

Lenovo. ThinkPad.Laptops PSREF Product Specifications Reference Version 544, June 2019

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Summary of Changes

This section describes the technical changes made in this edition.

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

June 26, 2019 - Version 544

Additions in this update

► New product(s)

ThinkPad P53s announced June 2019
ThinkPad X1 Carbon (7th Gen) announced June 2019

▶ Others

ThinkPad 11e (5th Gen) - 45W or 65W USB Type-C AC adapter added

Withdrawals in this update

► Withdrawn product(s)

None



ThinkPad 11e (5th Gen) Platform Specifications

Processor	7th General Intel Pentiu				rocessor, I	Intel C	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	Base Frequency	Burst Frequency	Cache	Memory Types	Processor Graphics	Case color Case material	Black Display cover: PC/ABS+GF; Bottom: PC/ABS plastic
	m3-7Y30	2		1.0 GHz	2.6 GHz	4MB	LPDDR3-1866	Intel HD	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1 (with the function of Power
	i5-7Y54		4	1.2 GHz	3.2 GHz	4MB		Graphics 615		Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45),
	Celeron N4100		4	1.1 GHz	2.4 GHz	4MB	DDD4 0400	Intel UHD Graphics 600		headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	Pentium Silver N5000	4		1.1 GHz	2.7 GHz	4MB	DDR4-2400	Intel UHD Graphics 605	Camera Audio support	HD720p camera, fixed focus HD Audio, Realtek® ALC3287 codec, stereo speakers, 2W x 2, Dolby® Audio™.
Graphics							5 in processor,	,		monaural digital microphone, combo audio/microphone jack
	supports ex supports du Max resolut	ıal inde	ependen	t display;			oe-c; 096x2160@30)Hz (HDMI)	Keyboard Touchpad	6-row, spill-resistant, multimedia Fn keys Buttonless Mylar surface touchpad below keyboard, multi-touch
Chipset Memory	Intel SoC (S 4GB or 8GE soldered to	System 3 / 186	on Chip 6MHz LI) platform PDDR3 or	2400MHz				Security Security chip vPro Fingerprint reade	Power-on password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified None
Display	Some: 11.	6" (295	mm) HI) (1366x7	68), anti-gl	are, LI	ED backlight,		NFC	None
	Some: 11.	6" (295	īmm) Hi[) (1366x7	68), anti-gl	are, LE	ntrast ratio ED backlight, II io, 170° viewin	PS, multi-touch, g angle	Battery Max battery life	Integrated Li-ion 42Wh battery MobileMark® 2014: 13.9 hr * Battery life varies significantly with settings, usage, & other factors
Multi-touch		,,			s 10-finger	gestu	re (HD IPS onl	ÿ)	AC adapter	45W or 65W slim tip AC adapter, 45W or 65W USB Type-C AC adapter
Storage	eMMC flash M.2 SSD / F				16Gh/e				Preload	Windows® 10 Home 64 or Windows 10 Pro 64
Optane™ memor Optical		Ole IV	VIVIC, I	JIE 0.0 X Z	., 1000/3				Limited warranty	One of the following, configurable by model: 1-year depot repair service 3-year/1-yr battery depot repair service
Ethernet	Realtek RT	L81110	GUS Gig	abit Netw	ork Conne	ction		-	Mil-Spec test	MIL-STD-810G military testing
WLAN + Bluetooth™	One of the fo Intel Wirel Intel Wirel	ess-AC	9260, \	Ni-Fi 2x2 8	302.11ac +	Blueto	ooth 5.0, M.2 cooth 5.0, M.2 c	ard ard (US only)	Environment	EPEAT™ Silver; ENERGY STAR® 6.1; RoHS-compliant
WWAN	None									



ThinkPad A275 Platform Specifications

Processor	AMD PRO A-Se	eries A	PUs							er Optional: Smart card reader		
	Processor	# of	_ # of	Base	Max Turbo	Cache	Memory	Processor	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		Types	Graphics AMD	1 0110	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		
	PRO A12-8830B	4	4	2.5 GHz	3.4 GHz	2MB	DDR4-1866	R5 Graphics	Monitor cable	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter		
	PRO A12-8830B			2.5 GHz	3.4 GHz			AMD Radeon	(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter		
	PRO A12-9800B			2.7 GHz	3.6 GHz			R7 Graphics	Comoro (antional	//HD720p resolution, fixed focus		
	* Windows 7 is on	ly supp	orted by I	PRO A10-87		O A12-8	830B		Audio support	HD Audio, Realtek ALC3268 codec / stereo speakers, 1.5W x 2 /		
Graphics	AMD Radeon R									dual array microphone, combo audio/microphone jack		
	supports extern				I or USB Ty	/pe-C;			Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight		
	supports three i Max resolution:				Type-C): 4	1096x2 ⁻	160@30Hz	(HDMI)	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Chipset	AMD SoC (Syst			` `	.,,			(Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole dTPM 1.2: discrete TPM 1.2. TCG Certified		
Memory	16GB max / 186				SO-DIMM	socket			, ,	dTPM 2.0: discrete TPM 2.0, TCG Certified		
Display	Some: 12.5" (3			1366x768), atio, 500:1			acklight,		Fingerprint reader <i>Optional:</i> Touch style match on chip fingerprint reader on the palm reNFC None			
	Some: 12.5" (3						backlight,	IPS,	Internal battery	Optional: Integrated Li-ion or Li-Polymer 3-cell (23Wh)		
	300 nits	, 16:9	aspect r	atio, 700:1	contrast rat	tio, 170	° viewing a	ngle	External battery	Li-ion 3-cell (23Wh) or 6-cell (48Wh)		
Multi-touch (opt)	On-cell touch, s	<u> </u>			· ,		ly)		Max battery life (<i>MobileMark</i> ® 2014)	Models No + 3-cell 3-cell + 3-cell 3-cell + 6-cell 48Wh		
Storage	System has one F Some: HDD / S	IDD slo	ot or one N	1.2 slot exclu	sively for sto	rage	rotootion C	voto m TM	(MobileMark* 2014)	Wax battery life 5.05 fil 10.1 fil 15.0 fil		
	Some: SSD/S	Sata 6	i.0Gb/s, 2	2.5" wide, 7	mm high (e	e.g. xxx	GB SSD)	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	Some: M.2 SS None	D / PC	ie NVM	e, PCIe 3.0	x 2, 16Gb/	S			Preload	Windows® 7 Professional 64 preinstalled <i>Some:</i> Windows 10 Home 64		
Ethernet	Realtek® RTL81	11FP	V Gigabi	t Ethernet o	connection					through downgrade rights in Some: Windows 10 Pro 64 Windows 10 Pro 64 • Lenovo Companion		
WLAN	Realtek RTL882					1.2 card				Lenovo Solution Center Lenovo Setting		
Bluetooth™	Bluetooth 4.1 w									 Lenovo PowerEngage Microsoft Office preloaded; 		
WWAN (optional)	One of the following	ng, con	figurable l	by model:						 ThinkVantage Product Recovery ThinkVantage System Update 		
, , ,	Wireless WAN	l upgra	adable							Adobe® Reader®		
	 Integrated Mol Qualcomm® S 					acc FM	17455)			Microsoft® Office preloaded;		
	* For non-WWAN	Qualcomm [®] Snapdragon [™] X7 LTE-A (Sierra Wireless EM7455) For non-WWAN model, it means the model is NOT WWAN upgradable								purchase a product key to activate • McAfee® LiveSafe™ (30-day trial)		
SIM card (opt)		flicro-SIM card slot, opt Verizon LTE (US) SIM card										
Dimensions	WxDxH: 12.03							_	Limited warranty	One of the following, configurable by model: • 1-vear depot repair service		
Weight	Models	No +		_	+ 3-cell		3 + 6-cell			3-year/1-yr battery depot repair service		
0		.79 lb /	1.27 kg	2.98 lb	/ 1.36 kg	3.33	lb / 1.52 kg			3-year/1-yr battery limited onsite service		
Case color Case material	Black Glass-Fiber Rei	nforce	d Plastic						Mil-Spec test	MIL-STD-810G military testing		
	CIGOS I IDOI ITO		a i iastic						Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant		









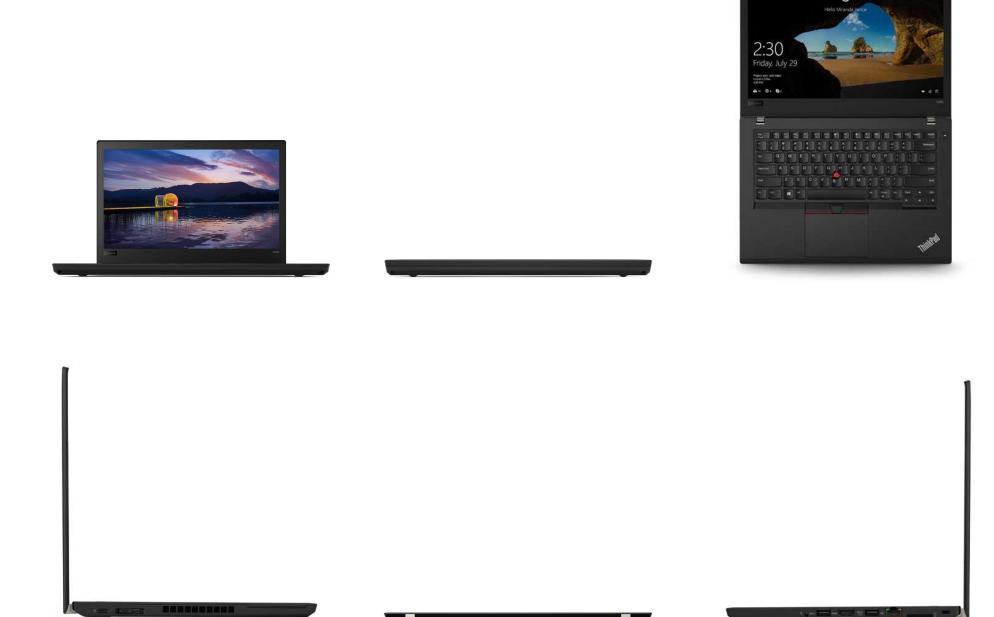
ThinkPad A285 Platform Specifications

Processor	AMD Ryzer	ı™ PRC) Mobile	Processors	s with Rade	on™ Vega	Graphics			er Optional: Smart card reader		
	Processor Number	# of Cores	# 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,		
	PRO 2300U 4 2.0 GHZ 3.4 GHZ 6 Graphics					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	ternal	digital me	onitor via F	a 10 Graph HDMI or US	ics in prod B Type-C	cessor only;		(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		
	supports for Max resolut				JSB Type-C	C); 4096x	2160@60H:	z (HDMI)	Camera (optional) One of the following, configurable by model:			
Chipset Memory	AMD SoC (8GB or 16G					temboard	, no sockets	6	Audio support	HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera, fixed focus HD Audio, Realtek ALC3287 codec /		
Display		nits, 1	16:9 aśpe	ect 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	16:9 aśpe	ct ràtio, 80	0:1 contras	st ratio, 17	D backlight 0° viewing a	, IPS, angle	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 fo	llowing,	, configura	ble by mode		31 li y)			Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified		
-	M.2 SSD /M.2 SSD /				4 32Gh/e				System Mgt	DASH Management		
Optical	None	7 1 010	TV IVIC, I	OIC 0.0 X	+, 02Gb/3				Fingerprint reade NFC	er Optional: Touch style match on chip fingerprint reader on the palm rest		
Ethernet	Gigabit Ethe via bundled				ernet Exten	sion Adap	oter Gen 2		Battery	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter		
WLAN Bluetooth™	Realtek® R1 Bluetooth 4								Max battery life	MobileMark® 2014: 10.55 hr * Battery life varies significantly with settings, usage, & other factors		
WWAN (optional)	Integrated N	Mobile	Broadba	nd 4G LTE	-A,				AC adapter Preload	45W or 65W USB Type-C AC adapter Windows® 10 Home 64 or Windows 10 Pro 64		
	Intel XMM™ * For non-W	' 7360 VAN m	(Fibocon odel, it me	າ L850-GL) ans the mod), M.2 card Hel is NOT W	WAN upgra	dable		Limited warranty	One of the following, configurable by model:		
SIM card (opt)	Nano-SIM o optional Ver	card sl	ot, in the	combo slo	t with micro	SD card i	eader,			 1-year depot repair service 3-year/1-yr battery depot repair service 		
Dimensions	WxDxH (HL 12.				mm x 209.8	3mm x 17.	4mm		Mil-Spec test	3-year/1-yr battery limited onsite service MIL-STD-810G military testing		
	WxDxH (FF	ID nor	n-touch):		mm x 209.8				Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant		
Weight	FHD non-tou HD non-tou	ouch m och mo	odel: 2. del: 2.	49 lb / 1.13 78 lb / 1.26	3 kg; 3 kg;	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Omm					
Case color	FHD multi-t Black	ouch r	nodel: 2.	79 lb / 1.27	' kg							
Case material	Display cov	Р	PS (HD 8	ֆ FHD muli	ti-touch mo							
Note: The specifica	Bottom:			n/Aluminur						Lenovo		



ThinkPad A475 Platform Specifications

Processor	AMD PRO A-Se	eries A	PUs							er Optional: Smart card reader
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I 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).
	PRO A10-8730B			2.4 GHz	3.3 GHz			AMD Radeon™ R5 Graphics	Monitor cable	HDMI 1.4b, Ethernet (RJ-45), Dock connector * Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo USB-C to VGA Adapter
	PRO A12-8830B PRO A10-9700B PRO A12-9800B	4	4	2.5 GHz 2.5 GHz 2.7 GHz	3.4 GHz 3.4 GHz 3.6 GHz	2MB	F	AMD Radeon R7 Graphics		()HD720p resolution, fixed focus HD Audio, Realtek ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack
	* Windows 7 is or	nly supp	orted by	PRO A10-87	30B and PR	O A12-88	830B		Keyboard	6-row, spill-resistant, multimedia Fn keys, optional LED backlight
	AMD Radeon F supports extern supports three i Max resolution:	al digit indepe	al monit ndent di	or via HDM splays;	I or USB Ty	•	160@30Hz	(HDMI)	UltraNav™ Security Security chip	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad 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
Chipset Memory	AMD SoC (Syst 32GB max / 186				el capable	two DI	DR4 SO-DI	MM sockets	Fingerprint reade NFC	
Display	Some: 14.0" (3 250 nits	s, 16:9 855mm s, 16:9	aspect r) FHD (1 aspect r	atio, 350:1 920x1080) atio, 700:1	contrast ra , anti-glare contrast ra	tio , LED b tio, 170°	acklight, IF viewing a	PS, ngle	Internal battery External battery Max battery life (MobileMark® 2014)	Optional: Integrated Li-Polymer 3-cell (24Wh) Li-Polymer 3-cell (24Wh) or Li-ion 6-cell (48Wh) Models 3-cell 3 + 3-cell 6-cell 48Wh 3 + 6-cell 48Wh Max battery life 5.13 hr 10.26 hr 10.26 hr 15.4 hr
Multi-touch (opt) Storage	On-cell touch, s			, ,	,		• /		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
Optical	Some: HDD / Some: SSD / S Some: M.2 SS None	SATA 6	.0Gb/s, 2	2.5" wide, 7	'mm hiğh (e	e.g. xxx		ystem™	Preload	Windows® 7 Professional 64 preinstalled Some: Windows 10 Home 64 through downgrade rights in Some: Windows 10 Pro 64 Lenovo Companion Lenovo Solution Center Lenovo Setting
Ethernet	Realtek® RTL81	111EP	V Gigabi	t Ethernet	connection					 Lenovo PowerEngage Microsoft Office preloaded;
WLAN Bluetooth™	Realtek RTL882 Bluetooth 4.1 w									 ThinkVantage Product Recovery ThinkVantage System Update Adobe® Reader®
WWAN (optional)	One of the following Wireless WAN Integrated Mo Outplease Representation Outplease Representat	l upgra	adable oadband	d 4G LTE-A		- N	17455)			 Microsoft® Office preloaded; purchase a product key to activate McAfee® LiveSafe™ (30-day trial)
SIM card (opt)	Qualcomm® S * For non-WWAN Micro-SIM card	model,	it means	the model is	NOT WWAN	ess Eivi I upgrada	able		Limited warranty	One of the following, configurable by model: 1-year depot repair service
Dimensions										3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
Weight		+	cell or 3 +		6-cell or 3		'		Mil-Spec test	MIL-STD-810G military testing
	Magnesium PPS		.49 lb / 1.9 .63 lb / 1.0		3.92 lb / 4.35 lb /		$\overline{}$		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Case color Case material	Black Display cover:	Magne	esium Hy		S (Magnesi		orid for US	only);		
Dimensions Weight	MxDxH: 13.2 Models Magnesium PPS Black Display cover: Bottom:	25" x 9. 3-6 3. 3. Magne	.15" x 0. cell or 3 + .49 lb / 1. .63 lb / 1. esium Hy Fiber Re	79"; 336.6 3-cell 58 kg 65 kg /brid or PPS binforced P	6mm x 232. 6-cell or 3 3.92 lb / 4.35 lb / 6 (Magnesiastic	+ <i>6-cell</i> 1.78 kg 1.85 kg		only);	Mil-Spec test Environment	3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service MIL-STD-810G military testing



ThinkPad A485 Platform Specifications

Processor	AMD Ryzer	n™ PRC) Mobile I	Processors	s with Rade	on™ Vega	Graphics			r Optional: Smart card reader		
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics	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,		
	Ryzen 3 PRO 2300U	00.00	4	2.0 GHz	3.4 GHz		Туроо	Radeon Vega 6 Graphics		two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), 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	AMD Rades	ternal	digital me	onitor via F	a 10 Graph HDMI or US	ics in prod B Type-C	essor only;		Bundled Accy	USB-C to DP: Lenovo USB-C to DisplayPort Adapter None		
	supports fo Max resolut				JSB Type-C	C); 4096x	2160@60H	z (HDMI)	Camera (optional) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus			
Chipset Memory	AMD SoC (32GB max * Installed DI	/ 2400	MHz DDİ	R4, dual-ch	nannel capa			IMM sockets	Audio support	IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /		
Display	Some: 14.0 220 Some: 14.0) nits, 1	l6:9 aspe	ct ratio, 40	0:1 contras	t ratio	•	PS.	 Keyboard UltraNav™	dual array microphone, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Multi-touch (opt)	On-cell tou) nits, 1 ch, sup	16:9 aspe ports 10-	ct ratio, 70 finger ges	0:1 contras ture (FHD o	st ratio, 17 only)	0° viewing a		Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified DASH Management		
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 DASH Management Fingerprint reader <i>Optional:</i> Touch style match on chip fingerprint reader on the keyboar NFC None			
	Some: M.2 Some: 128	2 SSD 3GB 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		
Optical	in v * <i>Installed M.</i> None	VVVAN 2 SSD	siot as 2 is PCle 3.0	nd Storage 0 x 4 but run	e, mutually at PCle 3.0	exclusive x 2 due to	with WWAN M.2 SSD ada	l pter limitation	Max battery life (MobileMark® 2014)	Max battery life 5.57 ftf 10.76 ftf 10.76 ftf 10.76 ftf 22.15 ftf		
Ethernet	Realtek® R	TL811	1GUL Gig	gabit Ether	net connec	tion			AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter		
WLAN Bluetooth™	Realtek RT								Preload	Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN (optional)	Integrated Intel XMM TM * For non-WI	Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card								One of the following, configurable by model: 1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service		
SIM card (opt) Dimensions					, ,		v 10 05mm		Mil-Spec test	MIL-STD-810G military testing		
Weight	Models Magnesium	Models 24Wh or 24Wh + 24Wh 48Wh, 72Wh, or 24Wh + 48Wh / 72Wh								EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant		
Case color Case material	Black Display cov Bottom:		agnesium			4.00 10 /	1.03 kg					
Note: The specific	ations above	mov no	t be eveile	علام ما ما	aiono				•	Lenovo		









