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	Drive (S	SD) / SATA 6.0G	b/s. 2.5"				Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
Optical	Some: DVD-ROM	I SATA 1.	5Gb/s Drive, slim	ı (9.0mm	)	3	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit
Onboard SATA	Some: DVD Burn Two onboard SATA			D/S DIIVE	e, Siim (9.0mm)			Some: Windows 10 Pro 64-bit
Media reader	Optional 7-in-1 me							Some: Windows 7 Professional 32/64 preinstalled through downgrade rights
Graphics	Intel HD Graphics	510/530	<b>/610/630</b> in proc	essor. us	es main memory.	DirectX® 12.		in Windows 10 Pro 64-bit(not available with 7th Gen Intel processor)
	one VGA, one Disp	olayPort™	, supports 2 inde					Preloaded applications (only some listed)
	discrete graphics t	o support	more displays;	004000	(\(\( \alpha \) \( \alpha \) \( \alpha \) \( \alpha \) \( \alpha \)			Microsoft Office preloaded; purchase a product key to activate
	Max resolution: 40 Some: NVIDIA Ge	96X2160 force® G	(DP)@60HZ; 192 <b>T 730</b> DirectY 1	20X1200	(VGA)@60HZ PCIa 2 0 v8 adant	or		Cyberlink PowerDVD (DVD, DVD±RW)
	two Display	Port. 35	watts:	z, zGD, i	Cie 2.0 xo auapi	ei,		Cyberlink PowerDVD Create (DVD±RW)
			0x2160 (DisplayF	Port)@60	Hz;			- Only for Window 10
Monitor cable	Optional DP to VG	A, DP to	DVI-D (single link	c), DP to	dual DP, or DP to	HDMI 1.4		<ul> <li>Lenovo Companion</li> <li>Only for Window 7</li> </ul>
Chipset	Intel B250 Chipse	et						Lenovo Solution Center
Front ports*	Two USB 3.1 Gen	1, micropl	none (3.5mm), oi	ne headr	hone / microphor	e combo jacl	₹	Lenovo System Update
	(3.5mm)		_ , ,,					Create Recovery Media
Rear ports*	Two USB 3.1 Gen	1, two US	B 2.0, optional to	vo USB 2	2.0, serial (9-pin),	optional 2nd		Adobe® Reader®
	serial (9-pin), optional external U	ınaı paralı ISB to PS	lei (∠5-piñ), ethei 3/2 ports cable (fo	net (HJ-	45), ONE VGA, ONE	e DisplayPort	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3,
	additional Display	Port on or	ntional graphics	n some	models	,		RoHS-compliant, WEEE
Rear audio ports	Line-out jack (3.5n		monar grapinos s				Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com
IEEE 1394*	None	,						
	* Depending on many	y factors, a	ctual data transfer	speed ma	y be lower than theo	retical speed		
Audio support	High Definition (HI	D) Audio,	Realtek ALC233	/ interna	l speaker (1.5 wa	tt )	]	
WLAN <sup>13</sup>	None							
Bluetooth™	None		TI 044411N1 N4/1		10			
Ethernet Modem	Gigabit ethernet, F None	кеапек Н	IL8111HN, Wake	e on LAN	₩			
							-	
Manageability Security chip	None TPM (Trusted Platt	form Mod	ule) 2.0, TCG Ce	ertified				
	* Downgrade to TF				G Win7 32 OS			
Note: The execition	ations above may not	امانور بو مط	ala in all maniana	_				Lenovo January













## ThinkCentre M715 SFF Platform Specifications

						lo "					
Processor	AMD A6 / A8 / A10 / A1			/ 5 / 7 series	·	Security features	Security slot (in rear for optional     Security slot (in rear for optional     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				
	PRO A10-8770	4 / 4	3.5 / 3.8	2MB	Radeon R7 Series	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black				
	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" ່	'		Baý 3: 2.5", internaí, 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 porto		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 Athlon 200GE	Cores / Threads	Frequency Base/Max 3.2 GHz	L2 / L3 Cache	Memory Support (Up to) DDR4-2666	Integrated Graphics		<ul> <li>Kensington® MicroSaver® cable)</li> <li>Padlock loop</li> <li>Smart USB protection, allows keyboard/mouse only, blocks all storage devices</li> <li>Hard disk password</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse individual USB port disablement</li> </ul>		
	Athlon PRO 200GE	2/4	3.2 GHz 3.2 GHz	1 MB / 4MB	DDR4-2666 DDR4-2666	Radeon Vega 3 Radeon Vega 3		Power-on password     Power-on password     Chassis intrusion switch		
	PRO A6-8570E	2/4	3.0 / 3.4 GHz	1 MB / -	DDR4-2400	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	Ĺ	
	PRO A10-9700E	4/4	3.0 / 3.5 GHz	2 MB / -	DDR4-2400	Radeon R7	Iviouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support,	black	
	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	Diaoi	
	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		• Toolless chassis open (need optional toolless chassis screw)		
	Ryzen 5 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11		Optional dust filter		
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz	2 MB / 4MB	DDR4-2933	Radeon RX Vega 11		M715 Gen2 Tiny only: 7.05" W X 7.20" D X 1.36" H		
Memory	32GB max, DDR4 2 * System automatica	ally cĺocl	ks down for th	ne lower me	mory contro			7.05 W X 7.20 D X 1.36 H 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 9.0mm l	SD) / SATA 6 Me, PCIe 3.0 CIe NVMe or nigh. via USB	.0Gb/s, 2.5 x 4*, 32Gb nly supports s external O	/s PCIe 3.0 x DD box	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					
Onboard SATA	One SATA cable (1-		,,				Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models	s)	
Graphics	AMD Radeon™ Gra						Limited warranty	1-year or 3-year, limited onsite service / service upgrades available		
Monitor cable	DisplayPort™, one of displays (supports in port or DP to DVI/HI Max resolution: 409 192 Optional DP to VGA	naximun DMI don 6x2160 0x1200	n of 2 concur gles, and Ath (DP)@60Hz; (VGA)@60Hz	rent HDMI/I nlon / Athlor 4096x2160 z	OVI displays PRO only s (HDMI)@3	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  Preloaded applications (only som listed)  - Windows 10 only  Lenovo Vantage  Microsoft Office preloaded; purchase a product key to activate		
Chipset	AMD B300 Chipset	t						<ul> <li>Cyberlink PowerDVD (only for modern control of the co</li></ul>		
	) Two USB 3.1 Gen1 3.5mm), one headpl ) One USB 3.1 Gen1 one headphoneone	hone / m	nicrophone co	ombo jack (	stereo, 3.5m	ım)		with DVD / DVD±RW)  • Cyberlink Power2GO (only for mowith DVD±RW)  • LinkedIn	odels	
	) One optional port (V * Depending on many to ** Not support VGA, 3r	factors, a d DP, HD	ctual data trans MI for the mod	sfer speed ma els with Athlo	y be lower th n / Athlon PR	an theoretical speed O		<ul> <li>Windows 7 only</li> <li>Lenovo Solution Center</li> <li>ThinkVantage System Update</li> <li>Create Recovery Media</li> </ul>		
Audio support	High Definition (HD)					, ,		Microsoft Office preloaded;  purebase a product leave to activate.		
WLAN		tooth 4.	2* combo ad	apter, 1x1	`	,,		purchase a product key to activate  • Adobe® Reader®	e 	
		etooth 4.	2* combo ad	apter, 1x1		, ,,	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*Not for non-OS models); ErP Lot 3; ; RoHS-compliant		
	Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),						MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperatur Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Sh	re, hock)	
Bluetooth Ethernet	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  Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®				BT combo	adapter	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com		
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	n 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	), 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	Memory Sup- port (Up to) DDR4-2666	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			
	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> <li>Optional dust filter</li> </ul>			
Memory	8GB max, DDR4 266 * System automatical							M715 Gen2 Tiny only: 7.05" W X 7.20" D X 1.36" H			
Disk Optical	Some: 32GB M.2 So Some: 128GB M.2 S None	olid State Solid Stat	e Drive (SSD) te Drive (SSD	/ SATA inte 0) / 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	rop 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™ Grap		,.				Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)			
·	DisplayPort™, one op	tional po	ort (HDMI, VC	A, or 3rd D	P), supports	s 3 independent	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available			
	displays (supports manager or DP to DVI/HD Max resolution: 4096	MI dong x2160 (E	les, and Athlo DP)@60Hz; 4	on / Athlon I	PRO onlý su	pport 2 displays);	Preload	Preloaded operating system Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise			
Monitor cable		1920x1200 (VGA) @ 60Hz DP to VGA dongle, DP to DVI-D dongle, or DP to HDMI 1.4 dongle						Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)			
Chipset	AMD B300 Chipset	uorigie, L		Jorigle, or D	P 10 HDIVII	r.4 dorigie	Environment	ENERGY STAR® 6.1*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant			
, , ,	Two USB 3.1 Gen1 (c 3.5mm), one headph	one / mid	crophone cor	nbo jack (st	éreo, 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	and three	e USB 2.0, et	nernet (HJ-	45), two Dis	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	ctors, 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	cooth 4.2 s, M.2 Ca cooth 4.2 s, M.2 Ca cooth 4.2 s, M.2 Ca cooth 4.2 2* wireles	* combo ada ard, Qualcom * combo ada ard, Realtek I * combo ada ard, Qualcom * combo ada ss, integrated	oter, 1x1 Im Atheros oter, 1x1 RTL8822BE oter, 2x2 Im Atheros oter, 2x2 In Wi-Fi + I	QCA9377 (c E (dual band QCA6174A BT combo a	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, TC			- A almainte	lunkau mas	d					
Coounty locatores	<ul> <li>Security slot (in rea Kensington® Micros</li> <li>Padlock loop</li> <li>Smart USB protect mouse only, blocks</li> <li>Power-on password</li> </ul>	Saver® ca ion, allov all stora	able) ws keyboard/	<ul><li>Hard dis</li><li>Boot sec</li><li>Boot wit</li><li>Individual</li></ul>	trator passw sk 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	<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> <li>Bay 1: Slim external ODD bay</li> <li>Bay 2: 3.5", internal, HDD/SSD</li> <li>Bay 3: 2.5", internal, HDD/SSD</li> <li>Slot 1: half-length full-height (length &lt; 189mm, height &lt; 104mm), PCle 3.0 x16*</li> <li>Slot 2: half-length full-height (length &lt; 189mm, height &lt; 104mm), PCle 2.0 x1*</li> <li>Slot 3: half-length full-height (length &lt; 189mm, height &lt; 104mm), PCle 2.0 x1*</li> <li>Slot 4: no slot, only bracket for optional port extension*</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							
Optical	Some: DVD-ROM SAT Some: DVD Burner (D	VD±RW), S	ATA 1.5Gb/s D		mm)						
Onboard SATA Media reader	Three onboard SATA 6. Optional 7-in-1 media r	eader									
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		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 Some: 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	rectX 12, 2GB isplayPort, 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		,	110.000	Some: Windows 7 Professional 32/64 preinstalled through downgrade rights Windows 10 Pro 64-bit (Only available with Pro A6/A10/A12-8xxx APU:				
	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				
Poor audio porte	additional VGA, Display				some models		Lenovo ThinkVantage Tools				
Rear 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®     Cub addid to Rever DVD Create (DVD - DVD)				
Audio support	High Definition (HD) Au		•			Environment	Cyberlink PowerDVD Create (DVD±RW)  SNEDOV OTABLE Of EDEATIN Cold relies (Newth Associate)				
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, l	M.2 Card, C	Qualcomm Athe	ros QCA6174	1A (dual band),	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com				
	Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 1x1										
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®				combo adapter						
	-					1					













## ThinkCentre M720 SFF Platform Specifications

Processor	Intel® Celeron®, Intel I	Pantium®	or 8th / 9th Gon	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, [	DDR4-260	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 automaticall	*	•			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	<ul> <li>SFF (8.4L), black color; metal case</li> <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>			
-	Some: Solid State Dr Some: M.2 Solid State * M.2 SSD (2242) PC	te Drive ( Ie NVMe	ŚSD) / PCIe NVI only supports P	Me, PCI Cle 3.0 x	( 2, 16Gb/s		Moonanioa				
Optical	Some: Intel Optane™ Some: DVD-ROM SA	4TA 1.5ĞI	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		JOHN COLOTO					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	rPort™, sι	upports 3 indepe					Slot 3: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1			
	discrete graphics to si			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: 4096x Some: NVIDIA Gefor	ce® GT 7	30. DirectX 12. 2	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 coble	Max resolution	n: 3840x2	160 (DisplayPort	)@60Hz	r 	'4a O !! - :	1	Some: 210 watts, autosensing, 85% PSU			
Monitor cable	Optional DP to VGA d Display with intel inted					ior Collage		Some: 260 watts, autosensing, 92% PSU (only available via special bid)			
Chipset	Intel B360 Chipset	graicu gra	4P11103), 01 D1 10	ו וואוטוי	dollyle		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	USB 3.1	Gen1, 1x USB 3	.1 Type-	C Gen1 (15W cha	arging),	Preload	Preloaded operating system			
. ,	1x microphone (3.5m)	m), 1x he					i ieloau	Some: Windows® 10 Pro 64-bit			
Front ports* (Opt. Rear ports* (Std.	ont ports* (Opt.) <i>Optional:</i> 1x media reader ear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort,							Some: Windows 10 Home 64-bit Preloaded applications (only some listed)			
	1x line-out (3.5mm)  orts* (Opt.) Optional: 2x USB 3.1 Gen1 via PCI2 x1**, 2x USB 3.1 Type-C Gen2 via PCIe x4**							Lenovo Vantage			
ricai ports (Opt.	(special bid only), 1x 2	2nd seria	1 (9-pin)	36 3.1 1 Il (9-pin)	via PCIe x1. 1x n	arallel (25-		<ul> <li>Microsoft Office preloaded;</li> </ul>			
	pin), 2x PS/2 ports (ke	eyboard/r	nouse), addition	al RJ-45	and video ports a	available or	n	purchase a product key to activate  Cyberlink PowerDVD (only for models with DVD / DVD+RW)			
	optional graphics or e	thernet c	ard		·			<ul> <li>Cyberlink PowerDVD (only for models with DVD / DVD±RW)</li> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> </ul>			
	* Depending on many factors, actual data transfer speed may be lower than theoretical speed  ** Choose either 2x USB 3.1 Gen1 or 2x USB 3.1 Type-C Gen2							LinkedIn			
Audio support	High Definition (HD) A					tt )	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO,			
WLAN	Some: 11ac wireless.					/		TUV low noise verified (coming soon, on some models), RoHS-compliant			
V V L / N N			ombo adapter, 1		adai band),		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			