ThinkPad E480 Platform Specifications

Processor	7th Generation In				or			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 # of Number Cores	pres Threads Frequency Frequency Cache Types Graphics						Weight Case color Case material	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 620	Smart card reade	Bottom: PC/ABS plastic
	i5-7200U		2.5 GHz	3.1 GHz	3MB		020	Media reader	MicroSD card reader
	8th Generation In	ntel Core		Max Turbo	1	Mamani	Drosser	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),
	Processor # of Number Cores	-	Base Frequency	Frequency	Cache	Memory Types	Processor Graphics		HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack,
	i3-8130U 2 i5-8250U 4	4	2.2 GHz 1.6 GHz	3.4 GHz 3.4 GHz	4MB 6MB	DDR4-2400	Intel UHD Graphics		microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i7-8550U 4	8	1.8 GHz	4.0 GHz	8MB		620	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec /
Graphics	Intel HD Graphic Intel HD Graphic	s 620 or	Intel UHD	Graphics 6	20 in p	rocessor on rocessor an	ly or d		stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	AMD Radeon RX supports externa supports dual inc	ıl digital r	nonitor via			e-C;		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
	Max resolution:	1920x10	80 (HDMI)	@60Hz				Security chip (on	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
Chipset Memory	Intel SoC (Syster 32GB max / 2400 * System clocks	OMHz DI	ÒŔ4, dual-c	hannel cap			O-DIMM sockets	vPro	None None Touch style fingerprint reader on the palm rest None
Display	Some: 14.0" (35 220 nits, Some: 14.0" (35	16:9 asp	oect ratio, 4	00:1 contra	ast ratio)		Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter <i>MobileMark</i> ® 2014: 13.51 hr
Multi-touch			pect ratio, 4				,,	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Storage	Up to 2 drives (one Some: HDD / Some				abla	aradabla		Preload (optional) Windows® 10 Home 64 or Windows 10 Pro 64
	Active Pr			ide, remova	abie, up	ogradable,		Limited warranty	1-year depot repair service
Ontana™ mamar	Some: M.2 SSD y Optional: Intel O			0 NIV/M0 B) v 0		Mil-Spec test	MIL-STD-810G military testing
Optical	None	piane m	emory, POI	CINVIVIC, F	OIE 3.0	, , _		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Ethernet	Gigabit Ethernet	Connect	tion, Realte	k R8111GI	JS]	
WLAN + Bluetooth™	One of the following Realtek® RTL8 Realtek RTL88 Intel Dual Band Intel 3165ac ca	821CE, V 22BE, W d Wireles	Wi-Fi 1x1 8 ∕i-Fi 2x2 80 s-AC 3165	02.11ac + I 2.11ac + B . 1x1, Wi-Fi	luetootl i + Blue	n 4.1, M.2 c tooth 4.1, M	ard 1.2 Card		
WWAN SIM card	None None								Lonove



ThinkPad E485 Platform Specifications

Processor	AMD Ryze	en™ Mo	bile Pro	cessors wit	th Radeon	™ Vega G	raphics		Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
			# of Threads		Max Turbo Frequency	requency Cache Controller Graphic			Weight	PC/ABS (WxDxH): 12.96" x 9.53" x 0.86"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75kg
	Ryzen 3 2200U	2	4	2.5 GHz	3.4 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 2500U	4	8	2.0 GHz	3.6 GHz	2MB L2 / Badeon Vega 8		Smart card reade	rNone	
	Ryzen 7 2700U	4	· · · · · · · · · · · · · · · · · · ·	2.2 GHz	3.8 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 2 (with the function of Power Delivery and DisplayPort),
Graphics	supports e supports d	externa dual in	al digital depende	monitor via ent display;	HDMI or I	Graphics USB Type	in processo e-C;	r;		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
Chipset Memory	AMD SoC 32GB max	(Syste c / 240	em on C 0MHz D		m channel ca	<u> </u>)-DIMM sockets	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
Display	22	20 nits,	, 16:9 as	HD (1366x7 spect ratio, 4 FHD (1920x	400:1 cont	rast ratio	backlight, ED backligh	t, IPS,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	None 25	i0 nits,	16:9 as	spect ratio, 4	400:1 cont	rast ratio			Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	Some: HD	DD`/ S	ATA 6.0	<i>D and one HI</i> Gb/s, 2.5" w		vable, up	gradable,		Fingerprint reader	rNone None
Optical	Some: M. None			System™ NVMe					Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Ethernet		hernet	Connec	ction, Realte	ek RTL811	1GUS			Max battery life	MobileMark® 2014: 9.37 hr * Battery life varies significantly with settings, usage, & other factors
WLAN +				urable by mod					AC adapter	45W or 65W USB Type-C AC adapter
Bluetooth™							th 4.1, M.2			Windows® 10 Home 64 or Windows 10 Pro 64
							h 4.1, M.2 ca 4.1, M.2 ca		<u>-</u>	1-year depot repair service
WWAN	None	200	,U_, \	WI I I ZXZ 00	ao + i	2140100111	1, IVI.Z Ca		Mil-Spec test	None
SIM card	None								Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

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



(intel)





















ThinkPad E490 Platform Specifications

Processor	8th Generation Intel®	© Core™ i3	/ i5 / i	7 Processo	r				Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
	Processor # of # Number Cores Three			Max Turbo Frequency	Cache	Memory Types		Processor Graphics	Weight Case color	PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75 kg Black or silver
	i5-8265LI	8 1.6	GHz GHz GHz	3.9 GHz 3.9 GHz 4.6 GHz	4MB 6MB 8MB	DDR4-24	00 Intel	UHD Graphics 620	Case material	Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic
Graphics	Intel UHD Graphics 6 Intel UHD Graphics 6 AMD Radeon RX 55 supports external dig supports dual indepe Max resolution: 4096	620 in pro 620 in pro 0X Graph gital monit	cessor cessor ics, 20 or via	only or and BB DDR5 m HDMI or US	nemory SB Typ	é-C;	 @24Hz	(HDMI)	Smart card reade Media reader Ports	MicroSD card reader One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory	Intel SoC (System or 32GB max / 2400MH	n Chip) pla Iz DDR4.	atform dual-c	hannel cap	able. t	wo DDR4	SO-DI	MM sockets	Monitor cable Bundled Accy Camera	None None HD720p camera, fixed focus
Display	Size / Resolution	1	Surface Type Brightness Aspect Ratio Ratio Holler Multi-touch						Audio support	HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	14.0" HD (1366x768) 14.0" FHD (1920x1080)	Anti-glare) Anti-glare		220 nits 250 nits	16:9 16:9	400:1 600:1	90° 170°	Non-touch 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 Storage	None Up to two drives (one M	o/s, 2.5" w ATA 6.0Gb Cle NVMe	de, 7n /s , PCle	nm high, Ao 3.0 x 2	ctive Pr	rotection S	System⁻	гм	Security Security chip System Mgt Fingerprint readel	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified Discrete model: firmware TPM 2.0 integrated in chipset None r Optional: Touch style fingerprint reader on the palm rest None
Optane™ memor Optical	ry <i>Optional:</i> Intel Optan None	ne memor	y, PCI	e NVMe, P	Cle 3.0) x 2			Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Ethernet	Gigabit Ethernet Con	nnection,	Realtel	k R8111GL	JS				Max battery life	<i>MobileMark</i> [®] 2014: 13 hr
WLAN + Bluetooth™	One of the following, • Realtek® RTL8822E • Intel Wireless-AC 93	BE, Wi-Fi	2x2 80	2.11ac + E				١	AC adapter Preload (optional)	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter) Windows® 10 Home 64 or Windows 10 Pro 64
WWAN	None None	200, VVI-I	1 444 (102.11ac +	Didelo	Our 3.0, IV	1.2 carc	<i>1</i>		
SIM card	None								Mil-Spec test	MIL-STD-810G military testing
									Environment	EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant

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

















ThinkPad E490s Platform Specifications

Processor	8th Genera	ation Ir	ntel® Cor	e™ i5 / i7 P	rocessor					Dimensions	<i>WxDxH:</i> 12.96" x 9.13" x 0.70"; 329mm x 232mm x 17.9mm	
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types		Processor Graphics	Weight Case color Case material	Starting at 3.68 lb / 1.67 kg Black or silver I Aluminum	
	i5-8265U i7-8565U	4	8	1.6 GHz 1.8 GHz	3.9 GHz 4.5 GHz	6MB 8MB	DDR4-24	00 Intel	UHD Graphics 620	Smart card reade		
Graphics	Intel UHD AMD Rade supports e supports the	Graph eon RX externa hree in	ics 620 i < 540X G Il digital r Idepende	n processor n processor graphics, 20 monitor via ent display;	r and 3B DDR5 n HDMI or U	SB Typ	e-C;	2041-	(LIDANI)	Media 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 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	
Chipset Memory	Intel SoC (32GB max	(Syster (/ 2400	m on Chi OMHz DI	04@60Hz (p) platform DR4, dual-c ually 2666M	hannel cap	able, t	wo DDR4	SO-DI	MM sockets	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack	
Display	Size / Reso	lution	Sı	ırface Type	Brightness	Aspect Ratio	Contrast Ratio	Viewing Angle	Multi-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad	
	14.0" FHD (14.0" FHD (<u> </u>		i-glare TN i-glare IPS	220 nits 250 nits	16:9 16:9	400:1 600:1	90° 170°	Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Integrated model: discrete TPM 2.0, TCG Certified	
Multi-touch	None									System Mgt	Discrete model: firmware TPM 2.0 integrated in chipset None	
Storage	• M.2 2280	O SSD	/ SATA 6								erTouch style fingerprint reader on the palm rest None	
Optane™ memor Optical	• M.2 2242 y None None	2 SSD	/ PCIe N	IVMe, PCIe	3.0 x 2					Battery Max battery life	Integrated Li-ion 42Wh battery, supports Rapid Charge (charge up to 80% in 1h with 65W USB Type-C AC adapter MobileMark® 2014: 11.5 hr	
Ethernet	Gigabit Eth	hernet	Connect	ion, Realte	k R8111Gl	JS] ,	* Battery life varies significantly with settings, usage, & other factors	
WLAN +				rable by mod						AC adapter	45W or 65W USB Type-C AC adapter	
Bluetooth™				Vi-Fi 2x2 80 Wi-Fi 2x2 8					1		/) Windows® 10 Home 64 or Windows 10 Pro 64	
WWAN		:1035-P	10 9200,	VVI-I 1 ZXZ ()UZ.11aC+	Dideto	UII 3.U, N	1.2 Call	ı	Limited warranty	7 1 1	
SIM card	None None									Mil-Spec test	MIL-STD-810G military testing	
Note: The execition										Environment	EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant	

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













ThinkPad E495 Platform Specifications

Processor	AMD Ryze	en™ Mo	obile Pro	ocessors wi	th Radeon	™ Vega G	raphics			Dimensions	Aluminum (WxDxH): 12.96" x 9.53" x 0.78"; 329mm x 242mm x 19.9mm
	Processor Number		# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Controller		rocessor Graphics	Weight	PC/ABS (WxDxH): 12.96" x 9.53" x 0.83"; 329mm x 242mm x 21.9mm Starting at 3.87 lb / 1.75 kg
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 / 4MB L3			eon Vega 3 Graphics	Case color Case material	Black Display cover: Aluminum or PC/ABS plastic; Bottom: PC/ABS plastic
	Ryzen 5 3500U			2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400		eon Vega 8 Braphics	Smart card reade	erNone
	Ryzen 7 3700U	4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Rade	on RX Vega Graphics	Media reader Ports	MicroSD card reader One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
Graphics	supports of supports of Max resolu	externa dual in ution:	aľ digital depend 3840x2	ega 8, or Ri monitor via ent display; 160@60Hz Chip) platfor	HDMI or USB Type	USB Type	e-C;		HDMI)	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	⟨`/ Ź40	OMHz [DDR4, dual- lly 2666MHz	channel ca					Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 1.5W x 2, Dolby® Advanced Audio /
Display	Size / Reso	olution	8	Surface Typ	e Brightnes	Aspect Ratio	Contrast Vie	ewing Ingle	Multi-touch		dual array microphone, headphone / microphone combo jack
	14.0" HD (1			nti-glare TN		16:9	400:1	90°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	None	(1920x	:1080) Ai	nti-glare IPS	250 nits	16:9	600:1 1	170°	Non-touch	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	 HDD / S. 	ata 6.	.0Gb/s,	SSD and one 2.5" wide, 7	mm high, a			stem™		Fingerprint reade NFC	r None None
Optical	• M.2 2242 None	2 SSD) / PCIe	NVMe, PCI	e 3.0 x 2 o	r PCIe 3.	.0 x 4			Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Ethernet	Gigabit Et	hernet	t Conne	ction, Realt	ek R81110	SUS				Max battery life	<i>MobileMark® 2014:</i> 11 hr
WLAN + Bluetooth™	 Realtek® 	RTL8	822BE,	nfigurable b Wi-Fi 2x2 8	302.11ac +	Bluetoot	th 4.2, M.2	card		AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
		eless-	AC 9260), Wi-Fi 2x2	802.11ac	+ Blueto	oth 5.0, M.2	2 card		1) Windows® 10 Home 64 or Windows 10 Pro 64
WWAN SIM card	None None									Mil-Spec test	1-year depot repair service None
										Environment	EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant

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











ThinkPad E580 Platform Specifications

Processor	7th Gener	ation Ir	ntel® Cor	e™ i3 / i5 P	rocessor o	r			WLAN +	One of the following, configurable by model:		
	Processor Number	# of	# of	Base Frequency	Max Turbo	Cache	Memory	Processor	Bluetooth™	 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 		
	i3-7020U	Cores	Tilleaus	2.3 GHz	- requency	3MB	Types	Graphics	-	Intel Dual Band Wireless-AC 3165, 1x1, Wi-Fi + Bluetooth 4.1, M.2 Card		
	i3-7130U	2	4	2.7 GHz	-		DDR4-2133	Intel HD Graphics	WWAN	* Intel 3165ac card supports BT4.2 but is limited to BT4.1 by Windows ÓS		
	i5-7200U			2.5 GHz	3.1 GHz	змв		620	SIM card	None None		
	8th Gener	ation Ir	ntel Core	i3 / i5 / i7 F	Processor				Dimensions	WxDxH: 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.95mm		
	Processor # of # of Number Cores Threads			Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 4.7 lb / 2.1kg Black or silver			
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB		Intel UHD Graphics	Case material	Display cover: Aluminum; Bottom: PC/ABS plastic		
	i5-8250U i7-8550U	4	8	1.6 GHz 1.8 GHz	3.4 GHz 4.0 GHz	6MB 8MB	DDR4-2400	620	Smart card reade	· · · · · · · · · · · · · · · · · · ·		
		is NOT	 availahle i			OIVID			Media reader	MicroSD card reader		
Graphics	* 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 DDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports dual independent display;								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		
	Max resol	ution:	1920x10	80 (HDMÍ) (Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec /		
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets									stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack		
Display	Some: 15	ystem clocks down for processors with lower memory controller me: 15.6" (396mm) HD (1366x768), anti-glare, LED backlight,							Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Made Assarts	220 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 600:1 contrast ratio								Security Power-on password, hard disk password, supervisor password, security keyh Security chip (opt)Firmware TPM 2.0 integrated in chipset or discrete TPM 2.0 TCG Certified vPro None			
Multi-touch	None	/	M 0 00D		10)				Fingerprint reader	r Optional: Touch style fingerprint reader on the palm rest		
Storage	Some: HI	<i>res (one</i> DD / S <i>i</i>	<i>м.2 SSD</i> 4TA 6.0G	and one HD b/s, 2.5" w	יט <i>ו</i> ide, remova	able, ur	ogradable,		NFČ '	None		
	Ad	ctive Pr	otection S	System™	,	, .,	J ,		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hi with 65W USB Type-C AC adapter		
Optane™ memory Optical	Some: M.2 SSD / PCIe NVMe nemory <i>Optional:</i> Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2								Max battery life	MobileMark® 2014: 12.23 hr *Battery life varies significantly with settings, usage, & other factors		
Ethernet									AC adapter 45W or 65W USB Type-C AC adapter			
Luieillet	net Gigabit Ethernet Connection, Realtek R8111GUS								Preload (optional) Windows® 10 Home 64 or Windows 10 Pro 64			
									Limited warranty 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 E585 Platform Specifications

Processor	AMD Ryzen™ N	obile Pro	ocessors wi	th Radeon	™ Vega Gı	aphics		Dimensions			
	Processor # of Number Core		Base Frequency	Max Turbo Frequency	Cache	Memory Controller	Processor Graphics	Weight Case color	Starting at 4.7 lb / 2.1kg Black Display cover: Aluminum; Bottom: PC/ABS plastic		
	Ryzen 3 2200U 2	4	2.5 GHz	3.4 GHz	1MB L2 / 4MB L3		Radeon Vega 3 Graphics	Case material			
	Ryzen 5 2500U 4	8	2.0 GHz	3.6 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Vega 8 Graphics	Smart card reader Media reader	MicroSD card reader		
	Ryzen 7 4 2700U	0	2.2 GHz	3.8 GHz	2MB L2 / 4MB L3		Radeon RX Vega 10 Graphics	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack,		
Graphics	AMD Radeon \ supports extern	naľ digital	monitor via	X Vega 10 a HDMI or l	Graphics USB Type	in processo -C;	or only;		microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed		
	supports dual i Max resolution			@60Hz				Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11852 codec /		
Chipset Memory	AMD SoC (Sys 32GB max / 24				apable, tw	o DDR4 SC	D-DIMM sockets		stereo speakers, 1.5W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack		
Display	Some: 15.6" (220 nit	396mm) s, 16:9 a	HD (1366x7	768), anti-g 400:1 cont	lare, LEC	backlight, (NOT availa	able in EMEA)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	Some: 15.6" (250 nit	396mm)	FHD (1920) spect ratio,	k1080), ant	ti-glare, L	ÈD backligh	it, IPS,	Security Power-on password, hard disk password, supervisor password, security keyhole Security chip Discrete TPM 2.0, TCG Certified			
Multi-touch Storage	None Up to 2 drives (or	ne M.2 SS	D and one H	DD)				Fingerprint reader	rNone None		
		Protection	n System™	vide, remo	vable, upç	gradable,		Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter		
Optical	Some: M.2 SS None	SD / PCIe	NVMe					Max battery life	MobileMark® 2014: 8.63 hr *Battery life varies significantly with settings, usage, & other factors		
Ethernet	Gigabit Ethern	et Conne	ction, Realt	ek RTL811	1GUS			AC adapter	45W or 65W USB Type-C AC adapter		
WLAN +	One of the follow	ing, config	urable by mo	del:				Preload (optional) Windows® 10 Home 64 or Windows 10 Pro 64			
Bluetooth™	Qualcomm Q	CNFA43	5, Wi-Fi 1x1	802.11ac	+ Bluetoc	th 4.1, M.2	card	Limited warranty 1-year depot repair service			
	 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 							Mil-Spec test	None		
WWAN SIM card	None None							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 Int	tel® Cor	e™ i3 / i5 /	7 Processo	or				Dimensions	<i>WxDxH</i> : 14.53" x 9.94" x 0.78"; 369mm x 252.5mm x 19.9mm				
	Processor # of Number Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types			Weight Case color Case material	Starting at 4.68 lb / 2.12 kg Black or silver Display cover: Aluminum;				
	i3-8145U 2	4	2.1 GHz	3.9 GHz	4MB		Intel	IHD Graphics		Bottom: PC/ABS plastic				
	i5-8265U i7-8565U 4	8	1.6 GHz 1.8 GHz	3.9 GHz 4.6 GHz	6MB 8MB	DDR4-240	0 11161 C	JHD Graphics 620	Smart card reade Media reader					
Graphics	Intel UHD Graphic Intel UHD Graphic AMD Radeon RX supports external supports dual inde Max resolution: 40	es 620 ii 550X G digital r epender 096x23	n processo iraphics, 20 monitor via nt display; 04@60Hz (r and 3B DDR5 n HDMI or U USB Type-	SB Typ	e-C;)24Hz ((HDMI)	Ports Monitor cable Bundled Accy	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 32GB max / 2400l * Installed memor	MHz DE	DŔ4, dual-c	hannel cap	at 240	0MHz due	to Inte	/IM sockets el limitation	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio /				
Display	Size / Resolution	Su	rface Type	Brightness	Aspect Ratio	Contrast V Ratio	/iewing Angle	Multi-touch		dual array microphone, headphone / microphone combo jack				
	15.6" HD (1366x768		i-glare TN	220 nits	16:9	400:1	90°	Non-touch	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
	15.6" FHD (1920x10	080) Ant	i-glare IPS	250 nits	16:9	600:1	170°	Non-touch	Security	Power-on password, hard disk password, supervisor password, security keyhole				
Multi-touch	None								Security chip	Integrated model: discrete TPM 2.0, TCG Certified Discrete model: firmware TPM 2.0 integrated in chipset				
Storage	 Up to two drives (one M.2 SSD and one HDD) HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ M.2 2280 SSD / SATA 6.0Gb/s M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 2 M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2 ry Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 None 								System Mgt None Fingerprint reader <i>Optional:</i> Touch style fingerprint reader on the palm rest NFC None					
Optane™ memory Optical									Battery May battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter MobileMark® 2014: 11 hr				
Ethernet	Gigabit Ethernet C	Connect	ion, Realte	k R8111Gl	JS				* Battery life varies significantly with settings, usage, & other factors					
WLAN +	One of the following, configurable by model:								AC adapter 45W or 65W USB Type-C AC adapter					
Bluetooth™	Realtek® RTL882	22BE, V	Vi-Fi 2x2 80)2.11ac + E	Bluetoo	th 4.2, M.2	card		Preload (optional) Windows® 10 Home 64 or Windows 10 Pro 64					
	Intel Wireless-AC	J 9260,	WI-FI 2x2 8	302.11ac +	Blueto	oth 5.0, M.	.2 card			, , ,				
WWAN SIM card	None None								Mil-Spec test	MIL-STD-810G military testing				
N. i. Ti. iii									Environment	EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant				