## 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, TC	G Certified			
Pertium Gold GS507				` '		(Up to)		Security features	• Security slot (in rea	r for optional			
Power on password   Power password   Power passwo									<ul> <li>Chassis intrusion switch</li> <li>Power-on password</li> <li>Individual USB port disable</li> <li>Smart USB protection, allow</li> </ul>				
Administratory password   Administratory p						-							
Core 18-9800T						<u> </u>							
Core 15-84007				-					<ul> <li>Hard disk password</li> </ul>	d	•	•	
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 Finge	rprint Mouse (USB	SB connector). Wind	lows Hello support, black	
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 optional toolles's chassis open (need optional toolles's chassis optional toolles's chassis optional toolles's chassis options' not 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 tool								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 (lave 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: United Variation of the Volume							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 18	5.38mm X 63mm	vary by config	
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 USB 2.3 Type-C Gen 1 (May System) (Protost VGB) (Protost								VECA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm			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: 146 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 (Type-C)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 4096x2304 (Type-C)@60Hz; 4096x2304 (DP)@60Hz; 40		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	Limited warranty					
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 (1 Vis 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 8265, WI-Fi + Bluetooth 4.2 combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter, 2x2  Bluetooth  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter  Some: Bluetooth 4	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;	Preload					
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 Some: Windows 10 Home 64-bit				
Monitor cable   Display with intel integrated graphics), or DP to HDMI 1.4 dongle											listed)		
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	Chipset		<u>,                                     </u>	, ,,				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 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.											nvv)	
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	ENERGY STAR® 7.0,	EPEAT™ Gold r	ating (North Americ	a), ErP Lot 3, TCO,	
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 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®			ctors, actua	al data transfer spe	ed may l	oe lower than theore	etical speed		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibra		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	Realtek ALC233VB2 /	optional	internal speaker	(1.5 wa	att or 2 watt)		ļ		,			
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), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1						Accessories	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®													
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 RTL8822BE (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®		<ul> <li>Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.2 combo adapter, 1x1</li> <li>Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2</li> <li>Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN®</li> </ul>											
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®													
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													
	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	Pantium®	or 8th / 9th Gen	Intel Co	ora™ i3 / i5 / i7 / i0	Processor	Μ/Ι ΔΝΙ13	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),			
1 10063301		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		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 (Opt )	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN® Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCIe x4			
	Core i3-8300	4/4 6/6	3.7G 2.8G / 4.0G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Bitland BN8E88*, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)			
	Core i5-8400 Core i5-8500	6/6	3.0G / 4.1G	9 MB 9 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630		* Choose either I350-T4 or BN8E88			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Manageability	None			
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Security features	• Security slot (in rear for optional • Power-on password			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Kensington® MicroSaver® cable) ◆ Administrator password			
	Core i3-9320	4/4	3.7G / 4.4G	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 i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		both keyboard and mouse  • Boot without keyboard and mouse			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		<ul> <li>Optional chassis intrusion switch</li> <li>Individual USB port disablement</li> </ul>			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)			
	Core i7-9700	8/8	3.0G / 4.7G	12 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices			
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black Some: Lenovo Traditional Keyboard (USB connector), black			
Memory	64GB max, UDIMM,	DDR4-26	66*, four 288-pin	DIMM s	ockets, non-ECC	,		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
•	dual-channel capable							Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
	* System automatical	,				ry controller	Mouse	Some: Lenovo Calliope Mouse (USB connector), black			
Storage	Some: Hard Drive / S	SATA 6.00	3b/s, 2.5" or 3.5"	, 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: Solid State D Some: M.2 SSD (22)	rive (SSL 42 / 2280	) / SAIA 6.0GD/S ) / PCIA NVMA F	5, 2.5" PCIA 3 0	v2 or PCIa 3 0 v/	1		Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)			
	Some: Intel Optane <sup>™</sup>						Mechanical	• Tower (15L), black color, metal case			
Optical	Some: DVD-ROM S	ATA 1.5G	b/̀s Drivė, slim (9	.0mm)		,,	IVIECHALIICAI	• (WxDxH) 5.91" X 10.65" X 14.17"; 150mm X 270.5mm X 360mm			
Oraha and CATA	Some: DVD Burner			Drive, s	lim (9.0mm)			• Approx. 15.21 lb (6.9 kg), weight may vary by configuration			
Onboard SATA Media reader	Three onboard SATA Optional 7-in-1 media		connectors					Optional dust filter			
Graphics	Intel UHD Graphics		n processor use	o moin r	nomory DirectV®	10	-	Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD			
Graphics	one VGA (up to 2048							Bay 3: 3.5", 1" high, internal, HDD/SSD (optional bay)			
	supports 3 independe	ent displa	ys, more displays	suppor	t via discrete grap	ohics		Slot 1: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x16			
	Some: NVIDIA Gefor	rce® GT 7	30 (End Of Life)	DirectX	12, 2GB, PCle 2	.0 x16,		Slot 2: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1			
	Some: AMD Radeon	DisplayPo	ort (up to 3840x2	160@60	IHZ) POIA 3 0 v8 30 v	atte		Slot 3: half-length full-height (length < 189mm, height < 104mm), PCIe 3.0 x1 Slot 4: no slot, only bracket for optional port extension			
			1096x2160@60F		Ole 3.0 x0, 30 W	ratio,		M.2 card slots: Two (one for WLAN, one for SSD/Optane)			
	Some: AMD Radeon	າ RX 550)	, DirectX 12, 4G	B'GDDF	R5, PCIe 3.0 x8, 5	50 watts,	Power supply	Some: 180 watts, autosensing, 85% PSU			
			3840x2160@60H				1 ower suppry	Some: 210 watts, autosensing, 85% PSU			
Monitor Cable	Optional DP to VGA	donale D	e VGA (up to 20- P to DVI-D donal	48X 1536 A DP to	@85HZ) dual DP donale (	for Collage		Some: 260 watts, autosensing, 92% PSU (only available via special bid)			
monitor dabid	Display with intel inte	grated gra	aphics), or DP to	HDMI 1	.4 dongle	ioi oollage	Limited warranty	<sup>3</sup> Some: 1-year or 3-year, depot service / service upgrades available			
Chipset	Intel B360 Chipset	<u> </u>	. ,				1	Some: 1-year or 3-year, limited onsite service / service upgrades available			
		/ LICE 2 1	Cont 1v LISB 3	1 Typo	C Gon1 (15W ob	oraina)	Preload	Preloaded operating system			
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)								Some: Windows® 10 Pro 64-bit			
Front ports* (Opt.) Optional: 1x media reader								Some: Windows 10 Home 64-bit Preloaded applications (only some listed)			
Rear ports* (Std.) 4x USB 2.0, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort,								Lenovo Vantage			
1x line-out (3.5mm)  Rear ports* (Opt.) Optional: 2x USB 3.1 Gen1 via PCle x1**, 2x USB 3.1 Type-C Gen2 via PCle x4**								Microsoft Office preloaded;			
near ports (Opt.	(special bid only), 1x	2nd spria	PCIE X1**, 2X U   (9-nin)   4y seris	SB 3.1 I II (0-nin)	ype-C Gen2 via i via PCIa v1		purchase a product key to activate				
	1x parallel (25-pin), 2	2x PS/2 pc	orts (kevboard/m	ouse). a	dditional RJ-45 ar	nd video		Cyberlink PowerDVD (only for models with DVD / DVD±RW)     Cyberlink PowerDVD (only for models with DVD : DVD:			
	ports available on opt	tional grap	phics or ethernet	card				<ul> <li>Cyberlink Power2GO (only for models with DVD±RW)</li> <li>LinkedIn</li> </ul>			
	* Depending on many factors, actual data transfer speed may be lower than theoretical speed							<ul> <li>LINKEGIN</li> <li>ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO,</li> </ul>			
A., ali a	** Choose either 2x USB 3.1 Gen1 or 2x USB 3.1 Type-C Gen2 dio support High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt )							TUV low noise verified (coming soon, on some models), RoHS-compliant			
Audio support	High Definition (HD)	Audio, Re	aitek ALC233VB	2 / Interr	naı speaker (2 wa	π)	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
							5000001100				













## 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     Boot sequence control     Boot sequence control
	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				11.7	<u> </u>
	* Memory may be und processor	derclocke	d to DDR4-2400	for the Id	ower memory con	itroller in	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
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)		En income at	
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	To companione accessories, please go to http://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	8x1536 (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. Rear ports* (Std.)	) Two USB 3.1 Gen1, to	wo USB 2	2.0. serial (9-pin)	etherne	t (RJ-45), one VC	A. one		
. , ,	DisplayPort, Line-out	jack (3.5)	mm)		, ,,	•		
Rear ports* (Opt.)	s* (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 or RJ-45 on optional graphics / ethernet card on some models							
Audio support	* Depending on many factors, actual data transfer speed may be lower than theoretical speed  High Definition (HD) Audio. Realtek ALC623 / internal speaker (2 watt )							
WLAN <sup>13</sup>	3							
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 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 <sup>®</sup> MicroSaver <sup>®</sup> 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	Radeon RX Vega 11	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Ryzen 5 PRO 2600	6/12	3.4 / 3.9	3MB / 16MB		None	,	Some: Lenovo Traditional Keyboard (USB connector), black
	Ryzen 7 PRO 2700	8 / 16	3.2 / 4.1	4MB / 16MB	DDR4-2933	None		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
Memory	64GB max, UDIMM		2666* four '	200 nin DIM	M sockets n	on ECC	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
WEITIOI y	dual-channel capab		2000 , IOUI 2	200-biii Diivi	IVI SOCKEIS, II	ion-Loo,	IVIOUSE	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	6.0Gb/s, 2.5		г	ivicoriariicai	• (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm
	Some: M.2 SSD / F							<ul> <li>Approx. 13.2 lb (6.0 kg), weight may vary by configuration</li> </ul>
				nd AMD A6	/ A8 / A10 / .	A12 processor only		Toolless cover, disk, optical removal
Optical	supports PCle 3.0 > Some: DVD-ROM	C 2, 10GD C ΔTΔ 1 5	Gh/s Drive	elim (9 0mn	2)			Optional dust filter  Part 1 Olim paternal OPP have
Optical	Some: DVD-NOW Some:	r (DVD±F	RW). SATA	1.5Gb/s Driv	e. slim (9.0n	nm)		Bay 1: Slim external ODD bay Bay 2: 3.5", nternal, HDD/SSD
Onboard SATA	Three onboard SAT							Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk)
	available via specia					•		Slot 1: low-profile (length < 150mm, height < 68mm), PCIe 3.0 x16
Media reader	Optional 7-in-1 med	dia reade	r					Slot 2: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1
Graphics	AMD Radeon™ Gra	aphics in	processo	r (only for so	me process	ors), uses main		Slot 3: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1
	memory, DirectX® 1	2, one V	GA, two Dis	playPort™ (0	Onboard VG	A and DP ports		Slot 4: low-profile (length < 150mm, height < 68mm), PCI 3.0
	are only available o displays, works alor	n the mo	dels with int	egrated grap	ohics), suppo	orts 3 independent	Floor Stand	M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation
	Max resolution: 409	19 WILLI A	DP)@60Hz	: 91apriics 10 : 1920x1200	Support mo	Hz		
	Some: NVIDIA Gef	orce® G1	<b>730</b> . Direc	tX 12. 2GB (	GDDR5. PC	le 2.0 x16 (x8 elec.)	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU
	adapter, two	DisplayF	Port, 35 wat	ts;		,		Some: 210 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 92% PSU (only available via special bid)
Monitor coble	Max resoluti	ion: 3840	x2160 (Disp	playPort)@6	0Hz		Lineite ele en entre	
Monitor cable	Optional DP to VGA or DP to HDMI 1.4 of	A dongle, donale	DP to DVI-L	) dongle, DF	to dual DP	dongle,	Limited warranty Preload	1-year or 3-year, limited onsite service / service upgrades available Preloaded operating system
Chipset	AMD B450 Chipse						Fieldau	Some: Windows 10 Pro 64-bit
Front ports* (Std.)	2x USB 3.1 Gen2, 2	2v LISB 3	1 Gen1 1v	microphone	(3.5mm) 1	v headnhone	1	Some: Windows 10 Home 64-bit
Tioni ports (Sta.,	(3.5mm)	ZX 00D 0	. i deiii, ix	microphone	(3.311111), 1	x rieaupriorie		Preloaded applications (only some listed)
	) <i>Optionál:</i> 1x media							<ul><li>Lenovo Vantage</li><li>Microsoft Office preloaded;</li></ul>
Rear ports* (Std.)	2x USB 3.1 Gen1, 2	2x USB 2	.0, 1x serial	(9-pin), 1x	ethernet (RJ	-45), 1x VGA**,		purchase a product key to activate
	2x DisplayPort**, 2x			rd / mouse);	1x line-in (3	.5mm), 1x line-out		Cyberlink PowerDVD (only for models with DVD / DVD±RW)
Rear norts* (Ont	(3.5mm), 1x microp 2 <i>Optional:</i> 2x USB			nin) 1v nara	llel (25-nin)	additional R I-45		Cyberlink Power2GO (only for models with DVD±RW)
rical ports (Opt.,	and video ports ava	ilable on	optional ara	aphics or eth	ernet card	additional Fib-40		LinkedIn
	* Depending on many ** only available on the	factore ac	tual data tran	efor enood me		an theoretical speed	Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant
Audio support	High Definition (HD)				al internal s	peaker (1 watt )	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),						1	
	Wi-Fi + Blue	etooth 4.2	2 combo ad	apter, 1x1				
	Some: 11ac wirele				s QCA9377	A (dual band),		
	Wi-Fi + Blue Some: 11ac wirele	etooth 4.2	2" combo ao	apter, 1x1	RE (dual ban	d)		
	Wi-Fi + Blue	etooth 4 2	zaru, nealle 2* combo ac	dapter 2x2	ı∟ (uuai ball	u),		
	Some: 11ac wirele	ss, M.2 C	Card, Qualco	omm Athero	s QCA6174	A (dual band),		
	Wi-Fi + Blue	etooth 4.2	2* cómbo ao	dapter, 2x2		,,		
Bluetooth™	Some: Bluetooth 4							
-	* Hardware support	S B I 4.2,	Dut Win10	HS3 and ea	riier only sup	oports BT 4.1	J	













## ThinkCentre M75q-1 Tiny Platform Specifications

Processor	AMD Athlon PRO o	r Ryzen	3 / 5 PRO se	ries proces	sor		Security features	es • Security slot (in rear for optional • Hard disk password				
	Processor	Cores / Threads	Frequency	L2 / L3 Cache	Memory Support (Up to)	Integrated Graphics	,	<ul> <li>Kensington® MicroSaver® cable)</li> <li>Smart USB protection, allows keyboard/ mouse only, blocks all storage devices</li> <li>Boot sequence control</li> <li>Boot without keyboard and mouse</li> <li>Individual USB port disablement</li> </ul>				
	Athlon PRO 200GE	2/4	3.2 GHz	1 MB / 4MB	DDR4-2666	Radeon Vega 3		Power-on password				
	Athlon PRO 300GE	2/4	3.4 GHz	1 MB / 4MB		Radeon Vega 3	l.,	Administrator password				
	Ryzen 3 PRO 2200GE	4/4	3.2 / 3.6 GHz		DDR4-2933	Radeon Vega 8	Keyboard	Some: Lenovo Traditional Keyboard (USB connector), black				
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz		DDR4-2933	Radeon Vega 11	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black				
	Ryzen 3 PRO 3200GE	4/4	3.3 / 3.8 GHz		DDR4-2933	Radeon Vega 8		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black				
	Ryzen 5 PRO 3400GE	4/8	3.3 / 4.0 GHz	2 MB / 4MB	DDR4-2933	Radeon Vega 11		(only available via special bid models)				
Memory	32GB max, DDR4-2 * System automatic						Mechanical	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Tiny (1L), black color; metal case				
Disk	Some: Hard Drive / Some: M.2 SSD (2	SATA 6	5.0Gb/s, 2.5", 280) / PCIe N	5400 rpm o	or 7200 rpm 3.0 x2 or PC	Cle 3.0 x4		<ul> <li>Toolless chassis open (need optional toolless chassis screw)</li> <li>Toolless HDD, SSD, memory removal</li> </ul>				
Optical	Some: DVD-ROM, Some: DVD±RW, 9	9.0mm l 0.0mm h	high, via USE igh, via USB	3 external O external OE	DD box			Optional dust filter     M75q Tiny only:     7 OF D. V.1 OCH I.I.				
Onboard SATA	One SATA 6.0Gb/s	connect	or on system	board				7.05" W X 7.20" D X 1.36" H 179mm W X 182.9mm D X 34.5mm H				
Graphics  Monitor cable	AMD Radeon™ Gra DisplayPort™, one H 3 independent displ when using HDMI p support 2 displays); Max resolution: 409 Optional DP to VGA	HDMI, or ays (sup ort or D 6x2160 0x1200	ne optional poports maxim P to DVI/HDN (DP)@60Hz: (VGA)@60H	ort (VGA, 2r um of 2 cor III dongles, 4096x2160 z	nd DP, or 2n acurrent HDI and Athlon / (HDMI)@3	d HDMI), supports MI/DVI displays Athlon PRO only 0Hz;	VESA mount Floor Stand	2.91 lb (1.32 kg), weight may vary by configuration With VESA mount & ODD box: 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				
	HDMI 1.4 dongle		, DF 10 DVI-L	dorigle, Dr	to dual DF	dorigie, or DF to	Power supply	Some: 65 watts adapter, autosensing, 88% PSU (not included for TIO models) Some: 135 watts adapter, autosensing, 88% PSU (not included for TIO models)				
Chipset	AMD B300 Chipse						Limited warranty	1-year or 3-year, limited onsite service / service upgrades available				
Rear ports* (Std. Rear ports* (Opt.	) one USB 3.1 Gen1 one microphone (3. ) 1x USB 3.1 Gen1, 3 ) Two optional ports: * Depending on many	Šmm), o 3x USB 2 Port 1 fo factors, a	ne headphor 2.0, 1x ether or VGA / 2nd ctual data tran	ne / microph net (RJ-45), DP / 2nd HI sfer speed ma	one combo 1x DisplayF DMI / serial; ay be lower th	jack (3.5mm) Port, 1x HDMI Port 2 for serial; an theoretical speed	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 10 IoT Enterprise Some: Linux Ubuntu				
Audio support WLAN	High Definition (HD)  Some: 11ac wireles	s, M.2 (	Card, Realtel	RTL8822C		,	Environment	ENERGY STAR® 7.1*, EPEAT™ Silver rating* (*Not for non-OS models); ErP Lot 3: RoHS-compliant: TUV low noise verified				
	Some: 11ac wireles Wi-Fi + Blue Some: 11ac wireles	ss, M.2 ( etooth 4. ss, M.2 (	2 combo ada Card, Intel W	mm Atheros apter, 2x2 ireless-AC 9		,,,	MIL-SPEC test	MIL-STD-810H military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)				
Bluetooth Ethernet	Wi-Fi + Bluetooth 5.0 combo adapter, 2x2 Some: Bluetooth 4.2 / 5.0 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Realtek RTL8111EPV-CG, Wake on LAN®					nbo adapter	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com				
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, T	CG Cer	tified									
								Lambur Oatobar 2016				