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













ThinkPad E595 Platform Specifications

Processor	AMD Ryzen	n™ Mo	bile Pro	cessors wi	h Radeon	"Vega G	raphics		Dimensions	<i>WxDxH:</i> 14.53" x 9.92" x 0.78"; 369mm x 252mm x 19.9mm		
		# of	# of	Base	Max Turbo	Cache	Memory	Processor	Weight Case color	Starting at 4.7 lb / 2.1kg Black		
		ores	Inreads	Frequency	Frequency		Controller	Graphics	Case material	Display cover: Aluminum;		
	Ryzen 3 3200U	2	4	2.6 GHz	3.5 GHz	1MB L2 / 4MB L3		Radeon Vega 3 Graphics		Bottom: PC/ABS plastic		
	Ryzen 5 3500U	4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3		Radeon Vega 8 Graphics	Smart card reade Media reader	MicroSD card reader		
	Ryzen 7 3700U	4	0	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Radeon RX Vega 10 Graphics	Ports	One USB 2.0, two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), headphone / microphone combo jack,		
Graphics	AMD Raded supports ex supports du Max resolut	terna ıal inc	ıl digital depende	monitor via ent display;	HDMI or l	JSB Type	e-C;	or; 30Hz (HDMI)	Monitor cable Bundled Accy	HDMI 1.4b, Ethernet (HJ-45), neadphone / microphone combo jack, microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical s None None		
Chipset Memory	AMD SoC (\$32GB max / * Installed me	/ 240 0	OMHz D	DŔ4, dual-	channel ca			O-DIMM sockets	Camera Audio support	HD720p camera, fixed focus HD Audio, Synaptic® CX11880 codec / stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack		
Display	Size / Resolu	ution	S	surface Typ	Brightnes	Aspect Ratio	Contrast Vie	wing Multi-touch	Keyboard	6-row, spill-resistant, multimedia Fn keys		
	15.6" HD (13	66x76	88) Ar	nti-glare TN	220 nits	16:9	400:1	90° Non-touch	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
	15.6" FHD (1	920x1	1080) Ar	nti-glare IPS	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		
Multi-touch	None								Fingerprint reade	or None		
Storage	Up to two driv								NFČ	None		
Ontinal	HDD / SAM.2 2242							stem™	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter		
Optical	None				L D04446				Max battery life	MobileMark® 2014: 10.3 hr		
Ethernet	Gigabit Ethe					ius			AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter		
WLAN + Bluetooth™	One of the f					Division	L 40 M0			/) Windows® 10 Home 64 or Windows 10 Pro 64		
Dideroom	 Realtek® F Intel Wirel 	HILBE ASS-A	822BE, AC 9260	WI-FI 2X2 8 Wi-Fi 2x2	02.11ac + 802.11ac -	Bluetoot - Bluetoc	n 4.2, M.2 (oth 5.0 M.2	card card	Limited warranty 1-year depot repair service			
WWAN	Intel Wireless-AC 9260, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card None								Mil-Spec test	None		
SIM card	None								Environment	EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant		
									= HVIIOHIHEHI	EFEAT DIOTIZE, ENERGY STAR 7.0; RODS-compilant		

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













ThinkPad L380 Platform Specifications

Processor	Intel® Celeron® I	Processo	r, 7th Gene	ration Intel	Core™	i3 / i5 Proc	essor or	Dimensions	<i>WxDxH:</i> 12.67" x 8.83" x 0.74"; 321.8mm x 224.2mm x 18.8mm
	Processor # of Number Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 3.22 lb / 1.46 kg Black or Silver
	Cel 3965U	2	2.2 GHz	-	2MB		Intel HD Graphics 610	Case material	Display cover: Aluminum Bottom: GFRP
	i3-7130U ² i5-7200U	4	2.7 GHz 2.5 GHz	- 3.1 GHz	3MB 3MB	DDR4-2133	Intel HD Graphics 620	Smart card reade Media reader	MicroSD card reader
	8th Generation	Intel Core				l.	l	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),
	Processor # of Number Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole
	i3-8130U 2 i5-8250U i5-8350U 4 i7-8550U	8	2.2 GHz 1.6 GHz 1.7 GHz 1.8 GHz	3.4 GHz 3.4 GHz 3.6 GHz 4.0 GHz	4MB 6MB 6MB 8MB	DDR4-2400	Intel UHD Graphics 620	Monitor cable (optional) Bundled Accy	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable
Graphics	Intel HD Graphic supports externa supports three in Max resolution:	al digital r ndepende	monitor via ent displavs	HDMI or U	SB Typ	e-C ['] ;	•	Camera Audio support	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		OMHz DE	ÒŔ4, dual-c	hannel cap			O-DIMM sockets	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Display	Some: 13.3" (3 250 nits Some: 13.3" (3	338mm) H s, 16:9 as 338mm) F s, 16:9 as 338mm) F	ID (1366x7) pect ratio, 5 HD (1920x pect ratio, 7 HD (1920x	68), anti-gl 500:1 contr 1080), anti 700:1 contr 1080), anti	are, LE ast ration glare, ast ration glare,	D backlight, o LED backlig o, 170° view LED backlig	ht, IPS, ring angle ht, IPS,	Security Security chip vPro (optional) Fingerprint reade NFC (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology Optional: Touch style fingerprint reader on the keyboard bezel, anti-spoofing technology Near Field Communication
	250 nits on-cell		pect ratio, 8	300:1 contr	ast ratio	o, 170° view	ing angle,	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Multi-touch (opt) Storage		ipports 10						Max battery life	with 65W USB Type-C AC adapter MobileMark® 2014: 16.1 hr * Battery life varies significantly with settings, usage, & other factors
Storage	 M.2 SSD / SA 	TA 6.0Gb	/s (e.g. xxx	GB SSD M	.2)	00.000		AC adapter	45W or 65W USB Type-C AC adapter
Optane™ memory		ie NVMe,	, PCIe 3.0 x	(4, 32Gb/s	(e.g. x	XXGB SSD	M.2 PCIe NVMe)	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
Optical	None							Limited warranty	One of the following, configurable by model: • 1-year depot repair service
Ethernet	Native Intel Ethe via optional Thir	ernet Con nkPad Eth	nection I21 ernet Exter	9-V (<i>Non-</i> v	<i>Pro</i>) oi €	r I219-LM (<i>v</i>	rPro)		3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
WLAN + Bluetooth™	Intel Dual Band * Intel 8265ac car						h 4.1, M.2 card	Mil-Spec test	MIL-STD-810G military testing
WWAN SIM card	None None	••						Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

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

Lenovo April 2019





















ThinkPad L390 Platform Specifications

Processor	8th Genera	ation Inte	el® Core	™ i3 / i5	i7 Proces	sor				Smart card reade	
	Processor	# of	# of	Base	Max Turbo		Memory		essor	Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	Number i3-8145U	2	Threads F	-requency 2.1 GHz	Frequency 3.9 GHz	4MB	Types	Gra	phics		two USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort),
	i5-8265U	-		1.6 GHz	3.9 GHz	6MB	DDR4-2400	Intel UHE	Graphics		HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, microSD card reader, security keyhole
	i5-8365U	4	_	1.6 GHz	4.1 GHz	6MB	DDR4-2400	6	20	Manitarable	* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i7-8565U			1.8 GHz	4.6 GHz	8MB				Monitor cable (optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to VGA + Power Adapter: Lenovo USB-C to VGA plus Power Adapter
Graphics	Intel UHD (supports ex	Graphics	s 620 in digital m	process	or; . HDML or l	ISB Typ	e-C:				USB-C to HDMI: Lenovo USB-C to HDMİ Adapter
	supports th	nree inde	ependen	t display	s;						USB-C to HDMI + Power Adapter: Lenovo USB-C to HDMI plus Power Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
<u> </u>	Max resolu				\ 71	e-C); 40	96x2160@	30Hz (HE	OMI)	Bundled Accessories	USB-C to RJ45: Lenovo USB-C to Ethernet Adapter
Chipset Memory	Intel SoC (32GB max					nable, t	vo DDR4 S	SO-DIMM	sockets	(optional)	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
	* Installed m									Camera	HD720p camera, fixed focus
Display	Size Reso	lution	Sur	face Ty	e Brightne	Aspec		st Ratio	Viewing	Audio support	HD Audio, Realtek ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /
	13.3" HD (1			glare T		Hatio		00:1	Angle 90°		dual array microphone, headphone / microphone combo jack
	13.3" FHD		<i>′</i>	<u> </u>			700:1 (ne	on-touch)	170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Multi-touch (opt)	On-cell tou	ich, supp	ports 10-	-finger g	esture (FH	O only)		,		Security	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Storage	One of the fo				del:					Security chip System Mgt	None
	M.2 2280M.2 2242				0 2 O v 2						r Optional: Touch style fingerprint reader on the palm rest
	• M.2 2280									NFČ (optional) Battery	Near Field Communication Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Optane™ memory Optical	y None None									battery	with 65W USB Type-C AC adapter
Ethernet	Native Inte	l Ethern	et Conn	action 12	19-V (Non	vPro) or	1210-I M (vPro)		Max battery life	MobileMark® 2014: 14.61 hr * Battery life varies significantly with settings, usage, & other factors
Linornot	via optiona	d ThinkP	Pad Ethe	rnet Exte	ension Cab	le or	IZ TO LIVI (VI 10)		AC adapter	45W or 65W USB Type-C AC adapter
	Lenovo US									Preload	Windows® 10 Home 64 or Windows 10 Pro 64
WLAN Bluetooth™	Intel Wirele Bluetooth 5									Limited warranty	One of the following, configurable by model:
WWAN	None			9						1	 1-year depot repair service 3-year/1-yr battery depot repair service
SIM card	None										3-year/1-yr battery limited onsite service
Dimensions Weight	WxDxH: Starting at				21.8mm x	224.2mi	n x 18.8mr	m		Mil-Spec test	MIL-STD-810G military testing
Weight Case color	Black or Si	lver		J						Environment	EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant
Case material	Display con Bottom:		uminum FRP								
	Dolloin.	ui									



ThinkPad L470 Platform Specifications

Processor	6th Gener	ation Ir	ntel® Cor	e™ i3 / i5 /	i7 Process	or or			WWAN (optional)	One of the following, configurable by model:
	Processor Number	# of Cores	# of Threads		Max Turbo Frequency	Cache	Memory Types	Processor Graphics		 Wireless WAN upgradable Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card
	i3-6006U i3-6100U i5-6200U	2	4	2.0 GHz 2.3 GHz 2.3 GHz	- - 2.8 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 520	SIM card (opt)	• Integrated Mobile Broadband 4G LTE, Intel XMM™ 7160 (Fibocom L831-EAU), M.2 card (EMEA only) Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card
	i5-6300U			2.4 GHz	3.0 GHz	3MB			Dimensions	WxDxH: 13.35" x 9.25" x 0.94"; 339mm x 235mm x 23.9mm
		-				l Core	i3 / i5 / i7 P		Weight	Models 3-cell 6-cell
	Processor Number	-	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		Integrated model 4.13 lb / 1.87 kg 4.45 lb / 2.02 kg Discrete model 4.16 lb / 1.89 kg 4.48 lb / 2.03 kg
	Cel 3965U		2	2.2 GHz	-	2MB		Intel HD Graphics 610	Case color Case material	Black PC/ABS plastic
	i3-7100U i5-7200U i5-7300U i7-7500U i7-7600U	2	4	2.4 GHz 2.5 GHz 2.6 GHz 2.7 GHz 2.8 GHz	- 3.1 GHz 3.5 GHz 3.5 GHz 3.9 GHz	3MB 3MB 3MB 4MB 4MB	DDR4-2133	Intel HD Graphics 620	Smart card reade Media reader Ports	er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Three USB 3.1 Gen 1 (USB 3.0, one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	* i7 proce	ssor is	NOT ava	ailable in El	MEA)HD720p resolution, fixed focus
Graphics	Intel HD G supports of supports t	Graphic externa three in	s 620 in I analog depende	monitor via	and AMD É a VGA and s:	Radeon digital r	nonitor via l	, 2GB memory; Mini DisplayPort; 200@60Hz (VGA)	Audio support Keyboard UltraNav™	HD Audio, Realtek ALC3268 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack 6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Chipset				ip) platform	`	P Cable	e); 1920X12	200@60HZ (VGA)	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
Memory	32GB max * System ci	x / 2400 locks do	OMHz DI wn for pro	DR4, dual-o ocessors with	channel cap lower mem	ory conti	roller	O-DIMM sockets	vPro (optional)	Intel vPro Technology r <i>Optional:</i> Swipe style fingerprint reader on the keyboard bezel None
Display				D (1366x76 bect ratio, 5			D backlight,		Battery	Li-ion 3-cell (24Wh) or 6-cell (48Wh or 72Wh)
	Some: 14	1.0" (35	5mm) Fl	HD (1920x ⁻	1080), anti-	glare, L	ED backlig		Max battery life ¹⁰	Models 3-cell 6-cell 48Wh 6-cell 72Wh
Multi-touch	None 25	50 nits,	16:9 asp	pect ratio, 7	00:1 contra	ast ratio	, 170° view	ing angle	(MobileMark® 2014)	Integrated model 7.24 ftf 14.48 ftf 21.72 ftf
Storage		s one HI	DD slot or	one M.2 228	30 slot exclus	sively for	storage		-	Discrete model 4.34 hr 8.68 hr 13.02 hr
Otorage	Some: H	DD / S	ATA 6.00	Sb/s, 2.5" w System™					AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W slim tip AC adapter
	Some: S Some: M Some: 12	SD / SA I.2 SSD 28GB N	ATA 6.00) / PCle I /I.2 SSD	ib/s, 2.5" w NVMe, PCI	e 3.0 x 2, 1 Gb/s, in W\	6Gb/s	g. xxxGB SS ot as 2nd S	,	Preload	Windows® 7 Professional 64 preinstalled Some: Windows 10 Home 64 through downgrade rights in Windows 10 Pro 64 • Lenovo Solution Center • Lenovo Setting
Optical	None									 Lenovo PowerEngage ThinkVantage Product Recovery Microsoft Office preloaded; purchase a product key to activate
Ethernet	Non-vPro vPro mod			nernet Con nernet Con			cksonville) Jacksonville	e)		 ThinkVantage System Update Adobe® Reader®
WLAN	 Realtek[®] Intel Dua 	RTL8	822BE, V Wireles	rable by mod Ni-Fi 2x2 8 s-AC 8260,	02.11ac + E Wi-Fi 2x2	802.11	ac + BT4.1,	M.2 card		 Microsoft® Office preloaded; purchase a product key to activate McAfee® LiveSafe™ (30-day trial)
Bluetooth™	Bluetooth	4.1 wir	eless, in	tegrated in	Wi-Fi + Blu	etooth	ac + BT4.1, combo ada -4.1 by Windo	pter	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® 6.1; RoHS-compliant
Note: The specifi	cations above	e may n	ot be ava	ilable in all	regions.					Lenov









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	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only) Intervited Mobile Broadband 4C LTE.
	i3-7130U i5-7200U i5-7300U	2	4	2.7 GHz 2.5 GHz 2.6 GHz	- 3.1 GHz 3.5 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 620	SIM card (opt)	 Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card *For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card
	8th Gener	ation I	ntel Core	i3 / i5 / i7 l	Processor		•		Dimensions	WxDxH: 13.19" x 9.25" x 0.89"; 335mm x 235mm x 22.5mm
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 3.71 lb / 1.68 kg Black PC/ABS plastic
	i3-8130U i5-8250U i5-8350U i7-8550U	4	8	2.2 GHz 1.6 GHz 1.7 GHz 1.8 GHz	3.4 GHz 3.4 GHz 3.6 GHz 4.0 GHz	4MB 6MB 6MB 8MB	DDR4-2400	Intel UHD Graphics 620	Case material Smart card reade Media reader Ports	r <i>Optional</i> : Smart card reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
		is NOT	ı available i	n US and El		OIVID			-	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),
Graphics	Intel HD G Intel HD G AMD Rade (discrete r supports e	Graphic Graphic eon 53 nodels externa	s 620 or s 620 or 0, 2GB 0 are NOT	Intel UHD Intel UHD ADDR5 me available nonitor via	Graphics 6 Graphics 6 mory in EMEA); HDMI or U	20 in p	rocessor on rocessor an e-C;	ly or d	Monitor cable (optional)	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
	supports t	hree in ution:	ndepende 4096x23	ent displays	; (USB Type-	·C): 409	96x2160@3	OHz (HDMI)	Camera (optional,	One of the following, configurable by model: • HD720p camera, fixed focus
Chipset Memory	Intel SoC 32GB max	(Syste x / 240	m on Chi 0MHz DE	p) platform	hannel car	able, t	wo DDR4 S	O-DIMM sockets	Audio support	IR camera and HD720p camera, fixed focus HD Audio, Realtek ALC3287 codec / 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	D backlight,) LED backlig		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	50 nits, uch, su	16:9 asp upports 1	ect ratio, 8 0-finger ge	00:1 contra sture (FHD	st ratio	o, 170° view	ing angle	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	Some: H	DD/S SD/S	ATA 6.0G ATA 6.0G	one M.2 228 3b/s, 2.5" w 3b/s, 2.5" w NVMe, PCI	ide, 7mm h ide, 7mm h	nigh, Ad igh (e.g		ion System™ SD)	Fingerprint reader	Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the keyboard bezel, anti-spoofing technology Near Field Communication
	Some: 12	28GB N	M.2 SSD	/ PCIé NVI	Me, PCle 3	.0 x 2,			Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
Optane™ memory Optical		WWAI	N slot as	2nd Storag	je, mutually	exclus	sive with WV	VAN	Max battery life	with 65W USB Type-C AC adapter MobileMark® 2014: 12.2 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet		model	: Intel Eth	nernet Con	nection I21	9-V (Ja	cksonville)		AC adapter	45W or 65W USB Type-C AC adapter
-	vPro mod	el:	Intel Eth	nernet Con	nection I21		Jacksonville)	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
WLAN + Bluetooth™ (optional)	Realtek® Intel Dua	RTL8	822BE, V Wireless	s-AC 8265,	02.11ac + E Wi-Fi 2x2	802.11		card (US only) oth 4.1, M.2 card lows OS	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
-				ilabla in all					Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant