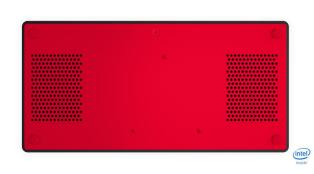


## ThinkCentre M75s-1 SFF Platform Specifications

Processor	AMD Athlon PRO at	nd Ryzer	n 3 / 5 / 7 PR	O series pr	ocessor		Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®								
	D	Cores /	Frequency	L2 / L3	Memory	Integrated	Ethernet (Opt.)	None								
	Processor	Threads	(Base/Max)	Cache	Support (Up to)	Graphics	Manageability Security chip	DASH 10/1.1 Discrete TPM 2.0, TCG Certified								
	Athlon PRO 300GE	2/4	3.4 / 3.4	1MB / 4MB		Radeon Vega 3	Security features	Security slot (in rear for optional     Power-on password								
	Ryzen 3 PRO 3200G	4/4	3.6 / 4.0		DDR4-2933	Radeon Vega 8		Kensington® MicroSaver® cable) • Administrator password								
	Ryzen 5 PRO 3400G	4/8	3.7 / 4.2	2MB / 4MB	DDR4-2933	Radeon Vega 11		Padlock loop     Hard disk password								
Memory	64GB max, UDIMM dual-channel capab * Memory may be u lower capability of m	le ndercloc	ked to DDR4	-1866, DD				<ul> <li>Smart USB protection, allows keyboard/mouse only, blocks all storage devices</li> <li>Optional smart cable clip to physically lock both keyboard and mouse</li> <li>Boot sequence control</li> <li>Boot sequence control</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion switch</li> </ul>								
Storage	Some: Hard Drive /	SATA 6.	0Gb/s, 2.5"	or 3.5", 540	0 rpm or 720	00 rpm	Keyboard	Some: Lenovo Traditional Keyboard (USB connector), black Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black								
Optical	Some: M.2 SSD (2: Some: DVD-ROM)	242 / 228 SATA 1.5	Gb/s Drive.	vivie, PCie i slim (9.0mn	3.0 X2 or PC n)	le 3.0 x4	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)								
•	Some: DVD Burner	r (DVD±F	RW), SATA 1	.5Gb/s Driv	é, slim (9.0m		Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black								
Onboard SATA	Three onboard SATA available via special			s, RAID 0/1	support (RA	ID preset only		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black								
Media reader	Optional 7-in-1 med							Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)								
Graphics	AMD Radeon™ Gramemory, DirectX® 1: are only available or displays, works alon Max resolution: 409: Some: AMD Radeo two DisplayF	2, one V0 n the mo ng with A 6x2160 ( n™ <b>520</b> , Port, 30 v	GA, two Disp dels with into MD discrete DP)@60Hz; DirectX 12, vatts (Max);	olayPort™ (Cegrated grap graphics to 2GB GDDF	Onboard VGA phics), suppo support moi	A and DP ports orts 3 independent re displays;	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. 13.2 lb (6.0 kg), weight may vary by configuration</li> <li>Toolless cover, disk, optical, and extension card removal</li> <li>Optional dust filter</li> <li>Bay 1: Slim external ODD bay</li> <li>Bay 2: 3.5", internal, HDD/SSD</li> <li>Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk)</li> </ul>								
Monitor cable		Max resolution: 4096x2160 (DP)@60Hz otional DP to VGA, DP to DVI-D (single link), DP to dual DP, or DP to HDMI 1.4											Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1			
Chipset	AMD PRO 560 FCH	I						Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1								
	) 2x USB 3.1 Gen2, 2 (3.5mm)		.1 Gen1, 1x	microphone	e (3.5mm), 1:	x headphone	Floor Stand	Slot 4: low-profile (length < 150mm, height < 68mm), PCI 3.0 M.2 card slots: two (one for WLAN, one for SSD) Optional system floor stand for vertical orientation								
	) <i>Optional:</i> 1x media i ) 2x USB 3.1 Gen1 (c		ort Smart Po	wer-On\ 2	vIISR 2 0 1	v sarial (Q-nin) 1v										
	ethernet (RJ-45), 1x line-in (3.5mm), 1x l	VGA**, ine-out (	2x DisplayPo 3.5mm), 1x r	ort**, 2x PS microphone	/2 ports (key (3.5mm)	board / mouse); 1x	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 260 watts, autosensing, 92% PSU (only available via special bid)								
Rear ports (Opt.	) Optional: 2x USB 2 optional graphics ca		iraliei (25-piri	i), additiona	i video ports	available on	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available								
	* Depending on many to a validable on the		ctual data trans vith integrated	sfer speed ma graphics	ay be lower tha	an theoretical speed	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit								
Audio support	High Definition (HD)	Audio, F	Realtek ALC	662 / option	al internal sp	beaker (1 watt )		Some: Windows 10 Home 64-bit								
WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8822CE (dual band), Wi-Fi + Bluetooth 5.0 combo adapter, 2x2			Some: Windows 10 IoT Enterprise Some: Linux Ubuntu												
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 2x2			Environment	ENERGY STAR® 7.0*, EPEAT™ Silver rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant, WEEE											
<b>.</b>	Some: 11ac wireles Wi-Fi + Blue	etooth 5.0	o combo ada	pter, 2x2			Accessories	For compatible accessories, please go to http://smartfind.lenovo.com								
Bluetooth™	Some: Bluetooth 4.	2 / 5.0 w	vireless, integ	grated in Wi	-Fi + BT com	nbo adapter										
Note: The specifica	ations above may not b	e availah	le in all regio	ns				Lenovo, September 2019								















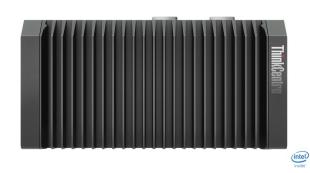




## ThinkCentre M90n-1 Nano Platform Specifications

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	Saver® cable)		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>		<ul> <li>Individual USB</li> <li>Smart USB pro-</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 / DDR						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 5D / PCIe I 5D / PCIe I ™ Memory	NVMe, PCIe 3.0 NVMe, PCIe 3.0	x 4* x 2 State St			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 Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			ack JSB receiver), black dows Hello support, 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 PCIe 3.0 x4 and one PCIe 3.0 x2) ar for WLAN			
Graphics	Intel UHD Graphics	<b>620</b> in pro	cessor, uses ma	ain mem	ory, DirectX® 12,	one			Dimension	ns (WxDxH)	Weight (Approx.)
	DisplayPort™, one U displays;  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	o 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 75n			, , , , ,
Chipset	Intel SoC (System of						Floor Stand	Some: DIN rail mount bracket kit None			
Front ports (Std.)	* 2x USB 3.1 Gen2, 1) jack (3.5mm)	( USB 3.1	Type-C Gen 2, o	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, 1x power-in [20V and >4 * Depending on many f	45W]), 1x	eťhernet (RJ-45)	, 1x Dis	playPort ( ' '		Limited warranty	1 7 7			
Audia augaset	Realtek ALC233VB /			eeu may	be lower trian trieor	elicai speed	Preload	Preloaded operatin	g system		
Audio support WLAN	Some: 11ac wireless	s, M.2 Car	d, Realtek RTL8		(dual band),			Some: Windows® 1 Some: Windows 10	0 Pro 64-bit Home 64-bit		
	Some: 11ac wireles	s, M.2 Cai	ombo adapter, 1 d, Realtek RTL8 ombo adapter, 2	822CE	(dual band),		Environment	ENERGY STAR® 7.1 TUV ultra low noise			ca), ErP Lot 3, TCO 8.0, EEE, REACH
	Some: 11ac wireles: Wi-Fi + Bluet	s, M.2 Car tooth 5.0 c	d, Intel Wireless ombo adapter, 1	-AC 946 x1	, , , , , , , , , , , , , , , , , , , ,		MIL-SPEC test				re, Low Temperature, Shock, Solar Radiation)
	Some: 11ac wireles: Wi-Fi + Bluet	s, M.2 Cai tooth 5.0 c	d, Intel Wireless ombo adapter, 2	-AC 956 x2			Accessories	For compatible acces			
		cooth 5.0 c	ombo adapter, Ir	ntel vPro	tèchnology sup	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	* M.2 SSD / Optane with	SD / PCIe I SD / PCIe I ™ Memory 3.0 x 4 (no th SSD in Po	NVMe, PCIe 3.0 H10 with Solid Sot support Celero Cle 3.0 x 2 M.2 slot	x 2 State St n) can only	run at PCle 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, b 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 DisplayPort™, one U						1	Four M.2 slots: two for M.2 SSD (one PCle 3.0 x4 and one PCle 3.0 x2), one fo 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: 4096 Optional DP to VGA	dongle, DI	P to HDMI 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 (c 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 wireles	tooth 5.0 c s, M.2 Cai	combo adapter, 1	x1 822CE	,,		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				
		tooth 5.0 c	combo adapter, 2	x2	,		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				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 me						-	Slot 4: no slot, only bracket for optional port extension* M.2 card slots: Two (one for WLAN, one for SSD/Optane)			
Graphics	one VGA, two Disp discrete graphics to	olayPort™, o support	, supports 3 inde more displays;	pendent	displays, works a			* Optional 2 front USB3.1 Type-C ports module occupies PCle x16 (x4 sig optional rear 2x USB2.0 / parallel / 2nd serial / cable lock / Wi-Fi antenna one expansion slot			
	Max resolution: 409 Some: NVIDIA Ge	96x2304 (	(DP) @ 60Hz; 204 <b>T 730</b> Direct <b>Y</b> 17	18x1536	(VGA)@50Hz PCIo 2 0 v8 adapt	or	Floor Stand	Optional system floor stand for vertical orientation			
	two Display			2, 2GD, F	Cie 2.0 xo auapi	ei,	Power supply	Some: 180 watts, autosensing, 85% PSU			
Monitor cable		ition: 3840	x2160 (DisplayP	ort)@60 k), DP to	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					Limited warranty <sup>3</sup> Some: 1-year or 3-year, depot service / service upgrades available				
Front ports*	Four USB 3.1 Gen				en 2 (only availabl	e via special	Some: 1-year or 3-year, limited onsite service / service upgrade				
Rear audio ports	optional parallel (2: PS/2 ports (keyboa additional DisplayF	11, optiona 5-pin), eth ard/mouse Port on op	otional two USB 2.0, serial (9-pin), optional 2nd serial (9-pin), othernet (RJ-45), one VGA, two DisplayPort, 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	High Definition (HD				<u> </u>	<u> </u>	-	<ul> <li>Lenovo ThinkVantage Tools</li> </ul>			
WLAN <sup>13</sup>	Some: 11ac wirele Wi-Fi + Blu Some: 11ac wirele	ess, M.2 ( uetooth 4. ess, M.2 (	Card, Qualcomm 1 combo adapte	Atheros r, 1x1 Atheros	QCA9377A (dual	l band),		<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 wirele Wi-Fi + Blu		Card, Intel Dual E 1 combo adapte		eless-AC 8265,			TUV low noise verified (on some models)  For compatible accessories, please go to http://www.lenovoquickpick.com			
	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 ( uetooth 4.	Card, Intel Dual E 1 combo adapte	Band Wir r, Intel vF	Pro technology su	pport, 2x2	, 1000001100	. o. ospanore accessorios, piedes go to international ordinational			
Bluetooth™ Ethernet Modem	Some: Bluetooth 4 Gigabit ethernet, Ir 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	Mooriariida	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 warranty³ 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 purchase a product key to activate			
	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	,			

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













## ThinkCentre M910 Tower Platform Specifications

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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, UDIMN dual-channel capal	hĺa	, , , , , , , , , , , , , , , , , , ,		,	*		<ul> <li>Optional cable lock to physically lock both keyboard and mouse</li> <li>Individual USB port disablement</li> <li>Optional chassis intrusion swite</li> </ul>																																			
Otawa	* System automation	Cally Clock	OCh/a O FII ar O	TIL FACO	S WILLI IOWEL THEIL	ory controller	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black																																			
Storage	Some: Hard Drive Some: Solid State	Drive (S	.0Gb/s, 2.5 or 3. 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 S	State Drive	e (ŚSD) / PCIe N	IVMe, PO	Cle 3.0 x 4, 32Gb	/s	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black																																			
	Some: Intel Optan	ne™ Memo	ory (models with	7th gen	Core processor),	M.2		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black																																			
Optical	Some: Front accessome: DVD-ROM	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 Burne	er (DVD±F	RW), SATA 1.5GI	b/s, 5.25'	or slim (9.0mm)			• (WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm																																			
Onboard SATA	Four onboard SATA	4 6.0Gb/s	connectors (1x	eSATA ar		D 0/1 support		<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 a Optional 7-in-1 me			odel)				Optional carry handle, dust filter																																			
Graphics				secor He	es main memory	DirectY® 12		Bay 1: Slim external ODD bay																																			
Graphics	Intel HD Graphics 510/530/610/630 in processor, uses main memory, DirectX® 1 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;							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)																																			
	Max resolu	Max resolution: 3840x2160 (DisplayPort) @ 60Hz;						Slot 1: full-length full-height (length < 268mm, height < 112mm), PCIe 3.0 x16*																																			
		: AMD Radeon™ R7 350, DirectX 11, 2GB, PCIe 3.0 x8 adapter, one VGA, one HDMI, 75 watts, occupies two slots;						Slot 2: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x1*																																			
	Max resolution: 4096x2160 (HDMI) @ 24Hz; 2048x1536 (VGA) @ 85Hz Some: NVIDIA Geforce GTX™ 1080 (only available via special bid model), DirectX 12, 8GB, PCle 3.0 x16 adapter, one DVI-D, one HDMI,					Max resolution: 4096x2160 (HDMI) @24Hz; 2048x1536 (VGA)@85Hz Some: NVIDIA Geforce GTX™ 1080 (only available via special bid model), DirectX 12, 8GB, PCIe 3.0 x16 adapter, one DVI-D, one HDMI, three DisplayPort, 180 watts, occupies two slots; Max resolution: 2560x1600 (DVI-D)@60Hz; 4096x2160 (HDMI)@60Hz							Slot 3: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x16 (x4 signal)*																														
												Some: NVIDIA Geforce GTX™ 1080 (onlý available via special bid model), DirectX 12, 8GB, PCle 3.0 x16 adapter, one DVI-D, one HDMI,						Some: NVIDIA Geforce GTX™ 1080 (onlý available via special bid model),						Some: NVIDIA Geforce GTX™ 1080 (onlý available via special bid model),						Some: NVIDIA Geforce GTX™ 1080 (only available via special bid model),						Some: NVIDIA Geforce GTX™ 1080 (onlý available via special bid model),							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) 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, ac	ctual data transfer s	speed may	be lower than theo	retical speed		processor) • Lenovo Companion																																			
Audio support	High Definition (HD) Audio, Realtek ALC662 / optional internal speaker (1.5 wat							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 + Bluetooth 4.1 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,							Cyberlink PowerDVD Create     (DVD - DW)																																			
	Wi-Fi + Bluetooth 4.1 combo adapter, 1x1						Cardina a const	(DVD±RW)																																			
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,						Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant,																																			
	Wi-Fi + Bluetooth 4.1 combo adapter, 2x2  Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,							TUV low noise verified (on some models)																																			
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.1 combo adapter, Intel vPro technology support, 2x						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	SFF (8.4L), black color, metal case (WxDxH) 3.6" X 11.4" X 13.5"; 92.5mm X 290.5mm X 343.5mm Approx. 13.23 lb (6 kg), weight may vary by configuration Toolless cover, disk, optical, extension card removal		
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 one VGA, two Display discrete graphics to s Max resolution: 4096: Some: NVIDIA Gefor two DisplayPo	yPort™, su support m x2304 (Di rce® GT 7 ort, 35 wa	upports 3 indepe ore displays; P)@60Hz; 2048; <b>′30</b> , DirectX 12, 2	ndent dis 1536 (Ve 2GB, PC	splays, works aloi GA)@50Hz le 2.0 x16 adapte	ng with	Floor Stand	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 1x microphone (3.5m						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. Rear ports* (Std.)	) <i>Optional:</i> 1x media re 4x USB 3.1 Gen1, 1x	ader	•		, ,	,	Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit		
	1x line-out (3.5mm) ) <i>Optional:</i> 2x USB 2.0	. 2x USB	3.1 Gen1 via PC	le x1, 2x	USB 3.1 Type-C	Gen2	Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCC TUV low noise verified (coming soon, on some models), RoHS-compliant		
via PCIe x4 (special bid only), 1x 2nd serial (9-pin), 4x serial (9-pin) via PCIe x1, 1x parallel (25-pin), 2x PS//2 ports (keyboard/mouse), 1x Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018), additional RJ-45 and video ports available on optional graphics or ethernet card * Depending on many factors, actual data transfer speed may be lower than theoretical speed							Accessories			





