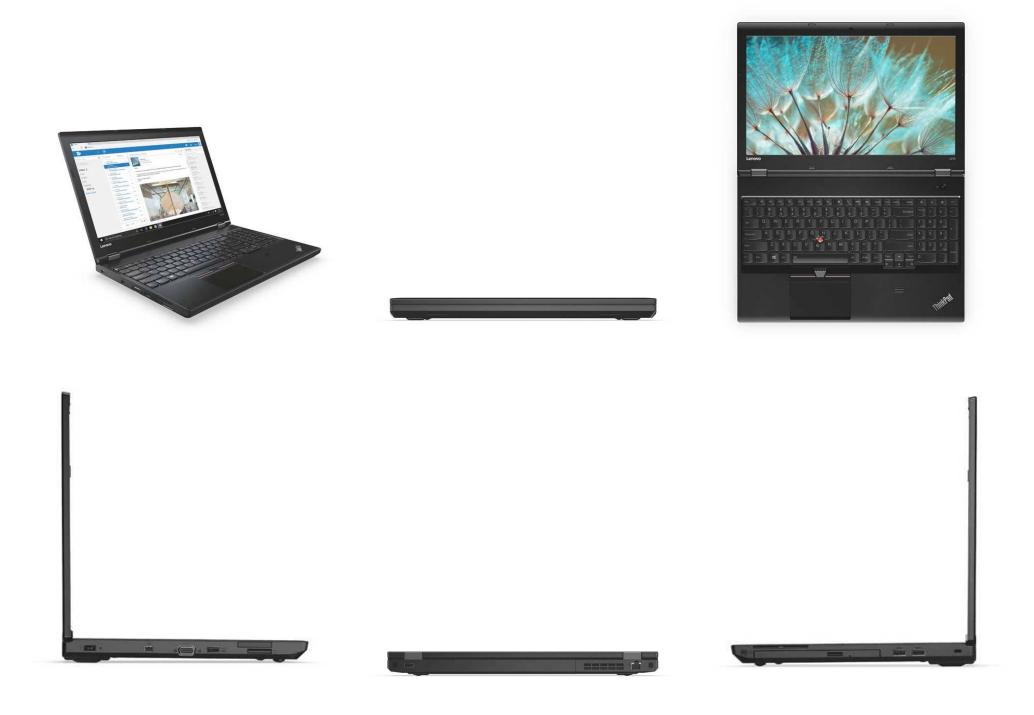






ThinkPad L490 Platform Specifications

Processor	Intel® Cele	eron® F	Processo	r or 8th Ger	neration Int	el Core	e™ i3 / i5 / i7	7 Proces	sor	Dimensions	<i>WxDxH:</i> 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		cessor aphics	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		D Graphics 310	Smart card reade	r <i>Optional:</i> Smart card reader
	i3-8145U i5-8265U	2	8	2.1 GHz 1.6 GHz	3.9 GHz 3.9 GHz	4MB 6MB				Media reader Ports	MicroSD card reader Two USB 3.1 Gen 1 (one Always On),
	i5-8365U i7-8565U	4	8	1.6 GHz 1.8 GHz	4.1 GHz 4.6 GHz	6MB 8MB	DDR4-2400	1	D Graphics 320		one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models).
	i7-8665U	4	8	1.9 GHz	4.8 GHz	8MB				_	headphone / microphone combo jack, optional smart card reader, microSD card reader, side docking connector, security keyhole
Graphics	Intel UHD (discrete r supports e supports t	Graph models externa three ir	nics 620 in are NOT al digital r ndepende	available i nonitor via ent displays	and AMD n EMEA); HDMI or U ;	Raded SB Typ				Monitor cable (optional) Bundled Accy	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None
Chipset Memory	Intel SoC	(Syste	m on Chi	p) platform	71		wo DDR4 S or 2400MHz o	`	,	1 ' '	 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 HD Audio, Realtek ALC3287 codec /
Display		olution		pe Surface		s Aspe Rati		Gamut	Angle		stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	14.0" HD (14.0" FHD	`		N Anti-glare S Anti-glare		16:		45% 45%	90° 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
			• • • • • • • • • • • • • • • • • • • •	0-finger ge	,					Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	SSD / SM.2 228	SATA 6. 30 SSD	0Gb/s, 2.0 / PCle N	.5" wide, 7r 5" wide, 7n IVMe, PCIe IVMe. PCIe	nm high 3.0 x 4	ctive P	rotection Sy	stem™		System Mgt (opt) Fingerprint reader	Intel vPro Technology r Optional: Touch style fingerprint reader on the palm rest Near Field Communication
Optane™ memory Optical	* Installed I	M.2 228	80 SSD is I	PCIe 3x4 but	run at PCIe		e to M.2 SSD) x 2	adapter li	imitation	Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter MobileMark® 2014: 12 hr
Ethernet							cksonville) Jacksonville	.)		AC adapter	*Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WLAN +			g, configu	rable by mod	el:	,		,		Preload	Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ (optional)	(NOT av	ailable eless- <i>l</i>	in EMÉ. AC 9260,	۸) Wi-Fi 2x2 8	302.11ac +	Blueto	th 4.2, M.2 oth 5.0	card		Limited warranty	One of the following, configurable by model: 1-year depot repair service 3-year/1-yr battery depot repair service
MMM NI (antional)), Wi-Fi 2x2		+ Bluet	ootn 5.0			Mil-Spec test	None
WWAN (optional)	WirelessIntegrateIntegrate* For non-V	s WAN ed Mob	upgradal oile Broad	ole Iband 4G L	ΓΕ, Fiboco	m L83(com L8 VWAN ເ	0-EB, M.2 ca 350-GL, M.2 ppgradable	ard (EME card	EA only)	Environment	EPEAT™ Bronze; ENERGY STAR® 7.1; RoHS-compliant
SIM card Note: The specifica	None	n may r	not he ava	ilahla in all ı	agione						Lenov



ThinkPad L570 Platform Specifications

Processor	6th Gener	ation I	ntel® Cor	e™ i3 / i5 /	i7 Process	or or			WWAN (optional)	One of the following, configurable by model:
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	, , ,	Wireless WAN upgradable Integrated Makille Provide and 40 LTE A
	Number	Cores	Threads	Frequency	Frequency		Types	Graphics		 Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card
	i3-6006U	1		2.0 GHz	-	3MB				Integrated Mobile Broadband 4G LTE.
	i3-6100U	1		2.3 GHz	-	3MB				Intel XMM™ 7160 (Fibocom L831-EAU), M.2 card (EMEA only)
	i5-6200U	2	4	2.3 GHz	2.8 GHz	3MB	DDR4-2133	Intel HD Graphics	SIM card (opt)	Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card
	i5-6300U	-		2.4 GHz	3.0 GHz	3MB		520	Dimensions	<i>WxDxH:</i> 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	ron® Di	rooccor	2.6 GHz	3.4 GHz	4MB	l i3 / i5 / i7 P	rocccor	Case color Case material	Black PC/ABS plastic
	Processor		# of	Base	Max Turbo		Memory	Processor		t)One slot (ExpressCard/34)
	Number		Threads	Frequency	Frequency	Cache	Types	Graphics	Smart card reade Media reader	er <i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)
	Cel 3965U		2	2.2 GHz	-	2MB		Intel HD Graphics 610	Ports	Four USB 3.1 Gen 1 (USB 3.0, one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector
	i3-7100U	1		2.4 GHz	-	3MB				* Depending on many factors, actual data transfer speed may be lower than theoretical speed
	i5-7200U	2		2.5 GHz	3.1 GHz	3MB	DDR4-2133	Intel HD Graphics	Monitor cable	Optional: Lenovo Mini-DisplayPort to DisplayPort Monitor Cable (MiniDP to DP)
	i5-7300U	4	4	2.6 GHz	3.5 GHz	3MB		620		HD720p resolution, fixed focus
	i7-7500U i7-7600U	-		2.7 GHz 2.8 GHz	3.5 GHz 3.9 GHz	4MB 4MB			Audio support	HD Audio, Realtek® ALC3245 codec / stereo speakers, 1.5W x 2 / dual array microphone, combo audio/microphone jack
		or io N	OT availah	le in EMEA	3.9 GHZ	4IVID			Karda a sud	
Graphics					n processo	r only:			_ Keyboard - UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Graphics	supports of	externa three ir	al analog ndepende	monitor via	a VGA and	digitál r		Mini DisplayPort; 200@60Hz (VGA)	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Chipset Memory	32GB max	x / 240	OMHz DE	p) platform DR4, dual-c		oable, to	wo DDR4 S	O-DIMM sockets	Fingerprint reade NFC Battery	r Optional: Swipe style fingerprint reader on the palm rest None Li-ion 6-cell (48Wh)
Display	Some: 15	5.6" (39 20 nits,	96mm) H	D (1366x76	58), anti-gla 50:1 contra	are, LEI ast ratio	D backlight,		Max battery life	MobileMark® 2014: 14.8 hr * Battery life varies significantly with settings, usage, & other factors
							ED backlig	ht,	AC adapter	45W slim tip AC adapter
	Some: 15	5.6" (39	96mm) Fi	HD (1920x	00:1 or 500 1080), anti-	glare, L	trast ratio _ED backlig , 160° view	ht, IPS,	Preload	Windows® 7 Professional 64 preinstalled Some: Windows 10 Home 64 through downgrade rights in Some: Windows 10 Pro 64
Multi-touch	None	oo mis,	10.9 asp	eci iallo, o	OO. I COIIII	asi ralio	, roo view	ing angle		 Windows 10 Pro 64 Lenovo Companion Lenovo Solution Center Lenovo Setting
Storage Optical (optional	Some: H Some: S Some: M Some: 11	SD / S I.2 SSI 28GB I utually	ATA 6.0G D / PCIe I M.2 SSD v exclusive	ib/s, 2.5" w NVMe, PCI / SATA 6.0 e with WW	ide, 7mm h e 3.0 x 2, 1 Gb/s, in W\ AN	igh (e.g 6Gb/s WAN sl	g. xxxGB S ot as 2nd S	torage,		Lenovo PowerEngage ThinkVantage Product Recovery ThinkVantage System Update Adobe® Reader® Microsoft® Office preloaded; purchase a product key to activate
								I	-	McAfee® LiveSafe™ (30-day trial)
Ethernet	Non-vPro vPro mod				nection I21 nection I21		.cksonville) Jacksonville	e)	Limited warranty	One of the following, configurable by model:
WLAN	 Realtek[®] 	BTL8	822BE, V	rable by mod Vi-Fi 2x2 8	02.11ac + E	3T4.1, I	M.2 card (U ac + BT4.1.	S only)]	 1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
	 Intel Dua 	al Band	d Wireless	s-AC 8265.	Wi-Fi 2x2	802.11	ac + BT4.1.	M.2 card	Mil-Spec test	MIL-STD-810G military testing
Bluetooth™	Bluetooth * Intel 8260	4.1 wi	reless, in	tegrated in support BT4	Wi-Fi + Blu .2 but is limit	etooth	combo ada 4.1 by Windo	pter ows OS	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Note: The specif										Lenovo









ThinkPad L580 Platform Specifications

Processor	Intel® Cele	eron® F	Processo	r, 7th Gene	ration Intel	Core™	i3 / i5 Proc	essor or	WWAN (optional)	One of the following, configurable by model:
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		 Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)
	Cel 3965U		2	2.2 GHz	-	2MB		Intel HD Graphics 610		 Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable
	i3-7130U	2		2.7 GHz	-	змв	DDR4-2133	Intel HD Graphics	SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card
	i5-7200U i5-7300U	-	4	2.5 GHz 2.6 GHz	3.1 GHz 3.5 GHz	3MB 3MB		620	Dimensions	<i>WxDxH</i> : 14.82" x 10.02" x 0.90"; 376.5mm x 254.5mm x 22.95mm
		ation I	ntel Core	i3 / i5 / i7		SIVID			Weight Case color	Starting at 4.46 lb / 2.0 kg Black
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	Case material	PC/ABS plastic
	Number	Cores	+	' ' '	Frequency		Types	Graphics	ExpressCard	None er <i>Optional:</i> Smart card reader
	i3-8130U	2	4	2.2 GHz	3.4 GHz	4MB	-		Media reader	MicroSD card reader
	i5-8250U i5-8350U	4	8	1.6 GHz 1.7 GHz	3.4 GHz 3.6 GHz	6MB 6MB	DDR4-2400	Intel UHD Graphics 620	Ports	Two USB 3.1 Gen 1 (one Always On),
	i7-8550U	7		1.7 GHz	4.0 GHz	8MB		020		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),
	* i3-7130U	is NOT	available	in US and El	ИЕА		J.		1	headphone / microphone combo jack, optional smart card reader,
Graphics	Intel HD G AMD Rad	araphic eon 53	raphics 610, 620 or Intel UHD Graphics 620 in processor only or raphics 620 or Intel UHD Graphics 620 in processor and son 530, 2GB GDDR5 memory sodels are NOT available in EMEA);						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 of supports t Max resol	externa hree ir ution:	al digital r ndepende 4096x23	monitor via ent displays 04@60Hz	HDMI or Û ; (USB Type-	,,	*	30Hz (HDMI)	Camera (optional Audio support	/)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	32GB max	x / 240	00MHz DI					O-DIMM sockets	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Display	22 Some: 15	20 nits, 5.6" (39	, 16:9 ́asr 96mm) F	pect ratio, 5 HD (1920x	00:1 contra 1080), anti-	st ratio	D backlight, LED backlig 170° view	ht, IPS,	Security Security chip vPro (optional) Fingerprint reade	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,
Multi-touch	None								NFC (optional)	anti-spoofing technology Near Field Communication
Storage	Some: H Some: S	m has one HDD slot or one M.2 2280 slot exclusively for storage e: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System e: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD) e: M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s							Battery Max battery life	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter MobileMark® 2014: 12 hr
	Some: 12	28GB I	M.2 SSD	/ PCIé NV	Me, PCle 3	0 x 2,			'	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Optane™ memo		WWA	N slot as	2nd Stora	ge, mutually	exclus	sive with WV	VAN	AC adapter Preload	Windows® 10 Home 64 or Windows 10 Pro 64
Optical	None								Limited warranty	One of the following, configurable by model:
Ethernet	Non-vPro vPro mod	model el:	l: Intel Eth Intel Eth	hernet Con hernet Con	nection I21 nection I21	9-V (Ja 9-LM (icksonville) Jacksonville)	Limited warranty	 1-year depot repair service 3-year/1-yr battery depot repair service
WLAN +				rable by mod]	3-year/1-yr battery limited onsite service
Bluetooth™ (optional)	Realtek® Intel Due	RTL8	8822BE, \ d Wireles	Wi-Fi 2x2 8 s-∆C 8265	02.11ac + E Wi₌Fi 2∨2	Bluetoo	th 4.1, M.2 o	card (US only)	Mil-Spec test	MIL-STD-810G military testing
(Optional)		ntel 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							Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
Note: The specif				the letter the letter						Lenov



ThinkPad L590 Platform Specifications

Processor	Intel® Cele	eron® F	rocesso	r or 8th Ger	eration Int	el Core	e™ i3 / i5 / i7	7 Processo	or	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	Proce Grapl		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	Intel UHD 61		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	6MB	DDR4-2400	Intel UHD		3	one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort),
	i7-8565U i7-8665U	4	8	1.8 GHz 1.9 GHz	4.6 GHz 4.8 GHz	8MB 8MB		62	U		HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader.
Graphics	Intel UHD Intel UHD (discrete r supports e supports t	Graph nodels externa hree in	nics 620 in are NOT al digital r ndepende	available i nonitor via ent displays	and AMD n EMEA); HDMI or U	Raded SB Typ				Monitor cable (optional) Bundled Accy	microSD card reader, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter None
Chipset Memory	Intel SoC	(Svste	m on Chi	p) platform			wo DDR4 S or 2400MHz d	`		1 ''	 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 HD Audio, Realtek ALC3287 codec /
Display	Size Reso	olution	Ту	pe Surface	Brightnes	s Aspe Rati			Viewing Angle		stereo speakers, 2W x 2, Dolby® Advanced Audio / dual array microphone, headphone / microphone combo jack
	15.6" HD (15.6" FHD			N Anti-glare S Anti-glare		16:		45% 45%	90° 170°	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Multi-touch	None									Security	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	SSD / SM.2 228	ATA 6. 0 SSD	0Gb/s, 2. / PCle N	.5" wide, 7r 5" wide, 7n IVMe, PCIe IVMe. PCIe	nm high 3.0 x 4	ctive P	rotection Sy	stem™			Intel vPro Technology r <i>Optional:</i> Touch style fingerprint reader on the palm rest Near Field Communication
Optane™ memory	* Installed N	И.2 228	0 SSD is I	PCIe 3x4 but	run at PCIe		to M.2 SSD	adapter lim	nitation	Battery	Integrated Li-ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
Optical	None None	iiilei C	plane in	erriory, r Or	e in vivie, i	016 3.0	7			Max battery life	<i>MobileMark</i> ® <i>2014:</i> 12 hr
Ethernet	Non-vPro vPro mode			nernet Conr			cksonville) Jacksonville	۸.		AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WLAN +				rable by mod		9-LIVI (Jacksonville	;)		Preload	Windows® 10 Home 64 or Windows 10 Pro 64
Bluetooth™ (optional)	 Realtek® (NOT av Intel Wire 	RTL8 ailable eless-	822BE, V in EMEA AC 9260,	Vi-Fi 2x2 8(\) Wi-Fi 2x2 8)2.11ac + E 302.11ac +	Blueto	th 4.2, M.2 oth 5.0	card		Limited warranty	One of the following, configurable by model: 1-year depot repair service 3-year/1-yr battery depot repair service
				, Wi-Fi 2x2		+ Bluet	ooth 5.0			Mil-Spec test	None
	WirelessIntegrate* For non-W	WAN ed Mob	upgradal ile Broad	ole Iband 4G L	ΓΕ, Fiboco	m L83(com L8 VWAN ເ	0-EB, M.2 ca 350-GL, M.2 pgradable	ard (EMEA card	A only)	Environment	EPEAT™ Bronze; ENERGY STAR® 7.1; RoHS-compliant
SIM card Note: The specifica	None	movin	ot be ave	ilahla in all r	ogione						Lenov









ThinkPad P1 Platform Specifications

		allon II	iter Core	5 13/1/PI	ocessor or	ıntei X	eon® E Pro	cessor	Smart card reade	r Optional: Smart card reader
	Processor Number	# of Cores	# of Threads		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),
	i5-8400H	4	8	2.5 GHz	4.2 GHz	8MB		Intel UHD Graphics	Ports	two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP).
	i7-8750H			2.2 GHz	4.1 GHz	9MB	DDD4 0666	630		HDMI 2.0, Ethernet extension connector, headphone / microphone combo jack,
	i7-8850H	6	12	2.6 GHz	4.3 GHz		DDR4-2666	Intel UHD Graphics		optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole
	E-2176M			2.7 GHz	4.4 GHz	12MB		P630		* Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed
·	NVIDIA® C supports e supports f	Quadro externa our ind	® P1000 (al digital n lependen	or P2000 M nonitor via t displays;	rocessor a Max-Q, 4GE HDMI or Th	GDDF nunderl	oolt™;		Monitor cable (optional) Bundled Accy Camera (optional)	HDMI to VGA: Lénovo HDMI to VGA Monitor Adaptér USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable One of the following, configurable by model:
					(Thunderbo	olt); 409	96x2160@	60Hz (HDMI)		HD720p camera with ThinkShutter camera privacy, fixed focus
Memory		(/ 266	6MHz DD	R4, ECC	or non-ECC ble, two DE			upported only on ckets	Audio support	 IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone,
Display					080), anti-			ght, IPS,		headphone / microphone combo jack, Dolby Atmos® headphone
	72	% gan	nut, 170°	viewing an			•		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	40	0 nits,	16:9 asp	ect ratio, 12	2160), anti- 200:1 contr .ngle, multi-	ast rati	ο,	3 , ,	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 r	multi-touc	h, supports	s 10-finger the access	gesture	e (4K only)	, ,	Fingerprint reader	r Touch style match on chip fingerprint reader on the keyboard bezel
	Up to 2 driv M.2 SSD /				, 32Gb/s				NFC	None
Optane™ memory	None								Battery Max battery life	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) Discrete mode: 7.36 hr; Hybrid mode: 13.87 hr
	None								(MobileMark 2014) AC adapter	* Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native Inte	el Ethe d or op	rnet Coni otional Th	nection I21 inkPad Eth	9-V (<i>Non-v</i> ernet Exte	<i>Pro</i>) or nsion C	I219-LM (Cable	vPro))	Preload	One of the following, configurable by model: • Windows® 10 Home 64
					2.11ac + B Wi-Fi + Blu					Windows 10 Pro 64Windows 10 Pro 64 for Workstations
	None None								Limited warranty	One of the following, configurable by model: 1-year depot repair service
Dimensions				.24" x 9.67				7mm x 18.4mm 7mm x 18.7mm		 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
Weight	Non-touch	n mode	e <i>l:</i> ´starti	ng at 3.76	lb (1.7 kg);				Mil-Spec test	MIL-STD-810G military testing
Case color Case material	Black	ver: (ng at 4.06 RP hybrid; alloy	, 0,				Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant

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

Lenovo June 2019



ThinkPad P51 Platform Specifications

Processor	6th or 7th G Intel Xeon®					or			Dimensions	WxDxH: WxDxH(Touch			252.3mm x 24.5-29.4mm 252.3mm x 25.8-30.7mm
	Processor	# of	# of	Base	Max Turbo	Casha	Memory	Processor	Weight	Models	4-cell	6-cell	
	Number	Cores	Threads	Frequency	Frequency	Cache	Types	Graphics		Non-touch	5.6 lb / 2.55kg	5.9 lb / 2.67kg	
	i7-6820HQ			2.7 GHz	3.6 GHz			Intel HD Graphics		Multi-touch	6.2 lb / 2.82kg	6.4 lb / 2.90kg	
	E3-1505M v5			2.8 GHz	3.7 GHz	8MB	DDR4-2133	530 Intel HD Graphics P530	Case color Case material		Glass-Fiber Reinforced Magnesium/Aluminum	Plastic;	
	i7-7700HQ	4	8	2.8 GHz	3.8 GHz	6MB		Intel HD Graphics	Smart card reade				
	i7-7820HQ			2.9 GHz	3.9 GHz		DDR4-2400	630	ExpressCard	One slot (Expr	ressCard/34)		
	E3-1505M v6	4		3.0 GHz	4.0 GHz	8MB	DDN4-2400	Intel HD Graphics	Media reader	4-in-1 reader (MMC, SD, SDHC, SDX	C), supports UHS-II	SD card
	E3-1535M v6			3.1 GHz	4.2 GHz			P630	Ports	Four USB 3.1	Gen 1 (USB 3.0, one Al ort 1.2a, HDMI 1.4b, Eth	ways On), USB Type	e-C / Thunderbolt 3,
Graphics	Intel HD Gra						r and		1	* Depending on	many factors, actual data t	ransfer speed may be l	ower than theoretical speed
	NVIDIA Qua supports ext supports fou Max resoluti	ernal d ir indep on: 38	ligital mo endent o 40x2160	nitor via Hl displays; @60Hz (D	DMI, Mini Ĺ isplayPort v	Ďisplay via Mir	ni DisplayPo	ort cable);	Camera (optional) HD720p resolution, fixed focus Audio support HD Audio, Realtek® ALC3268 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack Keyboard 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED				
01:				•	nunaerboit); 4096	0X2160@24	4Hz (HDMI)	UltraNav™		Point® pointing device a		, optional LLD backlight
Chipset Memory	Mobile Intel				non ECC (ECC f	unotion cur	ported only on			surface multi-touch tou		
Wemory	Xeon proces	ssor), d	ual-chan	nel capabl	e, four DDÌ	34 SO	-DIMM soc		Security Security chip	Discrete TPM	sword, hard disk passwo 2.0, TCG Certified	ord, supervisor pass	word, security keyhole
Display	16:9	aspec	t ratio, 70	00:1 contra	st ratio, 16	0° viev	ving angle	nt, IPS, 250 nits, IPS, 300 nits,	Fingerprint reader Color calibration	Optional: Pan	atch on chip fingerprint		est ation sensor in palm rest
	16:9	aspec	t ratio, 1Ò	000:1 contr	ast ratio, 1	00% g	amut, 170°	viewing angle	NFC	None			
Multi-touch (opt)	Capacitive-t	ype mu	ılti-touch,	supports	10-finger g	esture,	, 220 nits (I	FHD only)	Battery		er 4-cell (66Wh) or 6-ce	ll <i>(90Wh)</i>	
Pen (optional)	ThinkPad Pe					lay			Max battery life ¹⁰ (<i>MobileMark</i> ® 2014)	Model	4-cell	6-cell	
Storage	Up to 3 drives					h Aati	va Drataati	n Custom™	(WODIIEWAIK 2014)	Discrete Grapin		6.1 hr	
	Some: HDE Some: M.2						ve Protection	on System™		Hybrid Graphics		8.9 hr	
RAID (optional) Optical	RAID 0/1 su None		I OIC IVV	ivio, i Oic c	J.O X 4, 020	<i>JD/3</i>			AC adapter	170W slim tip	<u> </u>		rs
Ethernet	Non-vPro m						ksonville) acksonville)		Preload	• Windows® 7	ving, configurable by mode Professional 64		
WLAN	One of the fol					-IVI (UC	ionoonviile)		1	preinstalled tWindows® 10	hrough downgrade righ	ts in Windows 10 Pro	0 64
VVLAIN	Intel Dual I)2 11a	c + BT4 1	M 2 card		Windows 10 Windows 10			
	 Intel Dual I 	Band W	/ireless-/	AC 8265, W	/i-Fi 2x2 80	2.11a	c + BT4.1,	M.2 card			Pro 64 for Workstations	i	
Bluetooth™	Bluetooth 4. * Intel 8260a							oter by Windows OS	Limited warranty	One of the follow 1-year depot	ving, configurable by model t repair service	l:	
WWAN (optional)]	 3-year/1-yr b 	attery depot repair serv		
	Wireless V				- ^						pattery limited onsite ser	rvice	
	Qualcomm	 Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A (Sierra Wireless EM7455), M.2 card 						M.2 card	Mil-Spec test		G military testing		
SIM card (opt)	Micro-SIM c	Micro-SIM card slot, opt Verizon LTE (US) or Lenovo® Connect (EMEA) SIM card						MEA) SIM card	Environment	EPEAT™ Gold	(US only); ENERGY S	TAR® 6.1; RoHS-con	npliant

September 2018



ThinkPad P52 Platform Specifications

Processor	8th Genera	ation I	ntel® Core	e™ i7 / i9 Pr				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	Black Display cover: PPS; Bottom: Magnesium/Aluminum
	E-2176M			2.7 GHz	4.4 GHz	12MB		Intel UHD Graphics P630	ExpressCard	er <i>Optional:</i> Smart card reader None
	NVIDIA Qu P3200 (60 supports e supports fo Max resolu	uadro® SB mer externa our inc ution:	P1000 (4 mory, VR al digital n dependen 3840X21 5120X28	ready); nonitor via t displays; 60@60Hz 80@30Hz	ory), P2000 HDMI, Min (DisplayPo) (4GB ii Displa ort via N	ayPort, or T Iini Display	or 'hunderbolt™; rPort cable); 60Hz (HDMI)	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Three USB 3.1 Gen 1 (one Always On), two USB Type-C / Thunderbolt 3 (with the function of Power Delivery and DP), Mini DisplayPort 1.4, HDMI 2.0, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Power Delivery only supports power-out for charging peripherals * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Chipset Memory	only on Xe	n-ECC eon pro	C or 64ĠE ocessor), <i>are actuall</i>	B ECC max	nel capable but run at 24	e, four [DDR4 SO-I	action supported DIMM sockets limitation	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	00 nits,	16:9 asp	HD (1920x) ect ratio, 7 viewing ar	00:1 contra			ght, IPS,	- Audio Support	stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
	Some: 15 40	5.6" (39 00 nits,	96mm) 4k 16:9 asp	K (3840x21 ect ratio, 1 v viewing a	60), anti-gl 000:1 cont	rast rat		t, IPS,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Multi-touch (opt) Pen	Capacitive Supports p	pen ac	cessory,	please see	the acces				Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified
Storage	Some: Some:	HDD / M.2 S	SATA 6.0 SD / PCIe	e NVMe, Po	wide, 7mn Cle 3.0 x 4	, 32Gb	/s	ection System™	vPro (optional) Fingerprint reade Color calibration NFC (optional)	Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest None Near Field Communication
Optane™ memory RAID <i>(optional)</i> Optical	RAID 0/1 s None			emory, PCI	e NVMe, F	Cie 3.0) X 2		Battery Max battery life	Li-ion 90Wh battery Discrete mode: 6.1 hr; Hybrid mode: 8.9 hr
Ethernet	Non-vPro vPro mode			ernet Coni ernet Coni					(<i>MobileMark</i> ® 2014) AC adapter) * Battery life varies significantly with settings, usage, & other factors 170W slim tip AC adapter
WLAN Bluetooth™	Intel Wirele Bluetooth			/i-Fi 2x2 80 tegrated in					Preload	One of the following, configurable by model: • Windows® 10 Home 64
WWAN (optional)	Integrated Intel XMM	Mobile ™ 736	e Broadb 0 (Fiboco	and 4G LTI m L850-GL	E-A, _). M.2 card	d				Windows 10 Pro 64Windows 10 Pro 64 for Workstations
SIM card (opt)	Nano-SIM						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
Note: The specifica	tions observe	. may -	at ha are	ilabla in all	ragiona				Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant Lenovo









ThinkPad P52s Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor	Dimensions	<i>WxDxH:</i> 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm
	Processor Wumber Cores Threads Frequency Frequency Frequency Types Graphics 15-8350U 17-8550U 4 8 1.8 GHz 4.0 GHz 8MB DDR4-2400 Intel UHD Graphics		starting at 4.39 lb / 1.99 kg Black Display cover: Glass-Fiber Reinforced Plastic (PPS); Bottom: Glass-Fiber Reinforced Plastic
	i7-8650U 1.9 GHz 4.2 GHz 8MB 620	Smart card reader Media reader	r <i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)
Graphics	Intel UHD Graphics 620 in processor and 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)	Ports	Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), 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).
Chipset Memory Display	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets * System clocks down for processors with lower memory controller Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS,	Monitor cable	optional smart card reader, 4-in-1 reader (MINIC, SD, SDAC), 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 DP: Lenovo USB-C to DisplayPort Adapter
Display	250 nits, 16:9 aspect ratio, 700:1 contrast ratio, 170° viewing angle Some: 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° 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
Multi-touch (opt) Storage	On-cell touch, supports 10-finger gesture (FHD only) System has one HDD slot or one M.2 2280 slot exclusively for storage Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™		HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
	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,	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 Optical	in WWAN slot as 2nd Storage, mutually exclusive with WWAN y <i>Optional:</i> Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 None		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
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville) vPro model: Intel Ethernet Connection I219-LM (Jacksonville)	• •	anti-spoofing technology Near Field Communication
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	Battery	Optional integrated Li-ion 32Wh battery and external Li-ion 24Wh, 48Wh, or 72Wh battery
WWAN (optional)	One of the following, configurable by model: • Wireless WAN upgradable • Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A,	Max battery life (MobileMark® 2014) AC adapter	Models
	Intel XMM™ 7360 (Fibocom L850-GL), M.2 card	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	* For non-WWAN model, it means the model is NOT WWAN upgradable Nano-SIM card slot, optional Verizon LTE (US) SIM card	,	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® 6.1; RoHS-compliant
			Lenovo











ThinkPad P72 Platform Specifications

Processor	8th Generation I	ntel® Cor	e™ i7 Proces	ssor or Int	el Xeor	® E Proces	ssor	Dimensions	<i>WxDxH:</i> 16.38" x 11.06" x 0.96-1.16"; 416mm x 281mm x 24.5-29.4mm
	Processor # of Number Cores i7-8750H i7-8850H	# of Threads		Max Turbo Frequency 4.1 GHz 4.3 GHz	Cache 9MB 9MB	Memory Types	Processor Graphics Intel UHD Graphics 630	Weight Case color Case material	Starting at 7.5 lb (3.4kg) Black Display cover: GFRP + PPS; Bottom: Magnesium/Aluminum
	E-2176M E-2186M	12	2.6 GHz 2.7 GHz 2.9 GHz	4.4 GHz 4.8 GHz	12MB 12MB	DDR4-2400	Intel UHD Graphics P630	ExpressCard Media reader	r Optional: Smart card reader None 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card
Graphics		P600 (44 mory), P4 al digital r dependen 3840X21 5120X28	GB memory 4200 (8GB i monitor via I it displays; 60@60Hz (80@30Hz (y), P2000 memory), HDMI, Mir (DisplayPo	(4GB m or P520 ni Displa ort via N	00 (16GB r ayPort, or T Mini Display	hunderbolt™;	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	Mobile Intel CM2 128GB non-ECC only on Xeon pro * Installed DIMMs	C or 64ĠE ocessor), <i>are actuall</i>	B ECC max dual-chann y 2666MHz b	nel capable out run at 2	e, four [400MHz	DDR4 SO-I due to Intel	DIMM sockets limitation	Camera (optional, Audio support)IR camera and HD720p camera, fixed focus HD Audio, Realtek® ALC3286 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby Atmos® headphone
Display	16:9 asp Some: 17.3" (43	ect ratio, 39mm) 4k	800:1 contr	rast ratio, 30), anti-q	72% ga lare. LE	mut, 170° i D backligh	ght, IPS, 300 nits, viewing angle t, IPS, 400 nits,	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, LED backlight 3-button TrackPoint® pointing device and 3-button Mylar surface multi-touch touchpad
Multi-touch Pen Storage	None Supports pen ac Up to 3 drives (two Some: HDD / Some: M.2 SS	wing angl ccessory, o M.2 SSD SATA 6.0	e please see and one HDL Gb/s, 2.5" v	the acces	ssory co	ompatibility Active Prote	for details		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 Near Field Communication
Optane™ memor RAID <i>(optional)</i> Optical	y <i>Optional:</i> Intel C RAID 0/1 suppo None	Optane me						Battery Max battery life	Li-ion 99Wh battery, supports Rapid Charge (charge up to 80% in 1hr) MobileMark® 2014: 18 hr * Battery life varies significantly with settings, usage, & other factors
Ethernet	Non-vPro model:		nernet Conn nernet Conn					AC adapter Preload	230W slim tip AC adapter One of the following, configurable by model:
WLAN Bluetooth™	Intel Wireless-A0 Bluetooth 5.0 wi	C 9560, W	/i-Fi 2x2 80	2.11ac + I	Bluetoo	th 5.0, M.2	card		 Windows® 10 Home 64 Windows 10 Pro 64 Windows 10 Pro 64 for Workstations
WWAN SIM card	None None							Limited warranty	One of the following, configurable by model: 1-year depot repair service 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
								Mil-Spec test	MIL-STD-810G military testing
								Environment	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant









ThinkPad T470 Platform Specifications

Processor	6th Gener	ation Ir	ntel® Core	e™ i5 / i7 P	rocessor o	r			Dimensions	WxDxH:	13.25" x 9.15" x 0.79"; 336.6mm x 232.5mm x 19.95mm				
	Processor	# of	# of	Base	Max Turbo		Memory	Processor	Weight	Models	3-cell or 3 + 3-cell 6-cell or 3 + 6-cell				
	Number			Frequency	Frequency	Cache	Types	Graphics		Magnesium	n 3.49 lb / 1.58 kg 3.92 lb / 1.78 kg				
	i5-6200U			2.3 GHz	2.8 GHz	змв				PPS	3.63 lb / 1.65 kg 4.35 lb / 1.85 kg				
	i5-6300U i7-6500U	2	, [2.4 GHz	3.0 GHz	змв	DDD4 0100	Intel HD Graphics	Case color	Black					
		1 2	4	2.5 GHz	3.1 GHz	4MB	DDR4-2133	520	Case material		over: Magnesium Hybrid or PPS;				
	i7-6600U	1		2.6 GHz	3.4 GHz	4MB				Bottom:	Glass-Fiber Reinforced Plastic				
	7th Gener	ation Ir	itel Core	i3 / i5 / i7 F	Processor					rOptional:	Smart card reader				
	Processor	# of	# of	Base	Max Turbo	Cache	Memory		Media reader Ports	4-In-1 read	der (MMC, SD, SDHC, SDXC), supports SD 3.0, UHS-I B 3.1 Gen 1 (USB 3.0, one Always On),				
	Number	Cores	Threads	Frequency	Frequency	Cache	Types	Graphics	FOIIS		Type-C Gen 2 / Thunderbolt 3 (w/ the function of Power Delivery and	DP)			
	i3-7100U			2.4 GHz	-	3MB					b, Ethernet (RJ-45), Dock connector	J. _/ ,			
	i5-7200U	<u> </u>		2.5 GHz	3.1 GHz	3MB		Intel HD Graphics	W.C. 1 1 (1)	* Depending	g on many factors, actual data transfer speed may be lower than theoretical s	peed			
	i5-7300U	2	4	2.6 GHz	3.5 GHz	3MB	DDR4-2133	620	WiGig dock (opt)		WiGig dock				
	i7-7500U			2.7 GHz	3.5 GHz	4MB		020	Monitor cable		Lenovo USB-C to VGA Adapter				
	i7-7600U			2.8 GHz	3.9 GHz	4MB			Camera (optional) 720p:	HD720p resolution, fixed focus				
	* i7-6500U	is NOT a	available ii	n EMEA					Audio support		b: IR camera and HD720p camera (mutually exclusive with WiGig) Realtek ALC3268 codec / stereo speakers, 2W x 2 /				
Graphics					essor only		roo® 040N4\	,		dual array microphone, combo audio/microphone jack					
							rce® 940M) OT available	x, e in EMEA);	Keyboard		Il-resistant, multimedia Fn keys, optional LED backlight				
	supports e	externa	l digital n	nonitor via	HDMI or U			,,	UltraNav™		t®pointing device and buttonless Mylar surface multi-touch touchpac				
	supports t	hree in	depende	nt displays	; (LIOD T	0) 40	00 04000	0.411 (1.101.41)	Security		password, hard disk password, supervisor password, security keyho	ole			
						-C); 40	96x2160@	24Hz (HDMI)	Security chip vPro <i>(optional)</i>	Discrete TPM 2.0, TCG Certified Intel vPro Technology					
Chipset	Intel SoC	(Syster	n on Chi	p) platform					Fingerprint reade	r Ontional	Touch style match on chip fingerprint reader on the keyboard bezel				
Memory					hannel cap <i>lower mem</i>			O-DIMM sockets	NFC (optional)		d Communication				
Display							D backlight,		Internal battery		Integrated Li-Polymer 3-cell (24Wh)				
. ,	22	20 nits,	16:9 asp	ect ratio, 4	00:1 contra	ast ratio)		External battery Max battery life		r 3-cell (24Wh) or Li-ion 6-cell (48Wh or 72Wh)				
							ED backlig	ht,	(MobileMark® 2014)	Models	3-cell 3+3-cell 6-cell 48Wh 6-cell 72Wh 3+6-cell 48Wh 3+6-cell 7				
					00:1 or 500 (080) anti-		_ED backlig	ht IPS	,	micgraica					
	25	50 nits.	16:9 asp	ect ratio. 7	00:1 contra	ast ratio	. 170° view	ing angle		Discrete * Pottory life	6.9 hr 13.9 hr 14.3 hr 21.6 hr 21.2 hr 28.6 h fe varies significantly with settings, usage, & other factors	ır			
Multi-touch (opt)	On-cell to	uch, su	pports 10	O-finger ge	sture (FHD	IPS pa	anel with PF	S cover only)	AC adapter		5W slim tip AC adapter, 45W or 65W USB Type-C AC adapter				
Storage					30 slot exclus				Preload	Preload Windows® 7 Professional 64 preinstalled Some: Windows 10 Home 64 through downgrade rights in Some: Windows 10 Pro 64					
	Some: HI	DD / SA	ATA 6.0G	b/s, 2.5" w	ide, 7mm h	nigh, Ad	tive Protect	ion System™							
	Some: Si	3D / 3F		D/S, 2.5" W	iae, 7mm r e 3.0 x 2, 1	iign (e.(g. xxxGB S	SD)							
							ot as 2nd S	torage.							
					AN and Wi						PowerEngage Intage Product Recovery • Microsoft Office preloaded; purchase a product key to activate	۵			
Optical	None										intage System Update	•			
Ethernet							cksonville)			 Adobe[®] 	Reader®				
	vPro mode	el:	Intel Eth	ernet Con	nection I21	9-LM (Jacksonville	e)			ft® Office preloaded;				
WLAN	One of the	following	g, configur	able by mod	lel (WiGig ca	ın coexis	st with WWAN	I):			e a product key to activate ▣ LiveSafe™ (30-day trial)				
	Realtek®								Literature 1		, ,				
							ac + BT4.1, ac + BT4.1,		Limited warranty		following, configurable by model:				
								м.2 саго 302.11ac + BT4.1,			lepot repair service -yr battery depot repair service				
	M.2 card		51000 7	.5 10200, 1				202.7100 7 214.1,		3-year/1-yr battery limited onsite service					
Bluetooth™	Bluetooth	4.1 wire	eless, int	egrated in	Wi-Fi + Blu	uetooth	combo ada 3T4.1 by Wind	pter	Mil-Spec test		810G military testing				
WWAN (optional)							ist with WiGig		Environment	EPEAT™ (Gold (US only); ENERGY STAR® 6.1; RoHS-compliant				
vv vvAin (<i>optional)</i>	 Wireless 				CI (NANNAIN C	an coex	isi willi widi(g/·			· · · · · · · · · · · · · · · · · · ·				
	• Integrate				TE-A,										
	Qualcom	nm® Sn	apdragor	n™ X7 LTE	-A (Sierra	Wireles	ss EM7455)	, M.2 card							
	 Integrate 														
SIM card (opt)					EAU), M.2 (MEA) SIM card							
C.III Jaia (Upi)	1411010-01101	i cara s	ioi, opi v	CHECK LIL	(OO) OI LE	211000	COLLICOT (F	ivien, olivi calu	1						