## 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	egrated in Wi-Fi + B	combo adapter	
1 10000001	Processor	Cores /	Frequency		Memory Support		Ethernet	Gigabit ethernet, Inte	el Ethernet Conne	ction I219-LM(Jacks	sonville), Wake on LAN®	
		Threads	Base/Max(GHz)		(Up to)	Graphics	Ethernet (Opt.)				rnet, 4x RJ-45, PCle x4	
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Manageability	Intel Active Manager Intel vPro technology	ment Technology 1	12 (Intel AMT 12);	vPro-support Wi-Fi	
	Celeron G4930T Pentium Gold G5400T	2/2	3.0G 3.1G	2 MB 4 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 610		adapter to enable vP	ro function through	th wireless connection	on)	
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400 DDR4-2400	UHD 630	Security chip	Discrete TPM 2.0, TO	ete TPM 2.0, TCG Certified			
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630	Security features	• Security slot (in rea	ar for optional	<ul> <li>Boot sequence</li> </ul>		
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610		Kensington® Micro	Saver® cable)	Boot without key		
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630		<ul><li>Chassis intrusion s</li><li>Power-on passwor</li></ul>		<ul> <li>Individual USB</li> <li>Smart USB prot</li> </ul>	ection, allows keyboard/	
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630		<ul> <li>Administrator pass</li> </ul>			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>	rd			
	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	itional Keyboard (l	USB connector), bla	CK	
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Callie Some: Lenovo Callie	ope Wireless Keyl one Mouse (LISB	00ard (2.4GHZ VIa C connector) black	isb receiver), black	
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630		Some: Lenovo Finge	erprint Mouse (US	SB 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	ıse (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	r; metal case			
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630		<ul> <li>Toolless chassis or</li> </ul>	pen (need optiona		crew)	
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		Toolless HDD, SSE     Ontional dust filter		al		
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630		<ul> <li>Optional dust filter one 2.5" bay for HDD/SSD, one PCIe 3.0 x8 slot (low-profile), two M.2 slots (one for WLAN, one for M.2 SSD), 2.5" HDD/SSD and PCIe card are mutually exclusive</li> </ul>				
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630						
Memory	32GB max, DDR4-266	66*, two 2	260-pin SO-DIMI	VI socket	s, dual-channel	capable	1		Dimensions (WxDxH) Weight (Approx.)			
Storage	* System automaticall Some: Hard Drive / S	y clocks o	down for the pro	cessors	with lower memo			Tiny only	7.05" X 7.	.20" X 1.36" .9mm X 34.5mm	2.91 lb (1.32 kg), vary by config	
Cicrago	Some: Solid State Dr Some: M.2 SSD / PC * 128GB SSD M.2 (22	rive (SSD Ie NVMe	) / SATA 6.0Gb/s , PCIe 3.0 x 4*, 3	5, 2.5" 32Gb/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	¹ Memory im (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 OOD	external ODD to	JOX	Power supply	Some: 65 watts AC/	DC adapter, autos	sensing, 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-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades availa				
Monitor cable	Optional DP to VGA d Display with intel integ	longle, DF		e, DP to	dual DP dongle		Preload	Preloaded operatin Some: Windows® 1	0 Pro 64-bit			
Chipset	Intel Q370 Chipset	jiatoa gic	(prii00), or Br to	TIDIVII I	.+ dorigio		-	Some: Windows 10 Preloaded applicati		listed)		
	* one USB 3.1 Gen1 (A	lwave On	and fact charge	) one II	SR 3.1 Type-C G	2on 1	-	Lenovo Vantage	ions (only some	iisteu)		
r rom ports (ota.)	one microphone (3.5n							<ul> <li>Microsoft Office pr</li> </ul>				
	* 2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x ethern	et (RJ-4	<ol><li>5), 1x DisplayPo</li></ol>	rt, 1x HDMI		<ul><li>purchase a product</li><li>Cyberlink PowerD\</li></ul>		de with DVD / DVD+	D\\\\	
Rear ports (Opt.)	* Two optional ports (mi	utually ex	clusive with PCI	e card):	Port 1 for VGA /	2nd DP /		Cyberlink Power20     Cyberlink Power20	GO (only for mode	els with DVD+RW)	nvv)	
	2nd HDMI / serial / US Optional ports via PCI	on J. ۱۱۷  ام card: 2	v LISR 3.1 Gan1	via PCI	011); POIL 2 101 8 2 v1 1/2 carial (0	seriai, I-nin) via		• LinkedIn	o. o (o) . o o. o			
	PCle x1, 1x Thunderb	olt 3 (con	nbo USB3.1 Typ	e-C Gen	2 / DisplayPort)	via PCle x4		<ul> <li>Intel Unite (Machir</li> </ul>	ne Type 10V8 mod	dels only)		
	* Depending on many fac						Environment	ENERGY STAR® 7.0				
Audio support	Realtek ALC233VB2 /	optional /	internal speaker	(1.5 wa	tt or 2 watt)			TUV ultra low noise				
WLAN	Some: 11ac wireless, Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 1	x1 `	,		MIL-SPEC test		emperature Shock		le], High Temperature, d Dust, Vibration, Shock,	
	Some: 11ac wireless	, M.2 Car	d, Realtek RTL8	822BE (	dual band),		Annonceite		<u> </u>	. to batton.//o	Llanava aarr	
	Some: 11ac wireless	, M.2 Car	ombo adapter, 2 d, Intel Dual Bar ombo adapter, 1	nd Wirele	ess-AC 3165,		Accessories	For compatible acces	ssories, please go	ιο <b>πττp://smartfinc</b>	i.ienovo.com	
	Some: 11ac wireless	, M.2 Car		nd Wirele	ess-AC 8265,							
	Some: 11ac wireless	, M.2 Car		-AC 9560								





















## ThinkCentre M920 Tower Platform Specifications

Пиологом	Intel® Coloron® Intel	Dantium®	or Oth /Oth Con	Intal Car	10TM :0 / :E / :7 / :0	Drasassar		LICER 1 Time C. Con 0 / Display Port) via PCIa v4 (available on 00/00/0010)				
Processor	Intel® Celeron®, Intel			intel Col				USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018), additional RJ-45 and video ports available on optional graphics or ethernet card				
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated 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	_	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				
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Intel Dual Band Wireless-AC 3165, 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, 2x2 Some: 11ac Wi-Fi + BT 5.0, M.2 Card, Intel Wireless-AC 9560 (dual band),				
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Intel vPro technology support, 2x2				
	Pentium Gold G5600 Pentium Gold G5420	2/4	3.9G 3.8G	4 MB 4 MB	DDR4-2400 DDR4-2400	UHD 630 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	Linemet (Opt.)	Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCle 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	, manageasy	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	Caarreiter alain	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	Security slot (in rear for optional     Power-on password     Administrator password				
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		<ul> <li>Kensington® MicroSaver® cable)</li> <li>Padlock loop</li> <li>Administrator password</li> <li>Hard disk password</li> </ul>				
	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 Core i5-9400	6/6	3.7G / 4.4G 2.9G / 4.1G	8 MB 9 MB	DDR4-2400 DDR4-2666	UHD 630 UHD 630		both keyboard and mouse  • Boot without keyboard and mouse				
	Core i5-9400 Core i5-9500	6/6	3.0G / 4.4G	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 i5-9600	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				
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black				
Momory	64GB max, DDR4-26							Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black				
Memory	* System automatical						r Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid Some: Lenovo Calliope Mouse (USB connector), black				
Storage		d Drive / SATA 6.0Gb/s, 2.5" or 3.5", 5400 rpm or 7200 rpm	.,		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black							
Ciorago	Some: Solid State D	rive (SSD	) / SATA 6.0Gb/s	s, 2.5"	or 7200 ipin			Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black				
	Some: M.2 SSD (22-	42 / 2280	) / PCIe NVMe, F	Cle 3.0	x2 or PCle 3.0 x	4		Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)				
Optical	Some: Intel Optane <sup>™</sup> Optional DVD-ROM of						Mechanical	Tower (18L), black color, metal case     (MAD-II)				
Onboard SATA	Four onboard SATA 6							<ul> <li>(WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm</li> <li>Approx. 15.45 lb (7 kg), weight may vary by configuration</li> </ul>				
	available via special b	bid model		• • • • • • • • • • • • • • • • • • • •	` '	,		Toolless cover, disk, optical, extension card removal				
Media reader	Optional 7-in-1 media							Optional carry handle, dust filter				
Graphics	Intel UHD Graphics	610/630 i	n processor, use	s main n	nemory, DirectX®	12,		Bay 1: Slim external ODD bay Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD				
	one VGA (up to 2048 supports 3 independe							Bay 3: 3.5", 1" high, internal, HDD/SSD				
	Some: NVIDIA Gefor	rce® GT 7	30 (End Of Life)	, DirectX	12, 2GB GDDR	5,		Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)				
	PCIe 2.0 x16,	35 watts,	two DisplayPort	(up to 3	340x2160@60Hz	z)		Bay 5: 2.5", internal, HDD/SSD (optional bay)				
	Some: AMD Radeon		irectX 12, 2GB 0 4096x2160@60F		Cie 3.0 x8, 30 v	vatts,		Notes: M920 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and 1 eSATA device (front access HDD)				
	Some: AMD Radeon				85, PCIe 3.0 x8, 5	50 watts,		Slot 1: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x16				
	one DisplayPo	ort (up to	3840x2160@60I	Hz), one	HDMI (up to	,		Slot 2: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x1				
			e VGA (up to 20			DDDE		Slot 3: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x16 (x4 signal) Slot 4: no slot, only bracket for optional port extension				
	Some: NVIDIA Gefor	120 watts	s 1x DVI-D (up t	o 2560x1	600@60Hz) 1x	HDMI (up		M.2 card slots: Two (one for WLAN, one for SSD/Optane)				
	to 4096x2160	@60Hz),	3x DP (up to 512	20x3200	@60Hz), occupie	es two slots	Power supply	Some: 180 watts, autosensing, 85% PSU				
Monitor Cable	Optional DP to VGA (	aongle, טו	ם-ivu dong	e, DP to	dual DP dongle	(for Collage	l ower supply	Some: 250 watts, autosensing, 85% PSU				
	Display with intel inte	grated gra	apnics), or DP to	HDMI 1.	4 dongle			Some: 400 watts, autosensing, 92% PSU (only available via special bid)				
Chipset	Intel Q370 Chipset						Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available				
Front ports* (Std.	) 2x USB 3.1 Gen2, 2x							Some: 1-year or 3-year, limited onsite service / service upgrades available				
Front porte* (Ont	1x microphone (3.5m) Optional: 1x media re	ım), 1x he	adphone / micro	phone co	ombo jack (3.5mi	m)	Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit				
Rear ports* (Std.	) <i>Optional:</i> 1x media re ) 4x USB 3.1 Gen1, 1x	eauer ( serial (9-	pin). 1x ethernet	(RJ-45)	. 1x VGA. 2x Dist	plavPort.						
	1x line-out (3.5mm)						Environment	ENERGY STAR® 6.1, EPEAT™ Silver rating (North America), ErP Lot 3, TCO,				
Rear ports* (Opt.	Opt.) <i>Optional:</i> 2x USB 2.0, 2x USB 3.1 Gen1 via PCIe x1, 2x USB 3.1 Type-C Gen2						TUV low noise verified (coming soon, on some models), RoHS-comp					
	PCle x4 (special bid only), 1x 2nd serial (9-pin), 4x serial (9-pin) via PCle x1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), 1x Thunderbolt 3 (con						Accessories	essories For compatible accessories, please go to http://smartfind.lenovo.com				
	17 parallel (25-plll), 2	.x F3/2 pc	n io (Neyboaiu/III	ousej, D	Thurideiboil 3 (	COITIDO						



















## 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 DisplayPo	ort, up to 4 independent displays, works	s along with		
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	1	onboard DP and	HDMI to support up to 6 independent di 5120x2880@60Hz ((up to 2 Mini Displ	splays;		
		Threads	Base/Max(GHz)		(Up to)	Graphics	4		4096x2160@60Hz ((up to 4 Mini Displ	avPort)		
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Monitor cable	Optional DP to VGA dong	le, DP to DVI-D dongle, DP to dual DP o ics), or DP to HDMI 1.4 dongle, Mini DF	dongle (for Collage Display		
	Celeron G4920 Celeron G4930	2/2	3.2G 3.2G	2 MB 2 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 610	Chipset	Intel Q370 Chipset	iles), of DF to Fibini 1.4 dorigle, Milli DF	TO DE		
	Celeron G4950	2/2	3.2G 3.3G	2 MB	DDR4-2400 DDR4-2400	UHD 610	1∟	·				
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400 DDR4-2400	UHD 610	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)				
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Rear ports (Std.)*	2x USB 3.1 Gen2, 2x USE	3 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 (mutua	ally exclusive with PCIe card): Port 1 for	VGA / 2nd DP / 2nd HDMI /		
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	1	Optional ports via PCIe ca	en 1 with DP function); Port 2 for serial; ard: 2x USB 3.1 Gen1 via PCle x1, 4x se	erial (9-pin) via PCle x1. 1x		
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	1	Thunderbolt 3 (combo US	B3.1 Type-C Gen 2 / DP) via PCIe x4			
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	1		tors, actual data transfer speed may be	· · · · · · · · · · · · · · · · · · ·		
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Audio support	Realtek ALC233VB2 / opt	tional internal speaker (1.5 watt or 2 wat	it)		
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	WLAN		4.2, M.2 Card, Realtek RTL8821CE (du			
	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 RTL8822BE (du 4.2, M.2 Card, Intel Dual Band Wireless	al band), 2x2 ≈-ΔC 3165, 1y1		
	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 Wireless	s-AC 8265, 2x2		
	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-AC 9560 (	dual band),		
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Bluetooth	Some: Bluetooth 4.2/5.0	ology support, 2x2 ) wireless, integrated in Wi-Fi + BT coml	bo adapter		
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Eth	ernet Connection I219-LM(Jacksonville)	), Wakė on LAN®		
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)		ver Adapter I350-T4, gigabit ethernet, 4	x RJ-45, PCle x4		
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability		Technology 12 (Intel AMT 12);	ourne art M/: Ei		
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630	]	adapter to enable vPro ful	some models (require choosing a vPro-s nction through wireless connection)	support wi-Fi		
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG C				
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Security features	<ul> <li>Security slot (in rear for</li> </ul>				
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610		<ul> <li>Kensington® MicroSaver</li> <li>Chassis intrusion switch</li> </ul>		ooard and mouse		
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610		Power-on password	<ul> <li>Smart USB protect</li> </ul>	ction, allows keyboard/		
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		<ul> <li>Administrator password</li> </ul>	nistrator password mouse only, blocks all storage devices			
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Hard disk password	14 1 14100			
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610	Keyboard	Some: Lenovo Calliope	Keyboard (USB connector), black al Keyboard (USB connector), black			
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630	4	Some: Lenovo Calliope	Wireless Keyboard (2.4GHz via USB re	ceiver), black		
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope	Mouse (USB connector), black	lalla august black		
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630	4	Some: Lenovo Calliope	int Mouse (USB connector), Windows H Wireless Mouse (2.4GHz via USB recei	iver). black		
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color; met	· · · · · · · · · · · · · · · · · · ·	,,		
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	- Inviceriarilear	<ul> <li>Toolless chassis open (r</li> </ul>	need optional toolless chassis screw)			
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	-	Toolless HDD, SSD, me     Ontional dust filter.	mory removal			
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB 8 MB	DDR4-2400	UHD 630 UHD 630	-	<ul> <li>Optional dust filter</li> <li>one 2.5" bay for HDD/SSI</li> </ul>	D, one PCIe 3.0 x8 slot (low-profile), thre	ee M 2 slots (one for WLAN		
	Core i3-9300T Core i5-9400T	4 / 4 6 / 6	3.2G / 3.8G 1.8G / 3.4G	9 MB	DDR4-2400 DDR4-2666	UHD 630	-		DD/SSD and PCIe card are mutually exc			
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630	1		Dimensions (WxDxH)	Weight (Approx.)		
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630	1	Tiny only	7.05" X 7.20" X 1.36"	2.91 lb (1.32 kg),		
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630	1	Tilly Offiny	179mm X 182.9mm X 34.5mm	vary by config		
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630	1	With VESA mount &	7.42" X 7.30" X 2.48"	3.66 lb (1.66 kg),		
						0110 000	4	ODD box	188.4mm X 185.38mm X 63mm	vary by config		
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 bra Optional system floor star	cket kit, supports VESA 75mm and 100 nd for vertical orientation	mm		
Storage	Some: Hard Drive / SA Some: Solid State Drive	TA 6.0Gb/s	, 2.5", 5400 rpm o	r 7200 rp	m		Power supply	135 watts AC/DC adapter	. autosensing, 88% PSU			
	Some: M 2 SSD (suppo	ort un tó tw	n M 2 SSD) / PCIe	NVMe,	PCIe 3.0 x 4*, 32GI	b/s.	- '''	135 watts AC/DC adapter, autosensing, 88% PSU				
	RAID 0/1 suppo	rt (RAID n	reset only available	via sneo	cial hid model)		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					
	* 128GB SSD M.2 (2242 Some: Intel Ontane™ N	) PCIE NVI Jemory (no	vie only supports F at support Celeron	/Cle 3.0 ) / Pentiun	(2, 16Gb/s Processor) M.2		Preload Some: Windows® 10 Pro 64-bit					
Optical	Some: Intel Optane™ N Some: DVD-ROM, slim	(9.0mm),	via USB external C	DD box	11 10000001), W.L			Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit				
Onboard SATA	Some: DVD Burner (D\ One onboard SATA 6.0G	/D±RW), s b/s connec	lim (9.0mm), via U tor	SB exteri	nal ODD box		Environment	ENERGY STAR® 7.0, EPEAT™ Gold 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							
	one HDMI, one optional or USB 3.1 Type-C Gen1  Max resolution:c4096x23	with Display	ayPort function), up	o to 3 ind			57 20 1051	Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)				
		216Ò (ońbo	ard HDMI)@24Hz	. 2048x1	536 (VGA)@50Hz		Accessories	For compatible accessorie	es, please go to http://smartfind.lenovo	o.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) LED indicators 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			
The same of the sa		Preload	Preloaded operating system			
Chipset	Intel Q270 Chipset		Windows® 10 IoT Enterprise CBB X64 (RS3)			
Ports*	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 application's 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	, .			
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			
(Detection angle: +/- 45% (from display); detection distance: 3 meters at minimum LED indicators 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)  Preloaded applications			
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		Zoom Rooms Application			
	(3.5mm), one power connector	Certification	Zoom Recommended Hardware			
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 Gen3

Model	Non-touch model: Touch model:	10R1PAR1++/10R1P 10R0PAR1++/10R0P				
Form factor	Tiny-in-One, offers	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:		` '	/ M710 / M900(x) / M700 / M630e /			
	M625 / M600 / M75q / M715 / M93/p* / M83 / M73* / M53 /Chromebox Tiny * Non-TIO models can't be turned on by pressing power button of TIO					
Panel			*, White LED backlight			
Viewahla imaga siza			A, PLS, and IPS panels			
Viewable image size Max view area (W x H)	21.5" (546.1mm) d 18 74" x 10 54" / 4	76.1mm x 267.8mm				
Bezel Width	Top / Side: 2mm, B					
Native resolution	1920x1080	10.1				
Multi-touch Aspect ratio	Optional 10-point n	nulti-touch, supports W	ake on louch			
Pixel pitch (mm)	0.24795mm					
Dot/Pixel per Inch	102.4 dpi					
Brightness	250 nits or cd/m <sup>2</sup> (t	ypical)				
Contrast ratio Pixel response time	1000:1 (typical)	er drive to 4ms, 6ms				
Color gamut	72%	or drive to 4mo, eme				
Anti-reflective	Anti-glare					
Viewing angle at 10:1 CF	R178° (+/- 89°) horiz	contal, 178° (+/- 89°) ve	ertical			
Preset resolutions	640x350 @ 70Hz	CCLI- 70LI- 75LI-				
	640x480 @ 60Hz, 720x400 @ 70Hz	66HZ, /2HZ, /5HZ				
	800x600 @ 60Hz,	72Hz, 75Hz				
	1024x768 @ 60Hz	, 70Hz, 75Hz				
	1152x864 @75Hz					
	1280x800 @ 60Hz 1280x1024 @ 60Hz, 72Hz, 75Hz					
	1366x768 @ 60Hz					
	1440x900 @ 60Hz					
1600x1200 @ 60Hz, 70Hz, 75Hz 1680x1050 @ 60Hz						
1920x1080 @ 60Hz						
Presets / user settings Presets: 25; user settings: 25						
On screen display On screen display with digital user controls (8 languages)						
Control features Ftont: Exit button, Left / Mode-switching button (TIO / monitor mode),						
	Right / Brightness button, Enter / Menu button, Power button  Bottom: Volume up button, Volume down button					
Tiny-in-One Power On	Pressing Alt + P on keyboard or pressing Power button positioned on TIO					
. (=10)	can turn on both TI	O and Tiny (only some	Tiny support, see compatible list)			
Side ports (TIO)			3 or M53 installed or USB 2.0			
	connected via USE Notes: The USB p		en a Tiny is istalled or a PC is			
	connected	via USB upstream por	t			
Side ports (Tiny)	Side ports offered	de ports offered by installed Tiny (optional) ne DisplayPort in port, one USB upstream port, one power connector				
Rear ports 3-in-1 Cable			am port, one power connector cter, USB [supports USB 3.1 Gen1]			
O III I Oabic			ing to Tiny installed (optional)			
Camera	720p camera with dual microphone for VOIP, LED indicator					
Internal Speaker	2 watt x2					
Security			al cable lock (Kensington® lock			
	offered by Tiny inst		together, more security features			
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)
0	Adjustable stand	Tilt: 30° back, -5° forward; lift: 4.3" (110mm);
:/		swivel: +/-45°; Pivot: clockwise 0° to 90°
<b>/</b>	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	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307, TUV Eye Comfort certified FCC Class B
	Environmental Windows certifications	TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0, EPEAT™ Silver rating, ULE Gold, TUV, VOC Windows 7 and Windows 10 certified
	Ship group	TIO (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 Gen3 Compatible list						
Model	P330 / P320 / M920(x) / M720 / M910(x) / M710 / M900(x) / M700 / M630e / M625 / M600 / M75q / M715 / M83 / M53 Tiny M90n Nano (with TIO kit)	M93/p Tiny, M73 Tiny	Chromebox				
Turn on TIO and Tiny together via Alt + P on USB KB	All models	All models	Not support				
Turn on TIO and Tiny together via TIO Power Button	All models	TIO models	All models				













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

Model	Non-touch model: Touch model:	10QYPAR1++/10QYPA 10QXPAR1++/10QXPA				
Form factor			nce when optional Tiny slots into			
Compatible Tiny:	the back of TIO, clean cabling and effortless setup P330 / P320 / M920(x) / M720 / M910(x) / M710 / M900(x) / M700 / M630e M625 / M600 / M75q / M715 / M93/p* / M83 / M73* / M53 /Chromebox Tiny * Non-TIO models can't be turned on by pressing power button of TIO					
Panel		Switching technology**				
Viewable image size	23.8" (604.7mm) d		FLS, and IFS panels			
Max view area (W x H) Bezel Width	21.06" x 12.32" / 53 Top / Side: 2mm, B	35.0mm x 313.0mm ottom: 22.1mm				
Native resolution	1920x1080		ko on Touch			
Multi-touch Aspect ratio	16:9	nulti-touch, supports Wa	ke on Touch			
Pixel pitch (mm) Dot/Pixel per Inch	0.2745mm 92.6 dpi					
Brightness	250 nits or cd/m <sup>2</sup> (t	ypical)				
Contrast ratio Pixel response time	1000:1 (typical)	er drive to 4ms, 6ms				
Color gamut	72%					
Anti-reflective Viewing angle at 10:1 C	Anti-glare R178° (+/- 89°) horiz	ontal, 178° (+/- 89°) ver	tical			
Preset resolutions	640x350 @ 70Hz	0711- 7011- 7511-				
	640x480 @ 60Hz, 720x400 @ 70Hz	6/HZ, /2HZ, /5HZ				
	800x600 @ 60Hz,					
	1024x768 @ 60Hz 1152x864 @75Hz	, 7002, 7502				
	1280x800 @ 60Hz					
	1280x1024 @ 60Hz, 72Hz, 75Hz 1366x768 @ 60Hz					
	1440x900 @ 60Hz, 75Hz 1600x1200 @ 60Hz, 70Hz, 75Hz					
	1680x1050 @ 60Hz					
Presets / user settings	1920x1080 @ 60Hz Presets: 25; user settings: 25					
On screen display		with digital user controls				
Control features			button (TIO / monitor mode), Menu button, Power button			
Tiny-in-One Power On		up button, Volume down				
	Pressing Alt + P on keyboard or pressing Power button positioned on TIO can turn on both TIO and Tiny (only some Tiny support, see compatible list) One USB 3.1 Gen1 / USB 2.0 (when M73 or M53 installed or USB 2.0					
Side ports (TIO)			or M53 installed or USB 2.0			
	connected via USB upstream port)  Notes: The USB port is only available when a Tiny is istalled or a PC is					
Side ports (Tiny)		via USB upstream port by installed Tiny (options	al)			
Rear ports 7	One DisplayPort in port, one USB upstream port, one power connector					
3-III-1 Cable	Undetachable 3-in-1 cable (Power connecter, USB [supports USB 3.1 Gen1 / USB 2.0], DisplayPort), only for connecting to Tiny installed (optional)					
Camera Internal Speaker	1080p camera with dual microphone for VOIP, LED indicator 2 watt x2					
Security	Security keyhole for	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			

0	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°
<b>y</b>	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,
	Windows certifications	EPEAT™ Silver rating, ULE Gold, TUV, VOC 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	P330 / P320 / M920(x) / M720 / M910(x) / M710 / M900(x) / M700 / M630e / M625	. ,	Chromebox				
	/ M600 / M75q / M715 / M83 / M53 Tiny M90n Nano (with TIO kit)						
Turn on TIO and Tiny together via Alt + P on USB KB	All models	All models	Not support				
Turn on TIO and Tiny together via TIO Power Button	All models	TIO models	All models				













# 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	TIO	with stand	
Compatible Tiny:	ThinkCentre Tiny, ThinkCentre Nano, and ThinkStaion Tiny		Dimensions (W x D x H	614.0 x 73.89 x 413.1	614.0 x 329.0	) 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		mm / inch)	/ 24.17 x 2.91 x 16.26	/ 24.17 x 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	7.95 k	g / 17.53 lb	
Bezel Width Top / Side: 2mm, Bottom: 23.3mm Mol Native resolution 2560x1440		Mounting features Adjustable stand	meeting the VESA Tilt: 35° back, -	lift: 4.3" (110mm); swivel: +/-45°;			
Brightness Contrast ratio	350 nits or cd/m² (typical) 1000:1 (typical)	Power supply	170 watts adapter	, 88% PSU, universal			
Pixel response time Color gamut	14ms (default), over drive to 4ms, 6ms 99% sRGB	Power consumption Limited warranty		7 watts maximum, <0.5 Exchange Service (US			
Anti-glare	Yes (25%)	Limited warranty	Service (EMEA)	exchange Service (US	and EIVIEA) or	Customer Carry-in	
Viewing angle at 10:1 C	R178° (+/- 89°) horizontal, 178° (+/- 89°) vertical  640x350 @ 70Hz 640x480 @ 60Hz, 66Hz, 72Hz, 75Hz 720x400 @ 70Hz 800x600 @ 60Hz, 72Hz, 75Hz 1024x768 @ 60Hz, 70Hz, 75Hz 1152x864 @75Hz 1280x768 @ 60Hz 1280x800 @ 60Hz 1280x800 @ 60Hz 1280x800 @ 60Hz 1440x900 @ 60Hz, 72Hz, 75Hz 1366x768 @ 60Hz 1440x900 @ 60Hz, 75Hz 1680x1050 @ 60Hz 1920x1080 @ 60Hz	VESA-compliant Ergonomics Emission standards Environmental Windows certification Ship group Accessories  Model	ISO 9241-307, TU FCC Class B TCO 8.0, TCO Edi EPEAT™ Silver rat Windows 7 and W TIO 27 (Monitor), and driver CD For compatible acc  ThinkCentre Tiny P330 / P320 / M920(x)	` '	ENERGY STAFOC  er adapter, power http://smartfindex.  Matrix M93/p Tiny,	er cord, reference	
Presets / user settings On screen display	2560x1440 @ 60Hz Presets: 27; user settings: 25  On screen display with digital user controls (8 languages)		M710 / M900(x) / M70 M600 / M75q / M715 M90n Nano (w	7 / M83 / M53 Tiny	M73 Tiny		
Control features	Ftont: Exit button, Left / Mode-switching button (TIO / monitor mode), Right / Brightness button, Enter / Menu button, Power button Bottom: Volume up button, Volume down button	Turn on TIO and Tiny together via Alt + P on USB KB	All mod	dels	All models	Not support	
Tiny-in-One Power On Side ports (TIO)	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) 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	Turn on TIO and Tiny together via TIO Power Button	All mod	dels	TIO models	All models	
Side ports (Tiny) Rear ports 3-in-1 Cable Camera Internal Speaker Security	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 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 port, one power connector Undetachable 3-in-1 cable, connecting to the power connecter, one USB, and one DisplayPort of the installed Tiny (optional) RGBIR camera with dual microphone, supports Window Hello and Facial Recognition, Think Shutter for Privacy Security, LED indicator 2 watt x2  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)						

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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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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 PCIe 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









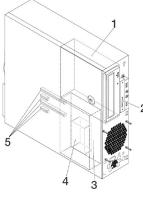




<b>ThinkStation</b>	P320	SFF	<b>Platform</b>	<b>Specifications</b>
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Components	Specification	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0.00						
Chipset	Intel C236 Chipset									
Intel AMT	Intel Active Manag	ement	Technolo	gy 11 on her mode	Xeon models, ls					
	One Intel "Kabylake" or "Skylake" processor as listed:  "Kaby Lake"									
Processor	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 %3.3GHz/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	C/3.5GHz/8 C/3.4GHz/8 C/3.3GHz/8 C/3GHz/8M C/3.4GHz/8 C/3.2GHz/6 C/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 connecto (2 DP, 1 VGA) on rear.									
		3.0 x16			adapters. Up to two NVIDIA Quinic adapters:	Jadro				
	Adapter	Cores	Memory	Power	Connector					
Diameter annuality	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 Quadro P600	256 384	2GB 2GB	30W 40W	3xminiDP 4xminiDP					
	Quadro P1000	640	4GB	47W	4xminiDP					
Onboard drive controller		6.0Gl	b/s conne	ctors for o	optical and disk drives plus one	)				
Drive Bays	One external 5.25'	bay, c	ne intern	al 3.5" ba lisk drive	y (see right). bays + 1 x 2.5" disk drive bay -	+ two				
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 Opal/1TB Opal/2TB opal   M.2 NVMe SSD, via PCle   256GB Opal/512GB Opal/1TB Opal, via PCle 3.0 x4 adapter, up adapter   to 2; or 16GB Intel Optane Memory, PCle 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 vari	able s	peed fan,	autosens	ing,					
Onboard Ethernet					supports Wake-on-LAN					
HD Audio	Realtek ALC662 c		aniet, inte	I IZ I ƏLIVİ,	Supports ware-on-LAIN					
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 PCle Slots**