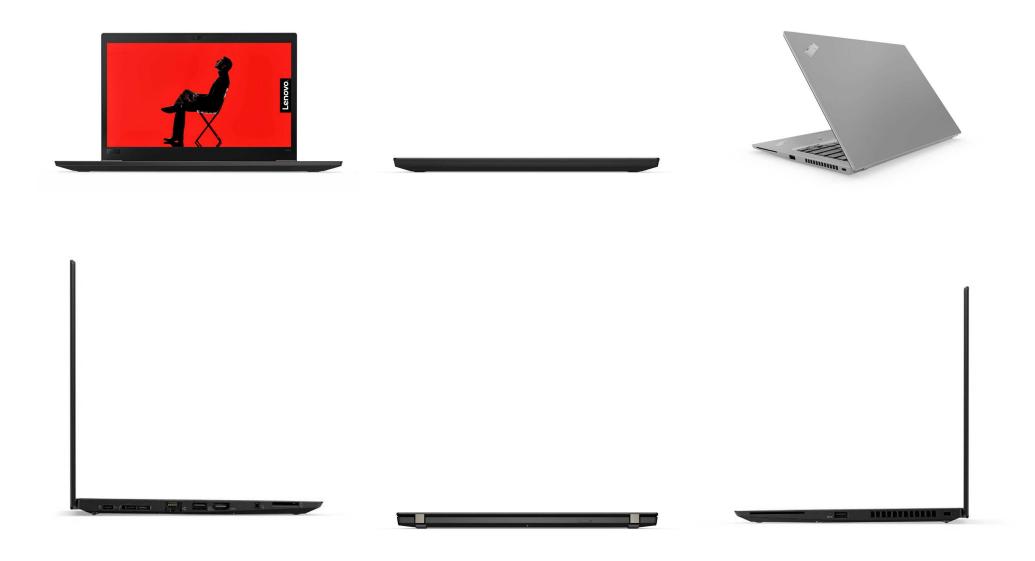
ThinkPad T470s Platform Specifications

Processor	6th Generation Int	tel® Core	e™ 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				
	i5-6200U		Base Frequency 2.3 GHz	Max Turbo Frequency Cache 2.8 GHz 3MB	Types	Processor Graphics	Weight Case color Case material	Starting at 2.9 lb (1.32kg) Black or Silver Display cover: CFRP Hybrid; Bottom: Magnesium				
	i5-6300U 2 i7-6600U	4	2.4 GHz 2.6 GHz	3.0 GHz 3MB 3.4 GHz 4MB	DDR4-2133	520		er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)				
	or 7th Generation	Intel Co	ore i5 / i7 P	rocessor			Ports	Three USB 3.1 Gen 1 (USB 3.0, one Always On),				
		# of Threads	Base Frequency	Max Turbo Frequency Cache	Memory Types	Processor Graphics		USB 3.1 Type-C Gen 2 / Thunderbolt 3 (w/ the function of Power Delivery and DP), 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	WiGig dock (opt) 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				
							Camera (optional	/)HD720p resolution, fixed focus (models without camera are NOT available in EMEA)				
Graphics	Intel HD Graphics supports external supports three ind	digital m depende	nonitor via nt displays	HDMI or USB Typ			Audio support	HD Audio, Realtek® ALC3268 codec / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack				
Chipset	Max resolution: 4				096x2160@	24Hz (HDMI)	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpace				
Memory	20GB or 24GB ma 4GB or 8GB mem * System clocks dow	ax ⁷ / 240 lory sold	ÓMHz DD lered to sy	R4, dual-channel stemboard, one D	DR4 SÓ-D	IMM socket	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology				
Display		16:9 asp	ect ratio, 7	'00:1 contrast ratio	o, 160° view	ing angle	Fingerprint reade NFC (optional)	er <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest Near Field Communication				
Multi-touch (opt)	Some: 14.0" (355 300 nits, 1 On-cell touch, sup	16:9 asp	ect ratio, 7	00:1 contrast ratio	o, 160° view		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,						AC adapter	45W slim tip AC adapter, 45W or 65W USB Type-C AC adapter				
Optical	M.2 SSD / SATAM.2 SSD / PCIeNone				xxGB SSD	M.2 PCIe NVMe)	Preload	Windows® 7 Professional 64 preinstalled Some: Windows 10 Home 64 through downgrade rights in Some: Windows 10 Pro 64 Lenovo Companion				
Ethernet	Non-vPro model: vPro model:			nection I219-V (Janection I219-LM ()	-	 Lenovo Solution Center Lenovo PowerEngage Microsoft Office preloaded; 				
WLAN	One of the following, Intel Dual Band Intel Dual Band Intel Tri-Band Wi M.2 card	configur Wireless Wireless reless-A	rable by mod s-AC 8260, s-AC 8265, AC 18265,	del (WiGig is mutuall Wi-Fi 2x2 802.11 Wi-Fi 2x2 802.11 WiGig 802.11ad +	y exclusive w lac + BT4.1 lac + BT4.1 - Wi-Fi 2x2	, M.2 card , M.2 card , M.2 card 802.11ac + BT4.1		 ThinkVantage Product Recovery ThinkVantage System Update Adobe® Reader® Microsoft® Office preloaded; purchase a product key to activate McAfee® LiveSafe™ (30-day trial) 				
Bluetooth™	Bluetooth 4.1 wire * Intel 8265ac / 1826	65ac card	l support BT	4.2 but is limited to I	BT4.1 by Win	dows OS	Limited warranty	One of the following, configurable by model: • 1-year depot repair service				
WWAN (optional)	One of the following,Wireless WAN uIntegrated Mobil	pgradab	ole	, ,	ve with WiGig):		 3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service 				
	Qualcomm® Sna	apdragor	n™ X7 LTE	E-A (Śierra Wirele	ss EM7455), M.2 card	Mil-Spec test	MIL-STD-810G military testing				
SIM card (opt)	Micro-SIM card	slot, opt	Verizon LT	ΓΕ (ÙS) or Lenovo	o® Connect	(EMEA) SIM card	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant				



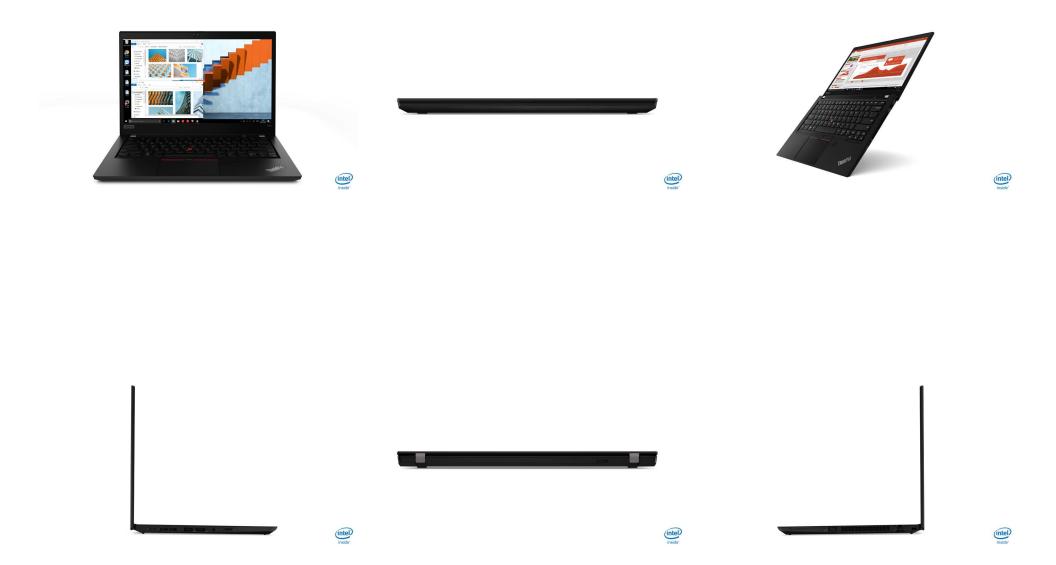
ThinkPad T480 Platform Specifications

Processor	7th Gener	ation Ir	ntel® Cor	e™ i5 Proc	essor				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		24Wh or 24Wh + 24Wh	48Wh, 72Wh, or 24Wh	+ 48Wh / 72Wh	
	Number	Cores	Threads	Frequency	Frequency	Cache	Types	Graphics		Integrated N		3.49 lb / 1.58 kg	3.92 lb / 1.7	8 kg	
	i5-7200U	2	4	2.5 GHz	3.1 GHz	3MB	DDR4-2133	Intel HD Graphics		Integrated F		3.63 lb / 1.65 kg	4.08 lb / 1.8		
	i5-7300U			2.6 GHz	3.5 GHz	3MB		620	_	Discrete Ma		3.53 lb / 1.60 kg	3.97 lb / 1.8		
	or 8th Ger	neration	n Intel Co	ore i3 / i5 / i	7 Processo	r]	Discrete PP	S	3.68 lb / 1.67 kg	4.12 lb / 1.8	7 kg	
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Case color Case material						
	i3-8130U i5-8250U i5-8350U i7-8550U i7-8650U	4	8	2.2 GHz 1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz 3.4 GHz 3.6 GHz 4.0 GHz 4.2 GHz	4MB 6MB 6MB 8MB 8MB	DDR4-2400	Intel UHD Graphics 620	Smart card reade Media reader Ports	er Optional: S 4-in-1 read Two USB 3 one USB 3 one USB 3	roptional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (one Always On), one USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort) one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP), HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 media reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical spee HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
Graphics	Intel HD G NVIDIA® ((discrete g supports e supports t	Graphic GeForce Graphic Externa Chree in	s 620 or e® MX15 <i>s is avail</i> I digital r depende	Intel UHD of the control of the cont	Graphics 62 DR5 memoin i7 models HDMI or US	20 in po ory s <i>in EM</i> SB Typ	e-C;	ly or d 80Hz (HDMI)	Monitor cable (optional)	HDMI 1.4b headphone 4-in-1 med side dockin * Depending HDMI to VO USB-C to L					
Chipset Memory	32GB max	x / 2400	MHz DE	p) platform DR4, dual-c processors	hannel cap	able, to	wo DDR4 S ory controlle	O-DIMM sockets	Camera (optional Audio support	emera (optional) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus • IR camera and HD720p camera, fixed focus udio support HD Audio, Realtek® ALC3287 codec /					
Display		220 nit	s, 16:9 a	spect ratio	, 400:1 con	rast ra	ED backligh tio LED backli		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack						
	Some: 1	250 nit 14.0" (3 300 nits	s, 16:9 a 55mm) \ s, 16:9 as	spect ratio NQHD (250 spect ratio,	, 700:1 con 60x1440), a	trast ra Inti-gla	tio, 170° vie re, LED bac io, 72% gan	wing angle klight, IPS,	Keyboard UltraNav™ Security	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad Power-on password, hard disk password, supervisor password, security keyhole ip Discrete TPM 2.0, TCG Certified					
Multi-touch (opt)			wing an		sture (FHD	only)			Security chip vPro (optional)						
Storage	System has	one HL DD / S/	DD slot or ATA 6.00	one M.2 228 ab/s, 2.5" w	30 slot exclus ide, 7mm h	<i>ively for</i> igh, Ac	tive Protecti	on System™		Fingerprint reader <i>Optional:</i> Touch style match on chip fingerprint reader on the keyboard bezel, anti-spoofing technology					
	Some: M	.2 SSD	/ PCle I	NVMe, PCI	ide, 7mm h e 3.0 x 4 Me, PCle 3.	• • •	g. xxxGB SS	SD)	Battery						
Optane™ memory Optical	in * <i>Installed I</i>	WWAN M.2 SSD	N slot as	2nd Storag	je, mutually In at PCIe 3.0	exclús	sive with WV e to M.2 SSD	VAN adapter limitation	Max battery life (MobileMark® 2014)	Models Integrated n Discrete mo	24W nodel 7.2 h	th 48Wh 72Wh 24Wh nr 14.4 hr 21.8 hr	/h + 24Wh 24Wh + 48Wh 14.4 hr 21.8 hr 13.6 hr 19.8 hr	29.0 hr 26.4 hr	
Ethernet	Non-vPro vPro mode		Intel Eth Intel Eth	nernet Coni nernet Coni	nection I219 nection I219	9-V (Ja 9-LM (J	cksonville) Jacksonville)	AC adapter	45W or 65\	W USB Typ	ignificantly with settings be-C AC adapter		rs	
WLAN +	Intel Dual	Band V	Vireless-	AC 8265, V	Vi-Fi 2x2 80	2.11ac	+ Bluetoot	n 4.1, M.2 card	Preload			64 or Windows 10 Pro 6	4		
Bluetooth™ WWAN (optional)	N (optional) One of the following, configurable by model (mutually exclusive with Intel Optane memory): • Integrated Mobile Broadband 4G LTE.								Limited warranty	1-year de3-year/1-	epot repair yr battery o	depot repair service			
0114	 Integrate Intel XM * For non-W 	Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable								• 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					
SIM card (opt)			· '		LTE (US)	SIM ca	ra							Lenov	



ThinkPad T480s Platform Specifications

Processor	7th Genera	ation Ir	ntel® Cor	e™ i5 Proc	essor			Dimensions	<i>WxDxH:</i> 13.03" x 8.93" x 0.73"; 331mm x 226.8mm x 18.45mm					
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Weight Case color	Starting at 2.9 lb (1.32kg) Black or Silver				
	i5-7200U i5-7300U	2	4	2.5 GHz 2.6 GHz	3.1 GHz 3.5 GHz	3MB 3MB	DDR4-2133	Intel HD Graphics 620	Case material	Display cover: CFRP Hybrid; Bottom: Magnesium				
	or 8th Gen	neration	n Intel Co						Smart card reade Media reader	<i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC)				
	Processor	# of	# of	Base	Max Turbo	Cache	Memory	Processor	Ports	Two USB 3.1 Gen 1 (one Always On),				
	Number	Cores	Threads	_ ,	Frequency		Types	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 / Thunderbolt 3 (with the function of PD and DP),				
	i5-8250U i5-8350U			1.6 GHz 1.7 GHz	3.4 GHz 3.6 GHz	6MB 6MB		Intel UHD Graphics		HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models),				
	i7-8550U	4	8	1.8 GHz	4.0 GHz	8MB	DDR4-2400	620		headphone / microphone combo jack, optional smart card reader,				
	i7-8650U			1.9 GHz	4.2 GHz	8MB				4-in-1 reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole				
Graphics	Intel UHD	Graphi	ics 620 ir	n processo	r and NVID)IA® Ge	ocessor on Force® MX1 able in EME	50,	Monitor cable (optional)	* Depending on many factors, actual data transfer speed may be lower than theoretical speed USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter				
	supports e	externa	l digitàl n	nonitor via	HDMI or U			Α),	Camera	One of the following, configurable by model:				
		ution: 4	4096x230	04@60Hz	; (USB Type	-C); 40	96x2160@3	BOHz (HDMI)	Audio support	 HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera, fixed focus 				
Chipset Memory	Intel SoC (20GB or 2				24 dual ab	annal a	anabla		Addio Support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium /				
WEITIOLY	4GB or 8G	B men	norv solo	dered to sv	stemboard	. one D	DR4 SO-DI	MM socket		dual array microphone, headphone / microphone combo jack				
Diamless	* System clo	ocks do	wn for pro	cessors with	lower mem	ory conti	oller		Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad				
Display							ED backligh 170° viewii		<u> </u>	Power-on password, hard disk password, supervisor password, security keyhole				
	sup	oports ⁻	ThinkPao	d Privacy G	luard on so	ome mo	dels	0 0 ,	Security chip	Discrete TPM 2.0, TCG Certified				
							LED backl 72% gamu		vPro <i>(optional)</i> Fingerprint reade	Intel vPro Technology r Optional: Touch style match on chip fingerprint reader on the palm rest,				
	170	0° view	ing angle	e		,	J	-,		anti-spoofing technology				
	On-cell tou					nits (FF	ID only)		NFC (optional)	Near Field Communication				
Storage	One of the f				ei:				Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (0-80% in 60 mins) with 65W USB Type-C AC adapter				
.	 M.2 SSD 				4, 32Gb/s	;			Max battery life	MobileMark® 2014: 15.6 hr				
Optane™ memory Optical	/None None								AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter				
Ethernet	Non-vPro								Operating system	Windows® 10 Home 64 or Windows 10 Pro 64				
	vPro mode						lacksonvilĺe	<u> </u>	Limited warranty	One of the following, configurable by model:				
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS									 1-year depot repair service 3-year/1-yr battery depot repair service 				
WWAN (optional)						u lo DT	+. I by vviila	0003 003		3-year/1-yr battery limited onsite service				
****Ai* (optional)	 Wireless 	WAN	upgradal	ole					Mil-Spec test	MIL-STD-810G military testing				
	Integrate Intel XM	d Mobi	ile Broad	lband 4G L com L830-E	TE, FR) M 2 oc	ard (EM	EA only)		Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant				
	 Integrate 	d Mob	ile Broac	lband 4G L	TÉ-A,		LA Offiy)							
CIM cord (ont)	Intel XMI Nano-SIM			com L850-0			rd							
SIM card (opt) Note: The specifica					` '	JIIVI Ca	ıu			Leno				



ThinkPad T490 Platform Specifications

Processor	8th Generation Inte	el® Core	e™ i5 / i7 Pro	ocessor					Dimensions	WxDxH:	12.95" x 8.94" x	0.70"; 329mm x 227mm x 17	.9mm	
	Processor # of	# of		Max Turbo C	ache	Memory	Proces		Weight	Models	FHD	FHD Low Power / WQHD		
	Number Cores T i5-8265U	Threads		requency	MB	Types	Graph	nics	Case color		3.41 lb / 1.55 kg	3.23 lb / 1.46 kg		
	i5-8365H				MB	Ir	ntel UHD (Granhics		Black Display cover: PPS / 50% GF;				
	i7-8565U 4	8			MB D	DR4-2400 "	620		´	Bottom:	PA / 50% G			
	i7-8665U		1.9 GHz	4.8 GHz 8	MB				Smart card reade			er		
	Intel UHD Graphic								Media reader Ports	ader MicroSD card reader Two USB 3.1 Gen 1 (one Always On),				
	Intel UHD Graphics NVIDIA® GeForce®				,.					one USB 3	.1 Type-C Gen 1	(with the function of Power Deli	ivery and DisplayPort),	
	supports external of	digital n	nonitor via H			olt;				one USB 3	one USB 3.1 Type-C Gen 2 Thunderbolt 3 (with the function of P HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models			
	supports three inde	epende	nt displays;	- - - - - - - - - - - - - - - - - - -	. 4000	0400@04	(LIDA	415		headphone	reader.			
Chipset	Max resolution: 40 Intel SoC (System			nunaerboit)	; 4096	X2160@24	HZ (HDIN	/11)		microSD ca	ard reader, side	docking connector, security keyl actual data transfer speed may be lo	nole wer than theoretical speed	
Memory	48GB max / 2400N			annel capal	ole.				Monitor cable	HDMI to VO	GA: Lenovo H	DMI to VGA Monitor Adapter	wer than theoretical speed	
,	8GB or 16GB men	nory so	Idered to sys	stemboard,	one DE			et	(optional)	USB-C to \	/GA: Lenovo U	SB-C to VGA Adapter SB-C to HDMI Adapter		
Diamless	* Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation									USB-C to I	DP: Lenovo U	SB-C to DisplayPort Adapter		
Display	Size Resolution	Ту	pe Surface	Brightness	Aspect Ratio	Contrast Ratio	Gamut	Viewing Angle	Bundled Accy	None				
	14.0" HD (1366x768)) Т	N Anti-glare	220 nits	16:9	400:1	45%	90°	Camera (optional,	One of the fo	ollowing, configural	<i>ble by model:</i> nkShutter camera privacy, fixed t	fooup	
				250 nits			45%					amera with ThinkShutter camera		
_	14.0" FHD (1920x10	180) IF	PS Anti-glare	300 1115	16:9	700:1		170°	Audio support	HD Audio,	Realtek® ALC32	87 codec /		
	EUD (1000::10)	100)		(multi-touch)					-	dual array f	akers, 2vv x 2, D far-field microph	olby® Audio™ Premium / one, headphone / microphone c	ombo iack	
	14.0" FHD (1920x10) Low Power	¹⁸⁰⁾ IF	PS Anti-glare	400 nits	16:9	800:1	72%	170°	Keyboard	6-row, spill-	resistant, multin	nedia Fn keys, optional LED bad	cklight	
	FHD (1920x10)	(080)	PS Anti-glare	400 nits	16:9	1000:1	100%	170°	UltraNav™		1 0	and buttonless Mylar surface m	<u> </u>	
	Guard	acy III	Anti-giale		10.9	1000.1		170°	Security Security chip	Power-on password, hard disk password, supervisor passwor Discrete TPM 2.0, TCG Certified) Intel vPro Technology		ord, security keyhole		
	14.0" WQHD (2560x		PS Glossy	500 nits	16:9	1500:1			System Mgt (opt)					
Multi-touch (opt)	Dolby Vision™	HUK	•				Adobe		Fingerprint reade	r <i>Optional:</i> 1	Touch style matc Communication	h on chip fingerprint reader on t	he palm rest	
	On-cell touch, supplementsM.2 2280 SSD /	<u> </u>		ure (FHD o	пу)				Battery			ery, supports Rapid Charge (ch	arge up to 80% in 1hr)	
	 M.2 2280 SSD / 	PCIe N	VMe, PCIe						Max battery life	MobileMari	k® 2014: 16.11	hr	3	
	• M.2 2242 SSD /				- 0 0	. 0			AC adapter		e varies significant! W USB Type-C A	y with settings, usage, & other factor	'S	
Optane™ memory Optical	Optional: Intel Opt None	tane me	emory, PCIe	INVIVIE, PCI	e 3.0 x	(2			Preload			Windows 10 Pro 64		
Ethernet	Non-vPro model: I	Intel Eth	nernet Conn	ection I219-	V (Jacl	ksonville)			Limited warranty		ollowing, configuration			
	vPro model: I	Intel Eth	ernet Conn	ection I219-	LM (Ja	cksonville)				• 1-year de	epot repair servic	ce [*]		
WLAN (optional) Bluetooth™ (opt)											yr battery depot yr battery limited			
	One of the following,				oour co	Jilibo adapt	C1		Mil-Spec test		10G military tes			
, , , ,	· Wireless WAN up	pgradab	ole						Environment			' STAR® 7.0; RoHS-compliant		
	 Integrated Mobile 	e Broad	band 4G LT					only)		, ,		5 7.0, 110110 0011pliant		
	Integrated MobileIntegrated Mobile	e Broad e Broad	band 4G LI band 4G IT	E-A, FIDOCO E-A, Fiboco	m L850 m L860	0-GL, M.2 C 0-GL, MIMC	ard) 4x4. M.	2 card						
	* For non-WWAN mo	del. it m	eans the mod	el is NOT WV	/AN upo	aradable	,	_ 00.0						
	Nano-SIM card slo			· '	vi card								Lenov	











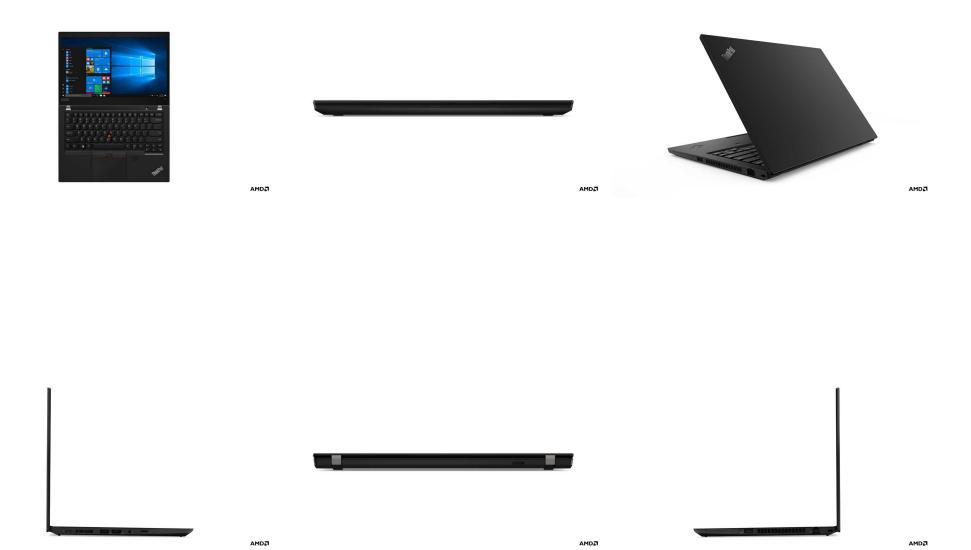






ThinkPad T490s Platform Specifications

Processor	8th Gener			re™ i5							Dimensions	Dimensions WxDxH (black with FHD / Privacy Guard): 12.95" x 8.90" x 0.66": 329.0mm x 226.15mm x					
	Processor Number	# of Cores	# of Thread:	s Frequ	juency F	requericy	ache	Memory Types	Proce: Graph			WxDxH (black with FHD Lo	8.90" x 0.66"; 329.0mm x 2 bw <i>Power / WQHD):</i> 8.89" x 0.63"; 328.8mm x 2			
	i5-8265U i5-8365U i7-8565U	4	8	1.6 (GHz GHz	4.1 GHz 6 4.6 GHz 8	BMB	DDR4-2400	ntel UHD (Graphics	Weight	WxDxH (B.92" x 0.68"; 329.15mm x Black with FHD Low Power / WQHD / Privacy Guard			
	i7-8665U			1.9	GHz	4.8 GHz 8	BMB				_	Weight	2.98 lb / 1.35 kg	2.81 lb / 1.27 kg	3.29 lb / 1.49 kg		
Graphics	supports t	externa three in	al digital	monito lent dis	or via Ĥ solavs:	DMI or Thu		olt; 6x2160@24	Hz (HDN	ЛI)	Case color Case material	Bottom: Magnesium					
Chipset Memory	Intel SoC 8GB, 16G	(Syster	m on Cl 2GB / 24	nip) pla 400MH	tform z DDR4	4 / soldered	l to svs	stemboard, le to Intel limi	no socke		Media reader Ports						
Display	Size Reso	olution	,	Type S	urface	Brightness	Aspec Ratio	t Contrast Ratio		Viewing Angle							
	14.0" FHD	`	,	IPS Ar	nti-glare	250 nits (non-touch) 300 nits (multi-touch)	16:9	700:1	45%	170°	Monitor cable	microSD * Dependir HDMI to	card reader, side on many factors, a VGA: Lenovo H	docking connector, security actual data transfer speed may b DMI to VGA Monitor Adapte	cking connector, security keyhole ual data transfer speed may be lower than theoretical spe		
	14.0" FHD Low	(1920x ⁻ Power	1080)	IPS Ar	nti-glare	400 nits	16:9	800:1	72%	170°	(optional) Bundled Accy	USB-C to	r				
1	14.0" FHD Guar		1080) ivacy	IPS Ar	nti-glare	400 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 • IR camera and HD720p camera with ThinkShutter camera privacy, fixed fo HD Audio, Realtek® ALC3287 codec / stereo speakers, 1W x 2, Dolby® Audio™ Premium /					
	14.0" WQH Dolb	HD (2560 y Vision	0x1440) ™ HDR	IPS C	Glossy	500 nits	16:9	1500:1	100% Adobe	170°	Audio support						
Multi-touch (opt)			<u> </u>			ure (FHD o	nly)					dual array	far-field microph	one, headphone / micropho	ne combo jack		
Storage	M.2 228M.2 228M.2 224	30 SSD	/ PCle	NVMe,	PCIe 3						Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad					
Optane™ memor Optical	y <i>Optional:</i> None	Intel O	ptane n	nemory	, PCle	NVMe, PCI					Security Security chip	Discrete 7	ΓΡΜ 2.0, TCG Ce	lisk password, supervisor partified	assword, security keyhole		
Ethernet	Native Into	el Ethe ed or op	rnet Co otional 1	nnectic hinkPa	n I219- ad Ethe	-V (<i>Non-vP</i> rnet Extens	<i>ro</i>) or I sion Ac	219-LM (<i>vF</i> dapter Gen	Pro) 2		Fingerprint reade	System Mgt (opt) Intel vPro Technology Fingerprint reader Optional: Touch style match on chip fingerprint reader on the pa NFC (optional) Near Field Communication					
WLAN + Bluetooth™ <i>(optional)</i>		eless-A	AC 9560), Wi-Fi	2x2 80	:)2.11ac + B 302.11ax + I					Battery Max battery life	MobileMa * Battery I	ark® 2014: 20 hr ife varies significantl	tery, supports Rapid Charge y with settings, usage, & other f	` • •		
WWAN (optional)	One of theWireless				y model	!:					AC adapter		5W USB Type-C A	<u> </u>			
	 Integrate 	ed Mob	oile Broa	adband	4G LTI	E, Fibocom	L830-	EB, M.2 car	d (EMEA	only)	Preload Limited warranty			Vindows 10 Pro 64			
SIM card (opt)	 Integrate * For non-V 	 Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, M.2 card (EMEA only) 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 										 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						
											Mil-Spec test	MIL-STD-	-810G military tes	ting			



ThinkPad T495 Platform Specifications

Processor	AMD Ryzen™	PRO Mob	ile Process	ors with Ra	deon™ Ve	ga Graphics	3		Dimensions	WxDxH: 12.95" x 8.94" x 0.70"; 329mm x 227mm x 17.9mm
	Processor # 0		Base	Max Turbo	Cache	Memory	Proce		Weight	Models HD FHD FHD Low Power
	Ryzon 3			Frequency	2MB L2 /	Controller	Grap Radeon		Case color	Weight 3.46 lb / 1.57 kg 3.46 lb / 1.57 kg 3.39 lb / 1.54 kg Black
	Pro 3300U 4	4	2.1 GHz	3.5 GHz	4MB L3		Grap		Case material	Display cover: PPS / 50% GF;
	Ryzen 5 Pro 3500U 4	8	2.1 GHz	3.7 GHz	2MB L2 / 4MB L3	DDR4-2400	Radeon Grap			Bottom: PA / 50% GF
	Ryzen 7 Pro 3700U 4	8	2.3 GHz	4.0 GHz	2MB L2 / 4MB L3		Radeon ' Grap	Vega 10	Smart card reade Media reader Ports	ler Optional: Smart card reader MicroSD card reader One USB 3.1 Gen 1 (Always On), one USB 3.1 Gen 2,
Graphics	AMD Radeon supports exter supports four Max resolution	rnal digita independ	monitor vent display	a USB-C or s;	HDMI;		HDMI)			two USB 3.1 Type-C Gen 2 (with the function of Power Delivery and DisplayPort), HDMI 2.0, 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
Chipset Memory	AMD SoC (Sy 32GB max / 2 8GB or 16GB * Installed mem	400MHz I memory s	DDŔ4, dua soldered to	-channel ca systemboa	rd, one D	DR4 SO-DII	MM sock	æt	Monitor cable (optional) Bundled Accy	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
Display	Size Resolutio	n	Type Surfa	ce Brightne	ss Aspec	ct Contrast Ratio		Viewing Angle	Camera (optional	al) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus
	14.0" HD (1366	x768)	TN Anti-g	are 220 nit	s 16:9	400:1	45%	90°	Audio oumout	 IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	14.0" FHD (192	0x1080)	IPS Anti-g	are 250 nit (non-tou 300 nit (multi-tou	ch) s 16:9	700:1	45%	170°	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array far-field microphone, headphone / microphone combo jack
	14.0" FHD (192 Low Powe	0x1080)	IPS Anti-g		-1	800:1	72%	170°	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)			10-finger (esture (FHI) only)				Security	Power-on password, hard disk password, supervisor password, security keyhole
	• M.2 2280 S	- ' '		, , , , , , , , , , , , , , , , , , , ,	,				Security chip System Mgt	Discrete TPM 2.0, TCG Certified DASH Management
· ·	M.2 2280 SM.2 2242 S									er Optional: Touch style match on chip fingerprint reader on the palm rest None
- 1	None	2444 0:							Battery	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr)
	Realtek® RTL					- 5.0			Max battery life	MobileMark® 2014: 13.4 hr *Battery life varies significantly with settings, usage, & other factors
WLAN Bluetooth™	Intel Wireless- Bluetooth 5.0						ter		AC adapter	45W or 65W USB Type-C AC adapter
	One of the follow								Preload	Windows® 10 Home 64 or Windows 10 Pro 64
	Wireless WAIntegrated M	lobile Bro	adband 4G	LTE-A, Fib	ocom L8	50-GL, M.2 c	ard		Limited warranty	1-year depot repair service
SIM card (opt)	* For non-WWA Nano-SIM car	N model, it	means the i	nodel is NOT	WWAN up	ogradable				3-year/1-yr battery depot repair service
Olivi Cala (Opt)	Ivano-Silvi cai	u siot, opi	ionai venz	JII LI L (US	Olivi Cal	u			Mil-Spec test	MIL-STD-810G military testing
									Environment	EPEAT™ Bronze; ENERGY STAR® 7.1; RoHS-compliant

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





AMD.

AMD.



ThinkPad T495s Platform Specifications

Processor	AMD Ryze	en™ PF	RO Mobi	le Pr	ocessors	with Rad	eon™ Ve	ga Graphics	3		Dimensions	WxDxH (I	FHD / Privacy G			
	Processor		# of			1ax Turbo	Cache	Memory	Proce			WxDxH (I	12.95" : "Low Power):	x 8.90" x 0.66	6"; 329.0mm	x 226.15mm x 16.7mm
	Number Ryzen 5		Threads		`	requency	MB L2 /	Controller	Grap Radeon			WADAII (I		x 8.89" x 0.60	3"; 328.8mm	x 225.8mm x 16.1mm
	Pro 3500U	4	8	2.1	GHz	3.7 GHZ	IMB L3	DDR4-2400	Grap		Weight	Models	FHD		Low Power	FHD Privacy Guard
	Ryzen 7	4	8	2.3	GHz .		MB L2 /	DDR4-2400	Radeon \ Grap	Vega 10	0	Weight	2.92 lb / 1.33 kg	2.76	lb / 1.25 kg	2.89 lb / 1.31 kg
	Pro 3700U						IMB L3		<u> </u>	nics	Case color Case material	Black	over: CFRP Hv	brid [.]		
Graphics	AMD Rad supports to supports to	externa	aľ digital	mon	itor via Ċ						Smart card reade	Bottom:	Magnesiu	m/Aluminum	1	
						JSB-C); 4	096x216	60@24Hz (H	HDMI)		Media reader	MicroSD (card reader			
Chipset	AMD SoC							,	,		Ports	One USB	3.1 Gen 1 (Alw	ays On), one	USB 3.1 Gen	ı 2, ver Delivery and DisplayPor
Memory								ard, no sock e to AMD lim				HDMI 2.0 headphor), Ethernet exten ne / microphone	siòn connect combo jack,	tor, nano-SIM optional smar	card slot (WWAN models), t card reader,
Display	Size Reso	olution		Туре	Surface	Brightnes	Aspec Ratio	Contrast Ratio	Color Gamut	Viewing Angle	Monitor cable	* Dependin	card reader, sidenter sidenter sidenter sidenter sidenter sidenter sidenter sidenter sidenter sidenter sidente vicial sidenter s	s, actual data ti	ransfer speed m	ay be lower than theoretical spe
	14.0" FHD	(1920x	1080)	IPS	Anti-glare	300 mis	16:9	700:1	45%	170°	(optional) Bundled Accy	USB-C to Optional:	VGA: Lenovo ThinkPad Ethe	USB-C to VG	GA Adapter on Adapter Ge	
	14.0" FHD Low	(1920x Power	1080)	IPS .	Anti-glare	(multi-touc 400 nits	16:9	800:1	72%	170°	Camera	• HD720p	following, configure camera with There and HD720n	ninkSȟutter c	amera privacy	r, fixed focus camera privacy, fixed focus
	FHD 14.0" Think Guar			IPS .	Anti-glare	400 nits	16:9	1000:1	72%	170°	Audio support	HD Audio	o, Realtek® ALC3 eakers, 1W x 2,	3287 codec / Dolby® Audio	o™ Premium /	hone combo jack
Multi-touch (opt)	On-cell to	uch, sı	upports	10-fir	nger ges	ture (FHD	only)				 Kevboard		ill-resistant, mult		·	•
Storage	M.2 2280	SSD /	PCIe N	VMe,	, PCIe 3.	0 x 4					UltraNav™	TrackPoin	nt® pointing devic	e and button	ıless Mylar sur	face multi-touch touchpad
Optical Ethernet	None Notive Inte	al Etha	rnot Co	nnoo	tion 1210	V (Non v	Dro\ or I	219-LM (<i>vF</i>	Pro\		Security Security chip		password, hard TPM 2.0, TCG C		ord, superviso	r password, security keyhole
Luieniei	via bundle	ed or o	ptional 7	Think!	Pad Ethe	ernet Exte	nsion Ac	lapter Gen :	10) 2		System Mgt	DASH Ma	anagement			
WLAN <i>(optional)</i> Bluetooth™	Intel Wirel Bluetooth							5.0 ombo adapt	ter		NFČ	None	•		•	ler on the palm rest
WWAN (optional)	One of the • Wireless				by mode	l:					Battery Max battery life	MobileMa	ark® 2014: 16.4	hr	·	rge (charge up to 80% in 1h
	 Integrate * For non-V 	ed Mob	oile Broa	adbar	nd 4G LT	E-A, Fibo	om L85	0-GL, M.2 c	ard		AC adapter	45W or 6	life varies significal 5W USB Type-C	atily with setting AC adapter	gs, usage, & otn	er tactors
SIM card (opt)	Nano-SIM										Preload		® 10 Home 64 o			
						, ,					Limited warranty	• 1-year o	following, configured depot repair serv 1-yr battery depo	/ice		
											Mil-Spec test		-810G military te			
											Environment	EPEAT™	Bronze; ENERG	SY STAR® 7.	1; RoHS-comp	liant