	•
	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









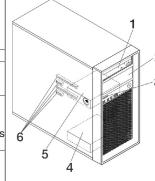


ThinkStation P320 Tower Platform Specifications										
Components	Specification									
Chipset	Intel C236 Chipset									
Intel AMT	Intel Active Manage Intel Standard Man									
	One Intel "Kaby Lake" or "Skylake" processor as listed:  "Kaby Lake"									
Processor	Xeon E3-1280 v6 Xeon E3-1275 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/D MB/73W/D MB/73W/D MB/73W/D MB/72W/D MB/72W/D MB/3W/D MB/91W/D MB/65W/D MB/65W/D MB/65W/D MB/65W/D MB/51W/D MB/51W/D	DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 DR4-2400 R4-2400 R4-2400 R4-2400					
	"Skylake"									
	Xeon E3-1245 v5         4C/3.5GHz/8MB/80W/DDR4-2133           Xeon E3-1240 v5         4C/3.5GHz/8MB/80W/DDR4-2133           Xeon E3-1230 v5         4C/3.4GHz/8MB/80W/DDR4-2133           Xeon E3-1225 v5         4C/3.3GHz/8MB/80W/DDR4-2133           Xeon E3-1220 v5         4C/3.GHz/8MB/80W/DDR4-2133           Xeon E3-1220 v5         4C/3GHz/8MB/80W/DDR4-2133           Core i7-6700         4C/3.4GHz/8MB/65W/DDR4-2133           Core i5-6500         4C/3.2GHz/6MB/65W/DDR4-2133           Core i5-6400         4C/2.7GHz/6MB/65W/DDR4-2133           Core i5-6100         2C/3.7GHz/3MB/51W/DDR4-2133									
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	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 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	16TB (4 x 4TB 3.5" HDDs) plus 2TB (2 x 1TB) M.2 NVMe SSD									

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 Gen 2 (30D1 and 30D2) Platform Specifications

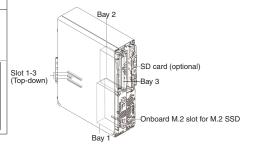
Components	Specification				-						
Form factor	8.4L mini-tower										
Dimensions	Height: 343.5 mm (	12 5 in\ \//id	th. 02	5 mm	/2 6 in	Donth:	205 6 mm	(12 in)			
					1 (3.0 111	, Бериі.	303.0 111111	(12111)			
Weight	Maximum configura										
	Supports one of the following processor:    Xeon E-2278G										
	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 PCIe 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 x1, low profile, links to PCH										
	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD										
	Integrated Intel UHI	D Graphics F	'630 II	n -G s	suffix Xe	on proce	essors, or I	ntel UHD			
Processor graphics	Graphics 630 in Core i5 or i3 processors.  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 x16 slots for discrete graphics adapter (Slot 1 and 3). Supports										
	the following graphi	cs adapters:	uiscit	cic gi	aprilos c	ισαρισι (	Olot I alla	o). Oupports			
Discrete graphics	3 3 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:							

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















## ThinkStation P330 Tiny Platform Specifications - I of II

Components	Specification							Components	Specification
Form factor	1L. Optional VE Optional floor st Optional tool-les Optional dust fil	and fo	r vertical	orientation		75mm and 1	00mm.	Expansion slots	One PCIe slot via specific riser card: PCIe 3.0 x16 (negotiable link width x8) and low profile for discrete graphics card; PCIe 3.0 x4 and low profile for i350-T4 adapter and quad COM ports adapter
Dimensions	Height: 179 mm	(7.0 ir	n). Width	: 36.5 mm (	1.437 in). D	epth: 182.9 r	nm (7.2 in)		65W or 62W processor models supports processor graphics only.
Weight	Maximum config	guratio	n: 3.08 lk	(1.4kg)				Graphics	35W processor models come with processor graphics plus a discrete graphics
Recommended monitors	Lenovo recommends ThinkVision P series monitors for best display performance and productivity						y performance	Graphics - Processor	
	Supports one of the following:		graphics	Support multi-display  One of the following discrete graphics cards on 35W processor models:					
	Processor Number	Cores	Threads	Base Frequency	Cache TDP	Memory Types	Processor Graphics	Graphics - Discrete	Adapter Cores Memory Pow- Connectors
	Core i9-9900T	8	16	2.1GHz	16MB 35W	DDR4-2666	Intel UHD Graphics 630	graphics card	Quadro P620 512 2GB GDDR5 40W 4x miniDP
	Core i7-9700T	8	8	2.0GHz	12MB 35W	DDR4-2666	Graphics 630	Storage controllers	Quadro P1000   640   4GB GDDR5   47W   4x miniDP   Integrated Intel SATA AHCI controller in chipset, 6Gbps SATA, one onboard
	Core i5-9600T	6	6	2.3GHz	9MB 35W	DDR4-2666	Graphics 630	Storage controllers Internal storage bay	SATĂ port for 2.5" HDD  Up to one 2.5" HDD on models without discrete graphics card
	Core i5-9600	6	6	3.1GHz	9MB 65W	DDR4-2666	Intel UHD Graphics 630	Disks	2.5" HDD supports up to 1TB, 6Gbps SATA, 7.2K or 5.4K
	Core i5-9500T	6	6	2.2GHz	9MB 35W	DDR4-2666		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
	Core i5-9500	6	6	3.0GHz	9MB 65W	DDR4-2666	Graphics 650	M.2 SSD	M.2 2280 SSD supports up to 1TB each, PCle 3.0 x4, NVMe, optional Opal. M.2 2242 SSD supports up to 128GB, PCle 3.0 x2, NVMe
	Core i5-9400T	6	6	1.8GHz	9MB 35W	DDR4-2666	Graphics 630	Optane memory	Up to one 16GB Optane memory per system. Optane memory must work with a 2.5" HDD
	Core i5-9400	6	6	2.9GHz	9MB 65W	DDR4-2666	Intel UHD Graphics 630		One dedicated M.2 2230 slot for optional Wi-Fi card, supports one of the
	Core i3-9320	4	4	3.7GHz	8MB 62W	DDR4-2400	Intel UHD Graphics 630	M.2 slot for Wi-Fi and Bluetooth	following: Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac,
	Core i3-9300T	4	4	3.2GHz	8MB 35W	DDR4-2400	Graphics 630		Bluetooth 5, up to 1.73Gbps. Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to
	Core i3-9300	4	4	3.7GHz	8MB 62W	DDR4-2400	Intel UHD Graphics 630		867Mbps. Note: Wi-Fi card, or specific functions of Wi-Fi- card may not be supported in some countries
Processor	Core i3-9100T	4	4	3.1GHz	6MB 35W	DDR4-2400	Intal LIHD	Wi-Fi antenna	Optional Tiny 2.4GHz/5GHz SMA antenna kit Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW.
	Core i3-9100	4	4	3.6GHz	6MB 65W	DDR4-2400	Intel UHD Graphics 630	Optical Madia reader	VESA mount is required
	Core i7-8700T	6	12	2.4GHz	12MB 35W	DDR4-2666	Intel UHD Graphics 630	Media reader	None. Using USB adapter One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports
	Core i7-8700	6	12	3.2GHz	12MB 65W	DDR4-2666	Intal LIHD	Network interfaces	Wake-on-LAN. Optional Intel i350-T4 for 4x GbE ports, using PCIe slot
	Core i5-8600T	6	6	2.3GHz	9MB 35W	DDR4-2666	Intal LIHD	Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Optional Kensington lock
	Core i5-8600	6	6	3.1GHz	9MB 65W	DDR4-2666	Graphics 630	Intel vPro Technology	Supports vPro on models with the following processors: Core i7-8700T, Core i7-8700, Core i5-8600T, Core i5-8600, Core i5-8500T, Core i5-8500. vPro also requires Wireless-AC 9560 if Wi-Fi is needed
	Core i5-8500T	6	6	2.1GHz	9MB 35W	DDR4-2666	Graphics 630	Systems management	Intel Active Management Technology 12 on vPro models, Intel Standard Manageability on other models
	Core i5-8500	6	6	3.0GHz	9MB 65W	DDR4-2666	Intel UHD Graphics 630		US models comes with 3-year limited onsite service with 9x5/NBD.
	Core i5-8400T	6	6	1.7GHz	9MB 35W	DDR4-2666	Intal LIHD	Base warranty	1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs
	Core i5-8400	6	6	2.8GHz	9MB 65W	DDR4-2666	Intel UHD Graphics 630	HD Audio	Intel HD Audio interface with Realtek ALC233 Codec  1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic-in. 1x
	Core i3-8300T	4	4	3.2GHz	8MB 35W	DDR4-2400		Front standard ports	Combo jack  2x USB 3.1 Gen 2 Type A. 2x USB 3.1 Gen 1 Type-A. 1x RJ-45. 1x DP.
	Core i3-8300	4	4	3.7GHz	8MB 62W	DDR4-2400	Intel UHD Graphics 630	Rear standard ports	1x HDMI Up to two optional rear ports via punch out cable.
	Core i3-8100T	4	4	3.1GHz	6MB 35W	DDR4-2400	Graphics 630		Port 1 supports one of the following: 1x USB 3.1 Gen 1 Type-C, also supports DP function.
	Core i3-8100	4	4	3.6GHz	6MB 65W	DDR4-2400	Intel UHD Graphics 630	Optional rear ports - via punch out cable	1x COM. 1x VGA.
Chipset	Intel Q370 Chip				=				1x DP.
Memory	2 DIMM sockets		4-2666.	SoDIMM. N	on-ECC				1x HDMI. Port 2 supports one COM
Memory Capacity	64GB (2x 32GE	3)						]	FULL SUPPOILS VITE OUTVI

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

Components	Specification
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 Gen 2 (30CY and 30D0) Platform Specifications - I of II

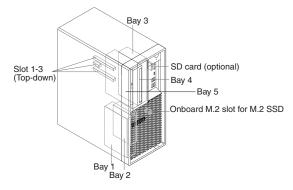
Note: 2x Quadro P2000, Quadro P4000, Quadro P5000, or Quadro RTX 4000 needs 400W PSU

Components	Specification			Components	Specification	
Form factor	18L Tower				Storage Controller Type Interface Disk Type RAID	
Dimensions	Height: 376 mm (14	4.8 in). Width: 165 mm (6.5 in). Depth: 328	mm (12.9 in)	Storage Controller		
Weight		ation: 28.22 lb (12.8kg)	(,	1	Onboard Intel RST PCIe RAID   Std   PCIe NVMe   M.2 PCIe SSD   0/1	
**Olgin		e following processors:			Disk Type Interface RPM Offering Max Qty	
			400M/ DOLL		3.5" SATA HDD SATA 6Gb/s 7.2K 1TB/2TB/4TB 3	
	Xeon E-2286G Xeon E-2278G	6C/12T/4.0GHz/12MB/95W/DDR4-2666 8C/16T/3.4GHz/16MB/80W/DDR4-2666			2.5" SATA HDD   SATA 6Gb/s   7.2K   500GB FIPS   4	
	Xeon E-2276G	6C/12T/3.8GHz/12MB/80W/DDR4-2666	+00W PSO needed	Storage Support	2.5" SATA SSD SATA 6Gb/s 256GB/512GB/1TB 4	
	Xeon E-2274G	4C/8T/4.0GHz/8MB/83W/DDR4-2666			Optane Memory PCIe NVMe 32GB 1,	
	Xeon E-2246G	6C/12T/3.6GHz/12MB/80W/DDR4-2666			M.2 PCIe SSD PCIe NVMe 256GB/512GB/1TB 3	
	Xeon E-2244G	4C/8T/3.8GHz/8MB/71W/DDR4-2666				
	Xeon E-2236	6C/12T/3.4GHz/12MB/80W/DDR4-2666			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" HDD/SSD	
	Xeon E-2234	4C/8T/3.6GHz/8MB/71W/DDR4-2666				
	Xeon E-2226G	6C/6T/3.4GHz/12MB/80W/DDR4-2666			Bay 1 Primary disk bay, 3.5" or 2.5"	
	Xeon E-2224G	4C/4T/3.5GHz/8MB/71W/DDR4-2666			Bay 2 2.5" SATA bay, cannot be available when 2nd Quadro P2000 is used	
	Xeon E-2224 Xeon E-2186G	4C/4T/3.4GHz/8MB/71W/DDR4-2666 6C/12T/3.8GHz/12MB/95W/DDR4-2666	100W PSII poodod		Bay 3 Secondary disk bay, 3.5" or 2.5"	
D	Xeon E-2174G	4C/8T/3.8GHz/8MB/71W/DDR4-2666	+00VV I SO Needed	Storage Bays	Bay 4 5.25" Flex bay, supports one of the following:	
Processor	Core i9-9900K	8C/16T/3.6GHz/16MB/95W/DDR4-2666	100W PSU needed	Otorage Days	<ul> <li>Flex module for optional front eSATA/Thunderbolt/IEEE1394</li> </ul>	
	Core i9-9900	8C/16T/3.1GHz/16MB/65W/DDR4-2666			<ul> <li>3rd disk bay, 3.5" or 2.5", removable, via Front Access Storage</li> </ul>	
	Core i7-9700K	8C/8T/3.6GHz/12MB/95W/DDR4-2666	100W PSU needed		Enclosure, using SATA 4 connector as eSATA mode	
	Core i7-9700	8C/8T/3.0GHz/12MB/65W/DDR4-2666			<ul> <li>3rd disk bay, 3.5" or 2.5", via 5.25" to 3.5" HDD Kit</li> </ul>	
	Core i7-8700	6C/12T/3.2GHz/12MB/65W/DDR4-2666			Bay 5 9mm Slim ODD bay	
	Core i5-9600K		100W PSU needed		M.2 3x M.2 SSD (1 onboard. 2 via PCIe to M.2 adapter)	
	Core i5-9600	6C/6T/3.1GHz/9MB/65W/DDR4-2666		Media reader	Optional SD card reader on most models	
	Core i5-9500 Core i5-9400	6C/6T/3.0GHz/9MB/65W/DDR4-2666 6C/6T/2.9GHz/9MB/65W/DDR4-2666		Network	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports	
	Core i5-8500	6C/6T/3.0GHz/9MB/65W/DDR4-2666		interfaces	Wake-on-LAN. Optional PCIe ethernet adapters are available	
	Core i3-9300	4C/4T/3.7GHz/8MB/62W/DDR4-2400		WLAN + Bluetooth	One dedicated onboard M.2 slot for optional Intel Wireless-AC 9560, 2x2,	
	Core i3-9100	4C/4T/3.6GHz/6MB/65W/DDR4-2400		WLAIN + Bluetootii	2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps	
	Core i3-8300	4C/4T/3.7GHz/8MB/62W/DDR4-2400			Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant.	
	Core i3-8100	4C/4T/3.6GHz/6MB/65W/DDR4-2400		Security features	Optional chassis intrusion switch, e-loack, cable lock, Kensington lock, and	
Chipset	Intel C246 Chipset				pad lock Supports Intel vPro on Xeon models.	
Memory Sockets	4 DIMM sockets with	n 2 channels		Intel vPro	vPro also requires Wireless-AC 9560 if Wi-Fi is needed	
Memory Types	8GB/16GB DDR4-26			Intol AMT	Intel Active Management Technology 12 on Xeon models,	
, ,,		GB DDR4-2666 UDIMM non-ECC			Intel Standard Manageability on other models	
Memory Capacity		B for UDIMM ECC or 128GB with 4 x 32GB U	DIMM non-ECC	D	US models comes with 3-year limited onsite service with 9x5/NBD.	
Memory Protection		UDIMM ECC memeory		Base warranty	1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs	
	Three PCIe 3.0 slo	ts as following:		HD Audio	Intel HD Audio interface with Realtek ALC233 Codec	
Evenoncian clata	Slot 1 PCIe 3.0 x16	6, full height, half length, links to CPU		Crant narta	2x USB 3.1 Gen 1 Type A. 2x USB 3.1 Gen 2 Type A. 1x USB 3.1 Gen 1	
Expansion slots	Slot 2 PCle 3.0 x1,	full height, full length, links to PCH		Front ports	Type-C. 1x Mic-in. 1x Combo jack	
	Slot 3 PCIe 3.0 x16	6 (negotiable link width x4), full height, half	f length, links to PCH	D	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP.	
	Integrated Intel UH	D Graphics P630 in -G suffix Xeon proces	ssors, or Intel UHD	Rear ports	1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor	
Processor graphics	Graphics 630 in Co	ore i7, i5, i3, or Pentium processors.		Optional front	·	
Processor graphics	' Works along with d	liscrete graphics to support multi-display, e	enables three rear	ports (on flex	2x Thunderbolt (USB Type-C), one of two ports supports video-out.	
		(2 DP standard, 1 DP or HDMI optional)		module)	1x eSATA. 1x IEEE1394	
		x16 slots for discrete graphics card (Slot	1 and 3). Supports the		Supports the following via cable:	
	following graphics a	·		Optional rear	1x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0	
		Memory Power Connector I		ports	Supports the following via PCIe adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.0. 1x Thunderbolt.	
	Quadro P400	2GB GDDR5 30W 3x miniDP	2		Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor	
Discrete Graphics	Quadro P620	2GB GDDR5 40W 4x miniDP	2		Operating: 50 °F to 95 °F (10 °C to 35 °C)	
Offering	Quadro P1000 Quadro P2000	4GB GDDR5         50W         4x miniDP           5GB GDDR5         75W         4x DP	2 2	Temperature	Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)	
		5GB GDDR5X 75W 4x DP	2		Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)	
	Quadro P4000	8GB GDDR5	1			
		16GB GDDR5X 180W DVI-D DL + 4x DP	1			
		8GB GDDR6 160W 3x DP, 1x VirtualLink	1			
	Note: 2x Quadro P2000	Ouadro P4000, Ouadro P5000, or Ouadro PTV 4000 po	pade 400W PSLI	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/

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





#### 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		02 GD 11L							
		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-	Cc	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 SIOI	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 +			2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to	.0						
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	2.3GH 2.5GH		<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	eon W-2123 4 8 3.6GHz 8.25MB 120W DDR4-2666									
	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/6	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:  2 x half-height optical drives									
	• 2x h	nalf-heig	nt opticai	• 2x 5.25" 9.0mm optical drives							
	• 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	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 pad lock								
	Intel vPro	Intel vPro technology supported. vPro requires Wireless-AC 8265 if Wi-Fi is needed								
	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								
Supports the following optional ports: Front:  2x Thunderbolt ports (USB Type-C) on flex module, one of two ports										
	Optional ports	supports video-out  1x eSATA on flex module  1x USB Type-C on flex module, USB	USR 3.1 gen 1							
	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	'								

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













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 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					1
	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/500	0 FID	_		HDD)
	2.5" SATA HDD S						GB FIP	S		0
	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	ns:		•	
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	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 lana adda	75\\\\ alab	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	Connector		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		2GB		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)							
	2x LISP 2.0. 4x LISP 2.0. 2x D.L.45. 2x analog audio ports (line in line out mis							
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 flex 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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**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.

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

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U.S.

## Contents

Cover	1	ThinkVision T2224d Platform Specifications	34
Contents	2	ThinkVision T2254	35
Summary Of Change	4	ThinkVision T2254 Platform Specifications	36
13 Inch - 16 Inch	5	ThinkVision T2254p	37
ThinkVision M14	5	ThinkVision T2254p Platform Specifications	38
ThinkVision M14 Platform Specifications	6	ThinkVision T22i	39
17 Inch - 20 Inch	7	ThinkVision T22i Platform Specifications	39
ThinkVision E1922s	7	ThinkVision T22v	40
ThinkVision E1922s Platform Specifications	8	ThinkVision T22v Platform Specifications	41
ThinkVision E2054	9	ThinkVision T2324d	42
ThinkVision E2054 Platform Specifications	10	ThinkVision T2324d Platform Specifications	43
ThinkVision LT1913p Square	11	ThinkVision T23d	44
ThinkVision LT1913p Square Platform Specifications	12	ThinkVision T23d Platform Specifications	45
ThinkVision T1714	13	ThinkVision T23i	46
ThinkVision T1714 Platform Specifications	14	ThinkVision T23i Platform Specifications	47
ThinkVision T1714p	15	ThinkVision T2454p	48
ThinkVision T1714p Platform Specifications	16	ThinkVision T2454p Platform Specifications	49
ThinkVision T2054p	17	ThinkVision T24d	50
ThinkVision T2054p Platform Specifications	18	ThinkVision T24d Platform Specifications	51
21 Inch - 24 Inch	19	ThinkVision T24i-10	52
ThinkVision E21	19	ThinkVision T24i-10 Platform Specifications	53
ThinkVision E21 Platform Specifications	20	ThinkVision T24i-19	54
ThinkVision E24	21	ThinkVision T24i-19 Platform Specifications	55
ThinkVision E24 Platform Specifications	22	ThinkVision T24m	56
ThinkVision P24h	23	ThinkVision T24m Platform Specifications	57
ThinkVision P24h Platform Specifications	24	ThinkVision T24v	58
ThinkVision P24q	25	ThinkVision T24v Platform Specifications	59
ThinkVision P24q Platform Specifications	26	ThinkVision X24 Pro	60
ThinkVision S22e	27	ThinkVision X24 Pro Platform Specifications	61
ThinkVision S22e Platform Specifications	28	ThinkVision X24-20	62
ThinkVision S24e	29	ThinkVision X24-20 Platform Specifications	63
ThinkVision S24e Platform Specifications	30	Above 25 Inch	64
ThinkVision S24q-10	31	ThinkVision P27h	64
ThinkVision S24q-10 Platform Specifications	32	ThinkVision P27h Platform Specifications	65
ThinkVision T2224d	33	ThinkVision P27q	66

## Contents

ThinkVision P27q Platform Specifications	67
ThinkVision P27u	68
ThinkVision P27u Platform Specifications	69
ThinkVision P32u	70
ThinkVision P32u Platform Specifications	71
ThinkVision P44w-10	72
ThinkVision P44w-10 Platform Specifications	
ThinkVision S27i	74
ThinkVision S27i Platform Specifications	75
ThinkVision S27q-10	76
ThinkVision S27q-10 Platform Specifications	77
ThinkVision T25d-10	78
ThinkVision T25d-10 Platform Specifications	79
ThinkVision T25m-10	<b>80</b>
ThinkVision T25m-10 Platform Specifications	81
ThinkVision T27i	82
	<b>82</b>
ThinkVision T27i Platform Specifications	
ThinkVision T27p-10	84
ThinkVision T27p-10 Platform Specifications	85
ThinkVision X1	86
ThinkVision X1 Platform Specifications	87
ThinkVision X1 (2nd Gen)	88
ThinkVision X1 (2nd Gen) Platform Specifications	89
Legal Information	91

## **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.

#### August, 2019 - Version 537

#### Additions in this update

► New product(s)

None

► New model(s)

ThinkVision S22e

ThinkVision S24e

ThinkVision S27i

**▶** 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°

**Height Adjustable Foot** 



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 - Non-operating** 

-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

**EPEAT** 

Bronze

**PVC** free

Mercury free

PCC % of plastic resins

**Geography Availability** 

**ENERGY STAR® Rating** 

RoHS (EU 2002/95/EC)

Yes (Arsenic free / Pb free /

**Arsenic-free Glass** 

**Humidity - Operating** 

**Altitude - Operating** 

**Humidity - Non-operating** 

**Altitude - Non-operating** 

## **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

Dot/Pixel Per Inch (DPI/PPI) 157

178° / 178° **Response Time (typical)** 

Refresh Rate 60 Hz

300 cd/m<sup>2</sup>

**Dynamic Contrast Ratio (typical)** 

3M:1

16.7 Million

**Color Depth** 

## **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)

Power Consumption Sleep/Off

(E<sub>TEC</sub>) 15.53 kWh

Mode < 0.3 W

Resolution 1920 x 1080

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

Viewing angle (H x V @ CR 10:1)

6ms with OD

**Brightness (typical)** 

**Contrast Ratio (typical)** 

Colour Gamut NTSC (CIE 1931)

72% **Color Support (typical)** 

8bit (6bit + FRC)

4.88 W **ENERGY STAR® Power Consumption** 

**Monitor Stand** Tilt -5°~90°

**Eye-care Technology** 

**Power Consumption Switch-Off Mode** < 0.3 W

External (no adapter bundle) Voltage Required

-5° / 90° **Mounting Support** Yes (100 mm)

Kensington™ Lock Slot

Yes **Bezel Color** 

Raven Black

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 /

Size Unpacked w/stand

(Lowest position) 3.8 x 8.23 x 12.73 inches

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

3.8 x 8.66 x 12.73 inches 260.87 x 69.55 mm /

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

# Weight Unpacked (kg / lbs.)

0.57 kg / 1.26 lbs.

1 x Monitor with stand 1 x ThinkVision M14 sleeve 1 x USB Type-C cable (1 m)

1x Pair of clips

1x QSG

**Temperature - Operating** 0° to 40°C **USB Type-C/Power Delivery** Up to 65 W

**Power Supply** 

DC 5 V to 20 V

Tilt Angle (front/back)

**Cable Management** 

Bezel Width (Side) 5.48mm

10.87 x 2.40 x 15.83 inches

 $(D \times H \times W) (mm / inch)$ 96.54 x 209.03 x 323.37 mm /

96.54 x 220.03 x 323.37 mm /

Stand base footprint area (mm<sup>2</sup>) 10.27 x 2.74 inches

**Image Quality Capability** ISO 9241-307



Mercury free)

**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) and the compatible of the strength of patients and schools look (Kensington® look-compatible) 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













**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) and the compatible of the strength of patients and schools look (Kensington® look-compatible) 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) Wall 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 Max view area (W x H)

**23.8**" (**604.7mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** Native resolution

Aspect ratio 16:9

Pixel pitch (mm) 0.2745 x 0.2745 mm 92.5 dpi

Dot/Pixel per Inch

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

Dimensions (HxWxD)

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

Power supply

18 watts typical, 23 watts maximum,

<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-compliant Power management Ergonomics

VESA DDC2B/CI ENERGY STAR® qualified

ISO 9241-307 FCC Class B

Emission standards 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: 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

USB hub Multiple input

On screen display with digital user controls (8 languages) Control features Direct access (buttons on front) for power, menu, input source select and brightness

None 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













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-inch

Screen Dimensions (H x V)

527.04 x 296.46 mm

Panel Type

3-side NearEdgelss, VA

Backlight

WLED

**Aspect Ratio** 

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V)

0.2745 x 0.2745 mm

Dot/Pixel Per Inch (DPI/PPI)

92

Viewing Angle (H x V @ CR 10:1)

178°/178°

Response Time (gray to gray)

4 ms (Extreme Mode)

6 ms (Normal Mode)

Refresh Rate

60 Hz

Brightness (typical)

250 cd/m<sup>2</sup>

Contrast Ratio (typical)

3000:1

Dynamic Contrast Ratio (typical)

01 1.1

Color Gamut NTSC (CIE 1931)

72% NTSC

Color Support

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x VGA 1 x HDMI 1.4

Video Cable Length

1.8 m

**Audio Signal** 

1 x Audio Out (3.5 mm)

**MULTI-MEDIA** 

**Optional Speakers Support** 

Yes

SPECIAL FEATURES

Sync Technology

FreeSync™

Thin Client Support (Tiny)

Yes (by VESA mount PN:4XF0N03161)

**POWER** 

Power Consumption (Typ./Max)

24W / 31W

Power Consumption Sleep/Off Mode

< 0.3W

**Power Consumption Switch-Off Mode** 

< 0.3W

**Power Supply** 

Internal

Voltage Required

AC 100 to 240 V (47/63 Hz)

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

**DIMENSION** 

Size Packed (D x H x W)

(mm/inch)

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

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 inches

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 inches

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 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 99.0 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 399.9 mm

Weight Unpacked (kg/lbs.)

Weight Packed (kg/lbs.)

3.36kg / 7.41 lbs.

4.84ka / 10.67 lbs.

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

3.07kg / 6.77 lbs.

Full Container Load (40' STD / 20' STD)

1660 / 800 Units

WHAT'S IN THE BOX

Monitor with stand

1 x HDMI Cable

1 x Power Cable (1.8m)

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR Rating** 

7.1

CCC

Yes

**EPEAT™** Silver

**ULE** Gold

RoHS (EU 2002/95/EC)

Yes( 2011/65/EU)

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

Low Blue Light

Yes











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# ThinkVision S24q-10

**DISPLAY** 

Panel Size

23.8-inch

Screen Dimensions

526.85 mm x 296.35 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

2560 x 1440

Pixel Pitch

0.2058 x 0.2058 mm

Dot/Pixel Per Inch (DPI/PPI)

124

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode)

Refresh Rate

60 Hz

**Brightness (typical)** 

240 cd/m<sup>2</sup>

Brightness (peak)

300 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

**Color Gamut** 

> 99% sRGB

Color Support (typical)

16.7 Million

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

**Audio Signal** 

1 x Audio Out (3.5 mm)

SPECIAL FEATURES

**Tiny Support** 

Yes

**POWER** 

Power Consumption (typical/max)

20W / 31W

Power Consumption Sleep/Off Mode

< 0.5W

**Power Consumption Switch-off Mode** 

< 0.3W

Power Supply

Internal

Energystar Power Consumption (Pon/ETEC)

16.76 W / 52.75 kWh

Voltage Required

AC 100 to 240 V (47/63 Hz)

MECHANICAL

Tilt Angle (front/back)

-5° / 22°

**VESA Mount Capability** 

Yes (100 x 100 mm)

Kensington™ Lock Slot

Yes

Cable Management

Yes

**Bezel Color** 

Raven Black

Bezel Width (side)

2 mm

Bezel Width (top/bottom)

2 / 21.4 mm

**DIMENSION** 

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

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

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

200 x 402.7 x 539.8 mm / 7.87 x 15.85 x 21.25 inches

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

200 x 402.7 x 539.8 mm / 7.87 x 15.85 x 21.25 inches

Size Unpacked w/o Stand (D x H x W, mm/inch) (head only)

42 x 325.7 x 539.8 mm / 1.65 x 12.82 x 21.25 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 98.4 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 399.9 mm

Weight Packed (kg/lb) 5.10 kg / 11.24 lbs.

Weight Unpacked (kg/lb)

3.50 kg / 7.72 lbs.

Weight (monitor head only) (kg/lb) 3.21 kg / 7.08 lbs.

Full Container Load (40' STD / 20' STD)

1660 / 800 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m) Quick setup guide

**CERTIFICATION** 

**ENERGY STAR® Rating** 

8.0

CCC Yes

**TCO** 

TCO Edge

2.0

EPEAT™

Silver

RoHS (EU 2002/95/EC)

Yes

Windows Certification

Windows 7. Windows 10

China Energy Efficiency Standard Tier 1

TÜV Eye Comfort

Yes















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 Gent; 10 Gbit/s for USB 3.2.

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T2224d Wide Flat Panel Monitor Name

Bezel color **Black** 

Type-model 60EBJAR1US / 60EBJAT1EU

Panel TFT-LCD, Vertical Alignment panel (VA),

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 3000:1 (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)

Weight Limited warranty 6.48 lb; 2.94 kg

3 year (includes backlight)

July 2016 Available date

VESA-compliant VESA DDC2B/CI

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: 640x350, 640x480, 720x400

SVGA: 800x600, 832x624 XGA: 1024x768, 1152x864 SXGA: 1280x1024 WXGA: 1280x768, 1280x800

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 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

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/de-

Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock 73P2582

Accessories

# **Features**

Widescreen 21.5-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 Silver certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



Think Vision T2224d Wide Monitor

tail.page?DocID=UM008281 45K1620 See details at www.lenovo.com/support/monitoraccessories See all monitors at www.lenovo.com/thinkvision













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 Ergonomics

VESA DDC2B/CI ENERGY STAR® qualified

ISO 9241-307 None

Emission standards 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

Rotating screen

On screen display Control features

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

On screen display with digital user controls (8 languages) 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

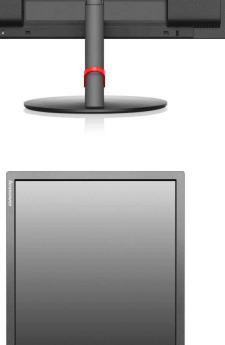
**Accessories** 

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 **Black** 

Bezel color

Type-model 61BBMAR6US / 61BBMAT6EU Panel TFT-LCD, In-Plane Switching (IPS), White LED backlight

Viewable image size Max view area (W x H)

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

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; Viewing angle at 10:1 CR Stand

Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty Available date

VESA-compliant

October 2017

Power management Ergonomics FCC Class B

Emission standards Environmental

Preset resolutions

Viewing adjustments

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 VGA:

10.16 lb; 4.61 kg

3 year (includes backlight)

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

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)

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

Full HD: 1920x1080

Presets display modes Presets: 24; user modes: 20

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 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)

USB hub

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













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

Viewing angle at 10:1 CR

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

Bezel width

Sides: 0.68" (17.3mm) 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 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 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

Viewing adjustments Tilt: 22° back, -5°

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) 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

**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

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













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 61ABMAR1US / 61ABMAT1EU 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

Control features USB hub

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

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

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, 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 Silver certifiéd

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)

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

(1) detachable, VGA 13-pin b-shell at each end, digital, 1.8 meter
(2) detachable, DisplayPort at each end, digital, 1.8 meter
(3) detachable, HDMI at each end, digital, 1.8 meter (NA)

Wall or desk mounting using the Extend Arm or third-party accessories, 100mm x 100mm mount

Mounting features Security keyhole for attachment of optional cable lock (Kensington® lock-compatible) 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 HDMI signal cable(NA), 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

73P2582 Kensington MicroSaver Cable Lock 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.lenovotail.page?DocID=UM008281	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)

Stand Base Footprint Area (mm)

(inches) Weight Packed Unpacked

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

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

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)

Raven Black

# POWER CONSUMPTION

16.5 W Typical Maximum 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

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™ Silver 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.





# WWW.LENOVO.COM













# 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 Pivel Pitch (mm)

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

Color Support (Typical) Response Time (GtG) Extreme / Normal OSD Controls

OSD Controls Buttons Languages 23.8" Wide In-Plane-Switching

WLED

FHD (1920 x 1080)

16:9 Yes Yes

> 527.04 x 296.46 20.75" x 11.67" 250 nits 178°/178° 1000:1 3M:1 2 x 2W 0.2745 x 0.2745 72% NTSC 8 bit 16.7 Million

4 ms / 6 ms

5

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

## 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) Weight 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)

oad 1140 / 540 Units

# CONNECTIVITY

 Video Input Signals
 VGA + HDMI™ + DisplayPort™

 Video Cables Supplied
 VGA, DisplayPort™, USB, Power, HDMI™ (for NA only)

 USB Hub
 USB 3.0¹ (4 x down, 1 x BC)

 Audio Out
 Yes (3.5 mm)

 Power
 Internal

 Soundbar Support\*
 Yes

### **MECHANICAL**

Tilt Angle (Front / Back) -5°/ 30° Swivel Angle (Left / Right) +/-45° 110 Lift Range (mm) +/-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 2 / 0.08" Top (mm / inches) Sides (mm / inches) 2 / 0.08"

# POWER CONSUMPTION

 Typical
 16.5 W

 Maximum
 59 W

 Sleep-Mode
 <0.5 W</td>

 Switch Off-Mode
 <0.3 W</td>

 Power Supply
 Internal

 Power Voltage
 90 VAC - 264 VAC

 $\begin{array}{lll} {\sf ENERGY\,STAR^*\,(P_{on})} & 13.67 \ {\sf W} \\ {\sf ENERGY\,STAR^*\,(E_{\sf TEC})} & 43.51 \ {\sf kWh} \end{array}$ 

# 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™ Silver **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





# WWW.LENOVO.COM

Optional.

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.













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 languages)		
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	
Multiple input Support HDMI, DisplayPort, USB 3.1 Type-C 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

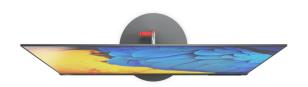












# Lenovo ThinkVision X24-20

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/monitoraccessorie 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 July 2017













# 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/mor	













# ThinkVision. P32u-10 Monitor

# **BRINGING VISION TO LIFE**

The ThinkVision P32u-10 monitor combines phenomenal visuals and effortless connectivity for powerful performance and precise viewing. From color-centric tasks such as graphic design and photo retouching to displaying detailed content for users like financial analysts, scientists, and researchers, this monitor delivers with utmost precision. What's more, with intuitive connectivity enabled by the Thunderbolt™ 3 port, it can daisy chain two 4K monitors for smooth multitasking and an unmatched viewing experience.



Color Accuracy





Thunderbolt™ 3 4K Resolution





Experience detailed and natural visuals as the 10-bit color depth offers over 1 billion colors with the 99.5% Adobe RGB color gamut. Also, the multiple color spaces on this monitor cater to the specific needs of various professionals. Colors are pre-calibrated from the factory, to an average of delta E<2. This feature helps industrial designers, graphic designers, and editors effectively work on color-critical tasks like video editing and color correction.

Addtionally, with ThinkColor software, you can easily select and edit colors for various scenarios. You can also choose between multiple color spaces or tune the color with real-time preview.













**ThinkColor** 

# CONNECTIVITY

# **REDEFINED**

Transferring data, watching videos, or charging devices on this monitor is as effortless as it could be. The intuitive Thunderbolt™ 3 port enables a one-cable connection to all the peripherals you need.

This port helps boost your productivity, and lets you explore more ways to work efficiently. Collaborate easily with lightning-fast data transfers, or daisy chain two independent 4K displays when you need to multitask.



Up to 40Gbps\*

Lightning Fast

Data Transfers







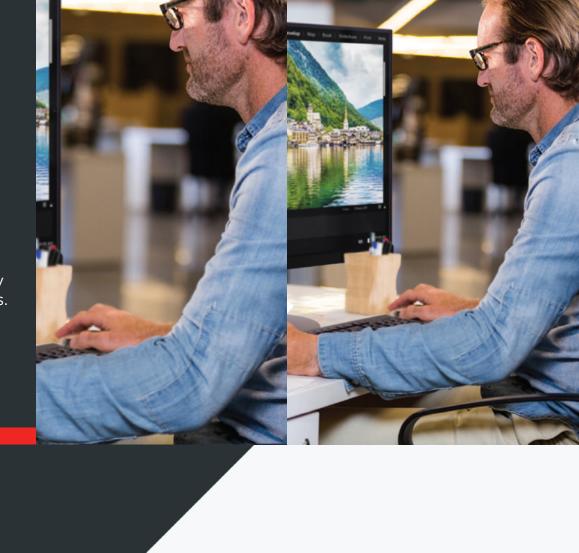
**Power Delivery** for Peripherals





# **INCREDIBLE CLARITY** FOR PRECISE VIEWING

This NearEdgeless 32-inch monitor is ideal for big data analysts and CAD designers who require bigger displays to view complex data or create highly detailed content. Also, for a great visual experience and consistent clarity from all angles, it features a 4K display that boasts a resolution of 3840 x 2160 pixels.



# TO WORK The ergonomic full-function stand allows you to position the monitor in any way that suits

**BRINGING COMFORT** 

pivot, and swivel. Also, the anti-glare display allows you to work seamlessly even under glaring office lights. This feature is apt for video editors and designers who often spend long hours on their monitors.

# DISPLAY

**SPECIFICATIONS** 

ThinkVision® P32u-10

# **Panel Size** 32 inches

Screen Dimensions (H x V) 708.48 x 398.52mm

**Panel Type** In-Plane Switching

**WLED** 

Resolution

0.1845 x 0.1845mm

Response Time (gray to gray)

6ms (normal mode)

**Contrast Ratio (typical)** 

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

99.5% Adobe RGB, 100% sRGB, 100% BT.709, 98.2% DCI-P3, 79.3% BT.2020

**Color Support** 

1.07 Billion

**Video Input Signals** 2 HDMI 2.0 + DP 1.2 + Thunderbolt™ 3

**Audio Out** Yes (3.5mm)

**USB Hub** Yes

1 by Thunderbolt<sup>™</sup> 3) 4 x USB 3.0 (Downstream,

incl. 1BC)

**Power Consumption** <57W (Typical) / <190W (Max)

at On mode

(Lowest Position) 350.0 x 497.85 x 726.7mm / 13.78 x 19.6 x 28.61 inches

(Highest Position) 350.0 x 607.85 x 726.7mm /

13.78 x 23.93 x 28.61 inches

(Head Only)

58.95 x 431.5 x 726.7mm / 2.32 x 16.99 x 28.61 inches

WEIGHT

**Factory Calibration** 

# **Anti-Glare** Yes

Yes

Software Yes (ThinkColor)

**KVM** switch

-5°/30°

-45°/+45°

**VESA Mount Capability** 

Yes (100 x 100mm)

110mm **Pivot** 

-90°/90°

Lift (Max range)

# your working style or posture with lift, tilt,

# **DIMENSIONS**

Backlight

**Aspect Ratio** 16:9

3840 x 2160 pixels

Pixel Pitch (H x V)

Viewing Angle (H x V) 178°/178°

4ms (extreme mode)

**Color Gamut** 

CONNECTIVITY

In + Thunderbolt™ 3 Out Video Cable Length 2m for Thunderbolt™ 1.8m for HDMI & DP

2 x USB 3.0 (Upstream,

<0.5W at Sleep mode < 0.3W at Switch off mode

# Size Packed (D x H x W) 844 x 228 x 528mm / 33.23 x 8.98 x 20.79 inches

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

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

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

# Weight Unpacked 10.97kg/24.18lbs.

Weight Packed

14.30kg/31.32lbs.

Weight (Monitor Head Only) 6.97kg/15.37lbs.

SPECIAL FEATURES

PIP/PBP Yes

MECHANICAL

Tilt Angle (front/back) **TÜV Eye Comfort** Yes

Swivel Angle (left/right)

Kensington™ Lock Slot

Yes **Bezel Color** 

**Cable Management** 

Bezel Width (side) 2mm

Raven Black

Bezel Width (top/bottom) 2.0/23.8mm

WHAT'S IN THE BOX Monitor with stand

# 1 x Power cable 1 x DP-DP cable 1 x HDMI cable 1 x USB 3.0 cable

1 x Thunderbolt™ 3 cable (20Gbps) 1 x CD (ThinkColor) Factory calibration report

Quick setup guide

**CERTIFICATIONS** 

**EPEAT™** Silver CCC

**ENERGY STAR® Rating** 

**RoHS** Yes

**TCO** 7.0

7.1

Yes

ULE

Gold

**Windows Certification** Windows 7, Windows 10

**China Energy Efficiency Standard** Tier 2





© 2019 Lenovo. All rights reserved. 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













# **Specifications**

# DISPLAY

Panel Size 43.4 inches

**Screen Dimensions (H x V)** 1052.3 x 328.8mm 41.4 x 12.9 inches

Panel Type VA NearEdgeless, anti-glare

Curvature 1800R

**Backlight** WLED

Aspect Ratio 32:10

Resolution 3840 x 1200

**HDR** 

VESA Certified DisplayHDR™ 400

**Pixel Pitch (H x V)** 0.2740 x 0.2740mm

**Viewing Angle (H x V)** 178°/178°

Response Time (gray to gray) 4/6ms (extreme/typical)

**Refresh Rate** Max. 144Hz

Contrast Ratio (typical) 3000:1

Dynamic Contrast Ratio (typical) 3M·1

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,

1 x USB Type-C Gen2)
USB Downstream
4 x USB 3.1 Gen1 (1 BC)

Power Internal

Power Consumption Typical/Max: 70W/250W Switch-off Mode: <0.5W Sleep/Off Mode: <0.5W

# **DIMENSIONS**

**Size Packed (D x H x W)** 1219 x 500 x 376mm 47.99 x 19.68 x 14.80 inches

Size Unpacked w/stand (D x H x W) (Lowest Position) 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) 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) (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 13.45kg/29.65lbs.

Weight (Monitor Head Only) 9.35kg/20.61lbs.

# SPECIAL FEATURES

**Anti-Glare** Yes

PIP/PBP Yes

**Software** Yes (ThinkColor)

**Speaker**Supports optional Harman
Kardon certified speaker

# **MECHANICAL**

Tilt Angle (front/back) -5°/22°

Swivel Angle (left/right) ±30°

Lift (Max. range) Yes (130mm)

**VESA Mount Capability** Yes (100 x 100mm)

**Kensington™ Lock Slot** Yes

**Cable Management** 

Yes

**Bezel Color** Raven Black

**Bezel Width (side)** 2.4mm

Bezel Width (top/bottom) 2.4/25.6mm

# WHAT'S IN THE BOX

Monitor with stand
1 x Power cable
1 x HDMI cable
1 x DP cable
1 x USB Type-C Gen2 cable
1 x USB Type-C to Type-A cable
Quick setup guide

# **CERTIFICATIONS**

ENERGY STAR® Rating

CCC Yes

RoHS Yes

Gold TCO

8.0

**ULE** 

Windows Certification Windows 7, Windows 10

China Energy Efficiency Standard Tier 2

Ambient Operating Temperature 0°C to 45°C

**TÜV Eye Comfort** Yes











\*with FreeSync support graphic cards













# ThinkVision® S27i-10

**DISPLAY** 

Panel Size

27 inch

Screen Dimensions (H x V) (mm)

597.89 (H) x 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)

Dynamic Contrast Ratio (typical)

3M:1

1000:1

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.)

4.22kg / 9.30 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tiny)

Ye

(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 / 21.68 mm

WHAT'S IN THE BOX

Monitor with stand

1x HDMI Cable

1x VGA Cable (AP. EMEA only)

1x Power Cable

Quick setup guide

**CERTIFICATIONS** 

**ENERGY STAR® Rating** 

7.0

**TCO** 70

EPEAT™

Silver

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



























# ThinkVision S27q-10

DISPLAY

Panel Size

27-inch

Screen Dimensions

596.74 mm x 335.66 mm

Panel Type

3-side NearEdgeless In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

2560 x 1440

Pixel Pitch

0.2331 x 0.2331 mm

Dot/Pixel Per Inch (DPI/PPI)

109

Viewing Angle (H x V @ CR 10:1)

178° / 178°

**Response Time** 

4ms (extreme mode)

Refresh Rate

60 Hz

Brightness (typical)

280 cd/m<sup>2</sup>

Brightness (peak)

350 cd/m<sup>2</sup>

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

**Color Gamut** 

> 99% sRGB

Color Support (typical)

1.07 Billion

Anti-glare

Yes

CONNECTIVITY

Video Signal

1 x HDMI 1.4 1 x DP 1.2

**Audio Signal** 

1x Audio Port (3.5 mm)

SPECIAL FEATURES

**Tiny Support** 

Yes

**POWER** 

Power Consumption (typical/max)

35W / 45W

Power Consumption Sleep/Off Mode

< 0.5W

Power Consumption Switch-off Mode

< 0.3W

**Power Supply** 

Internal

Energystar Power Consumption (Pon/ETEC)

19 W / 59.6 kWh

Voltage Required

AC 100 to 240 VAC (50/60 Hz)

MECHANICAL

Tilt Angle (front/back)

-5° / 22°

**VESA Mount Capability** 

Yes (100 x 100 mm)

Kensington™ Lock Slot

Yes

Cable Management

Yes

Bezel Color

Raven Black

Bezel Width (side)

2 mm

Bezel Width (top/bottom)

2 / 22 mm

**DIMENSION** 

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

132 x 455 x 715 mm / 5.20 x 17.91 x 28.15 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (lowest position)

220 x 444.6 x 613.6 mm / 8.66 x 17.50 x 24.15 inches

Size Unpacked w/ Stand (D x H x W, mm/inch) (highest position)

220 x 444.6 x 613.6 mm / 8.66 x 17.50 x 24.15 inches

Size Unpacked w/o Stand (D x H x W, mm/inch) (head only)

42 x 367.6 x 613.6 mm / 1.65 x 14.47 x 24.15 inches

Min. Distance from Table to Panel (lowest pixel at bottom of screen, mm) 99 mm

Max. Distance from Table to Panel (highest pixel at top of screen, mm) 4422 mm

Weight Packed (kg/lb) 6.36 kg / 14.02 lbs. Weight Unpacked (kg/lb)

4.65 kg / 10.25 lbs.

Weight (monitor head only) (kg/lb)

4.10 kg / 9.04 lbs.

Full Container Load (40' STD / 20' STD)

1088 / 544 units

WHAT'S IN THE BOX

Monitor with stand 1 x Power cable (1.8 m) 1 x HDMI cable (1.8 m)

Quick setup guide

**CERTIFICATION** 

**ENERGY STAR® Rating** 

8.0

**CCC** Yes

тсо

8.0

EPEAT™

Silver

RoHS (EU 2002/95/EC)

Yes

Windows Certification

Window 7, Window 10

China Energy Efficiency Standard

Tier 1

**TÜV Eve Comfort** 

Yes











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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# 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>τεc</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

Ye

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

Monitor with stand

1 × Power Cable 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













\*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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DISPLAY

Panel Size

27 inch

Screen Dimensions (H x V) (mm)

597.89 (H) × 336.31 (V)

Panel Type

In-Plane Switching

Backlight

WLFD

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)

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

**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 (Tinv)

(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 VGA 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™

Silver

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













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# ThinkVision T27p-10

**DISPLAY** 

Panel Size 27.0 inches

27.0 11.01.00

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<sup>™</sup> (DP 1.2 Alt Mode)

Video Cables Supplied

USB 3.1 Type-C™ + HDMI

**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)

**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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**Features** 

27-inch IPS LED backlit monitor with speaker

• Supports 3840x2160 resolution

Microsoft® Windows® 7 certified

• Microsoft Windows 10 certified

• 3watts x 2 stereo speakers

• 5-Ports USB hub, support USB Type-C

# 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 19.35" H x 24.19" W x 10.63" D; 491.4mm H x 614.5mm W x 270.0mm D Dimensions

(HxWxD, including stand) Power supply

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

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

Ship group

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



ThinkVision X1 Monitor

© Lenovo (X1) March 2016





















# 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<sup>™</sup> 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<sup>™</sup> 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

DI:	SP	LA	Υ
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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

1.2 / 0.05"

1.2 / 0.05"

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

Humidity Operating

8% - 80% 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) Sides (mm / inches)

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

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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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