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	Weight	Integrated model: starting at 4.29 lb / 1.95 kg; Discrete model: starting at 4.39 lb / 1.99 kg				
	Number Cores Inreads Frequency Frequency Types Graphics	Case color	Black				
	15-7200U 2 4 2.5 GHz 3.1 GHz 3MB 2.6 GHz 3.5 GHz 3MB DDR4-2133 Intel HD Graphics 620	Case material	Display cover: Glass-Fiber Reinforced Plastic (PPS); Bottom: Glass-Fiber Reinforced Plastic				
	or 8th Generation Intel Core i5 / i7 Processor		rOptional: Smart card reader				
	Processor # of H of Cores Threads Frequency Frequency Cache Threads Frequency Frequenc	Media reader Ports	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),				
	i5-8250U 4 8 1.6 GHz 3.4 GHz 6MB i5-8350U 4 8 1.7 GHz 3.6 GHz 6MB 1.8 GHz 4.0 GHz 8MB i7-8650U 1.9 GHz 4.2 GHz 8MB Intel UHD Graphics 620		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 (optional	nl) One of the following, configurable by model:				
<u> </u>	supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	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 sockets * System clocks down for processors with lower memory controller		stereo speakers, 2W x 2, Dolby® Audio™ 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, 300 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° viewing angle On-cell touch, supports 10-finger gesture (FHD only)	Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology				
Storage	System has one HDD slot or one M.2 2280 slot exclusively for storage		r Optional: Touch style match on chip fingerprint reader on the palm rest,				
Clorage	Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD)	NFC (optional)	anti-spoofing technology Near Field Communication				
	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	Optional integrated Li-ion 32Wh battery and external Li-ion 24Wh, 48Wh, or 72Wh battery				
Optane™ memory Optical	in WWAN slot as 2nd Storage, mutually exclusive with WWAN of Optional: Intel Optane memory, PCIe NVMe, PCIe 3.0 x 2 None	Max battery life (MobileMark® 2014)	Max battery life 5.6 ft 12.5 ft 16.1 ft 16.6 ft 26.6 ft 26.1 ft				
Ethernet	Non-vPro model: Intel Ethernet Connection I219-V (Jacksonville)	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter				
Linemet	vPro model: Intel Ethernet Connection I219-LM (Jacksonville)	Preload	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	Limited warranty	One of the following, configurable by model: • 1-year depot repair service				
WWAN (optional)	One of the following, configurable by model: Integrated Mobile Broadband 4G LTE,]	3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service				
	Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only) • Integrated Mobile Broadband 4G LTE-A,	Mil-Spec test	MIL-STD-810G military testing				
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	Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant				
	stiene chave may not be available in all regions	1	Longue				

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







ThinkPad T590 Platform Specifications

Processor	8th Gene	ration I	ntel® Co	re™	i5 / i7 Pro	cessor					Dimensions	WxDxH: 14.40" x 9.76" x 0.75"; 365.8mm x 248mm x 19.1mm
	Processor		# of			Max Turbo	Cache	Memory		cessor	Weight Case color	FHD model: 3.87 lb / 1.75 kg; UHD model: 3.86 lb / 1.75 kg Black
	Number	Cores	Threads			requency		Types	Gra	aphics	Case material	Display cover: PPS / 50% GF;
	i5-8265U	4		_		3.9 GHz	6MB					Bottom: PA / 50% GF
	i5-8365U i7-8565U	4	8	_		4.1 GHz 4.6 GHz	6MB 8MB	DDR4-2400		D Graphic 620	Smart card reade	r Optional: Smart card reader
	i7-8665U	┪		_		4.8 GHz	8MB		`	020	Media reader	MicroSD card reader
Graphics	Intel UHE Intel UHE NVIDIA® supports supports Max reso	O Graph GeFord externa three in lution:	nics 620 ce® MX25 al digital ndepend 4096x23	in pr in pr 50, 2 mon ent c	cocessor of cocessor and cocess	only or and R5 memo DMI or Th	ory; nunderk	olt; 6x2160@2	24Hz (Hl	DMI)	Ports Monitor cable	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), 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 Ch	nip) p	olatform						(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter (NOT available in EMEA)
Memory					, dual-cha			DR4 SO-E		okot	Dunalla d A a a	USB-C to DP: Lenovo USB-C to DisplayPort Adapter (NOT available in EMEA)
								ue to Intel lin		CKEL	Bundled Accy	None
Display							Aspec	Contrast	Colo	r Viewing) One of the following, configurable by model: • HD720p camera with ThinkShutter camera privacy, fixed focus
' '	Size Res	solution	1	Гуре	Surface	Brightness	Ratio	Ratio	Gamu	ut Angle		 IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
	15.6" FHI	`	,	IPS	Anti-glare	250 nits	16:9	700:1	45%		Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Premium /
	15.6" UHI	D (3840x	(2160) ™ HDB	IPS	Anti-glare	500 nits	16:9	1200:1	100% Adob	170°		dual array far-field microphone, headphone / microphone combo jack
Multi-touch (opt)	On-cell to	•		10-fir	nger gest	ure (FHD	only)	1	17.000	<u> </u>	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad
Storage Optane™ memory	 M.2 22 M.2 22 M.2 22 Optional:	80 SSD 42 SSD) / PCle l) / PCle l	NVN NVN	le, PCle 3 le, PCle 3	3.0 x 2	Cle 3.0	x 2			Security 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 r Optional: Touch style match on chip fingerprint reader on the palm rest
Optical	None	iiitoi C	prano n), j, i Olo		0.0	X =			NFC (optional)	Near Field Communication
Ethernet	Non-vPro		l: Intel Et	therr therr	net Conne	ection I21	9-V (Ja 9-LM (เ	cksonville) acksonville	:)		Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
WLAN <i>(optional)</i> Bluetooth™	Intel Wire							n 5.0 combo ada	nter		Max battery life	MobileMark® 2014: 14.98 hr (9.5 hr for UHD model with discrete graphics) * Battery life varies significantly with settings, usage, & other factors
WWAN (optional)							Cloolin	Joinibo ada	ptoi		AC adapter	45W or 65W USB Type-C AC adapter
WWW.W(Optional)	 Wireles 	s WAN	upgrada	able	,						Preload	Windows® 10 Home 64 or Windows 10 Pro 64
SIM card	 Integrat 	ted Mot <i>WWAN r</i>	oile Broa model, it n	dbar nean	nd 4G LTE s the mode	E-A, Fiboo el is NOT V	com L8: /WAN u		ard (EMI card	EA only)	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™ Bronze; ENERGY STAR® 7.0; RoHS-compliant
Note: The enecified											•	Longue

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

Lenovo June 2019



ThinkPad X1 Carbon (5th Gen) Platform Specifications

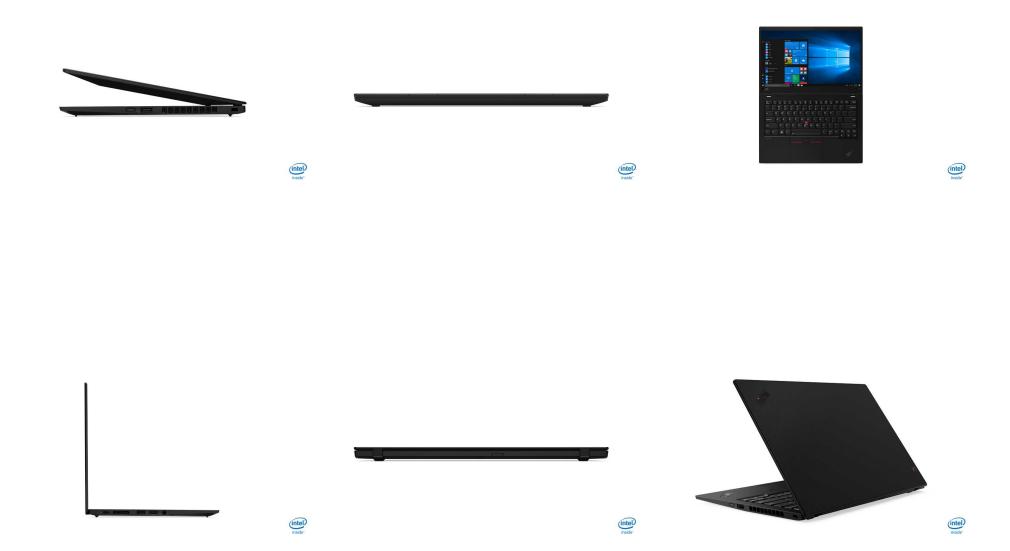
Processor	6th Generation I	ntel® Co	re™ i5 / i7	Processor	(ЕМЕА	has only i5-630	0U and i7-6600U)	Smart card reade	erNone
	Processor # of Number Cores i5-6200U	# of Threads	Base Frequency 2.3 GHz	Max Turbo Frequency 2.8 GHz	Cache 3MB	Memory Types	Processor Graphics	Media reader Ports	MicroSD card reader, supports UHS-II microSD card Two USB 3.1 Gen 1 (USB 3.0, one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery
	i5-6300U i7-6500U i7-6600U	4	2.4 GHz 2.5 GHz 2.6 GHz	3.0 GHz 3.1 GHz 3.4 GHz	3MB 4MB 4MB	LPDDR3-1866	Intel HD Graphics 520	Monitor cable '	HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
	or 7th Generation	n Intel C	ore i5 / i7	Processor				(optional)	USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
	Processor # of Number Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Bundled Accy Camera (optional)	Optional: ThinkPad Ethernet Extension Cable
	i5-7200U i5-7300U i7-7500U i7-7600U	4	2.5 GHz 2.6 GHz 2.7 GHz 2.8 GHz	3.1 GHz 3.5 GHz 3.5 GHz 3.9 GHz	3MB 3MB 4MB	LPDDR3-1866	Intel HD Graphics 620	Audio support	IR & 720p: IR camera and HD720p camera HD Audio, Conexant® CX11871 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack
Overbies		500			4IVID			Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless Glass surface multi-touch touchpad
Graphics	Intel HD Graphic supports externa supports three in Max resolution:	al digital ndepend	monitor via ent display	a HDMI or /s;		•	4Hz (HDMI)	Security 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
Chipset Memory	Intel SoC (Syste 8GB or 16GB / 1				to sys	temboard, no s	sockets	NFC (optional)	Near Field Communication
Display	Some: 14.0" (3	, 16:9 as 55mm) V	pect ratio, VQHD (25	700:1 con 60x1440),	trast ra anti-gla	tio, 170° viewi	ng angle light, IPS,	Battery Max battery life AC adapter	Integrated Li-Polymer 3-cell (57Wh) RapidCharge battery MobileMark® 2014: 15.5 hr * Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Multi-touch	None	, 10.9 as	peci ralio,	700.1 0011	liasi ia	tio, 170 viewi	rig arigie	RapidCharge	AC adapter 45W USB-C 65W USB-C
Storage	One of the following • M.2 SSD / SAT	ΓΑ 6.0Gb	/s (e.a. xx)	xGB SSD I	у l.2)	00.000.1	4.0.000		Charge to 80%Not support1.0 hrCharge to 100%Not support2.5 hr
Optical	M.2 SSD / PCI None	ie nvilie	, PCIe 3.0	x 4, 32Gb	s (e.g.	XXXGB SSD N	1.2 PCIe NVMe)	Preload	Windows® 7 Professional 64 preinstalled Some: Windows 10 Home 64 through downgrade rights in Some: Windows 10 Pro 64
Ethernet	Native Intel Ethe	ernet Cor ptional T	nnection I2 hinkPad E	219-V (<i>Non</i> thernet Ex	- <i>vPro</i>) tensior	or I219-LM (<i>vi</i> n Cable	Pro)		 Windows 10 Pro 64 Lenovo Companion Lenovo Setting
WLAN Bluetooth™	One of the followin Intel Dual Band Intel Dual Band Intel Tri-Band V M.2 card Bluetooth 4.1 wi Intel 8265ac / 18	ng, configu d Wireles d Wireles Vireless- reless, ir	irable by moss-AC 8260 ss-AC 8265 AC 18265 attegrated in	odel (WiGig o 0, Wi-Fi 2x: 5, Wi-Fi 2x: , WiGig 80: n Wi-Fi + E	can coe 2 802.1 2 802.1 2.11ad	xist with WWAN) 1ac + BT4.1, 1ac + BT4.1, + Wi-Fi 2x2 80	M.2 card M.2 card 02.11ac + BT4.1, oter		 Lenovo PowerEngage ThinkVantage Product Recovery ThinkVantage System Update Adobe® Reader® Microsoft® Office preloaded; purchase a product key to activate McAfee® LiveSafe™ (30-day trial)
WWAN (optional) SIM card (opt)		e Broadl EM7455	pand 4G L	TE-A, Qua	lcomm	® Snapdragon	™ X7 LTE-A	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
Dimensions	WxDxH: 12.7			323.5mm	x 217	.1mm x 15.95ı	mm	Mil-Spec test	MIL-STD-810G military testing
Weight Case color Case material	Starting at 2.49 Black or Silver (s Display cover: Bottom:	silver is N CFRP/G	NŎT availa	d;	EA)			Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
									Lenovo



ThinkPad X1 Carbon (6th Gen) Platform Specifications

Processor	7th Generation Intel® Core™ i5 Processor	Dimensions	<i>WxDxH</i> : 12.74" x 8.55" x 0.63"; 323.5mm x 217.1mm x 15.95mm
	Processor # of # of Base Max Turbo Cache Memory Types Processor Graphics	Weight Case color	Starting at 2.49 lb / 1.13 kg Black or Silver (silver case is NOT available in EMEA)
	Intel HD Graphica	Casa material	Display cover: `CFRP/GFRP hybrid;
	15-73000 2 4 2.6 GHZ 3.5 GHZ 3MB LPDDR3-1866 620 620	Smart card reader	Bottom: magnesium alloy / PPS hybrid
	or 8th Generation Intel Core i5 / i7 Processor	Media reader	MicroSD card reader, supports UHS-II
	Processor # of Number # of Cores # of Threads Base Frequency Max Turbo Frequency Cache Memory Types Processor Graphics	Ports	Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of Power Delivery and DisplayPort), HDMI 1.4b,
	1.6 GHz 3.4 GHz 6MB		Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, microSD card reader.
	i5-8350U	5	side docking connector, security keyhole
	i7-8650U 1.9 GHz 4.2 GHz 8MB	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	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor;	(optional)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter
•	supports external digital monitor via HDMI or USB Type-C; supports three independent displays;	Bundled Accy	Optional: ThinkPad Ethernet Extension Ádapter Gen 2) One of the following, configurable by model:
	Max resolution: 5120x2880@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	''	 HD720p camera with ThinkShutter camera privacy, fixed focus
Chipset	Intel SoC (System on Chip) platform		IR camera and HD720p camera, fixed focus HD Audio. Realtek® ALC3286 codec /
Memory	8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets * System clocks down for processors with lower memory controller		stereo speakers, 1W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack, Dolby® Atmos™ via headphones
Display	One of the following, configurable by model:	Kevboard	6-row, spill-resistant, multimedia Fn keys, LED backlight
	 14.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle 	UltraNav™	TrackPoint® pointing device and buttonless Glass surface multi-touch touchpad
	• 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	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0. TCG Certified
	• 14.0" (355mm) HDR WQHD (2560x1440) with Dolby Vision™, glossy,	vPro (optional)	Intel vPro Technology
	LED backlight, IPS, 500 nits, 16:9 aspect ratio, 1500:1 contrast ratio, 100% gamul 170° viewing angle		rTouch style match on chip fingerprint reader on the palm rest, anti-spoofing technology
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)	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)	Battery	Integrated Li-ion 57Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
_	 M.2 SSD / PCIe NVMe, PCIe 3.0 x 4, 32Gb/s (é.g. xxxGB SSD M.2 PCIe NVMe) 		<i>MobileMark</i> [®] <i>2014:</i> 19.3 hr
Optane™ memory Optical	/ None None	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
Ethernet	Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro)	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
	via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2		One of the following, configurable by model:
WLAN + Bluetooth™	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card * Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS		1-year depot repair service3-year/1-yr battery depot repair service
WWAN (optional)	Integrated Mobile Broadband 4G LTE-A,		3-year/1-yr battery limited onsite service
	Intel XMM™ 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable	l	MIL-STD-810G military testing EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant
SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card	Liviloriment	LELAT GOID (03 01119), EINEND T STAN 0.1, NON3-COMPINATE
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Lenovo April 2019



ThinkPad X1 Carbon (7th Gen) Platform Specifications

Support support support support support support Max res Chipset Intel So Memory 8GB or Display Size Re 14.0" Fh 14.0" FF 14.0" Th Gu 14.0" Wt 14.0" Wt 14.0" D Multi-touch (opt) Capacit anti-refle	per Cores 55U 4 55U 4 55U UHD Grapl orts extern orts three i	8 nics 620 i	Frequency 1.6 GHz 1.6 GHz	3.9 GHz 6 4.1 GHz 6	ache M	emory Types		essor	Weight	Starting at 2.4 lb / 1.09 kg
Graphics Intel UI-support support Max res Chipset Intel So Memory 8GB or Display Size Re 14.0" FI-14.0" FI-14.0" FI-14.0" Th Gu 14.0" Wt 14.0" Wt 14.0" DATE TO THE SO	65U 4 65U 4 05U UHD Grapl orts externorts three i	nics 620 i	1.6 GHz 1.8 GHz	4.1 GHz 6	MB l		Grap	ohics	Case color Case material	Black paint or black weave Display cover: Carbon Fiber;
Support support support support support support Max res Chipset Intel So Memory 8GB or Display Size Re 14.0" Fh 14.0" Fh 14.0" Th Gu 14.0" Wt 14.0" Wt 14.0" Do Capacit anti-refl	orts extern orts three i				MR	PDDR3-2133		UHD ics 620	Smart card reade Media reader Ports	Bottom: magnesium alloy
Size Record Size Record Recor	resolution:	ndepende	ent displays;	HDMI or USE	• •			MI)	- Monitor cable	(with the function of Power Delivery and DisplayPort), HDMI 1.4b, Ethernet extension connector, nano-SIM card slot (WWAN models), headphone / microphone combo jack, side docking connector, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed Optional: Lenovo HDMI to VGA Monitor Adapter
Display Size Re 14.0" FH ML 14.0" FF 14.0" Th GL 14.0" WG 14.0" Do HE Multi-touch (opt) Capacit anti-refl	SoC (Syste or 16GB / 2	m on Chi 2133MHz	p) platform LPDDR3/:	soldered to s	ysteml	ooard, no so	ockets		Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2 I) One of the following, configurable by model:
Multi-touch (opt) 14.0 Mt	Resolution		ype Surface		Aspect Ratio			Viewing Angle	- Camera (optional)	HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera with ThinkShutter camera privacy, fixed focus
Multi-touch (opt) 14.0" Lo 14.0" FH 14.0" WH 14.0" Dc HE Capacit anti-refl	FHD (1920) Multi-touch	′ 1	PS Anti-glare	300 nits	16:9	700:1	72%	170°	Audio support	HD Audio, Realtek® ALC3286 codec / Dolby® Atmos™ speaker system, 2W x 2, 0.8 x 2 /
Multi-touch (opt) 14.0" The GL 14.0" WG 14.0" Dc HI Capacitanti-refluence Capacitanti-refluence pacitanti-refluence Capacitanti-refluence Capacitanti	FHD (1920) Low Power	′ 1	PS Anti-glare	400 nits	16:9	800:1	72%	170°	Keyboard	4 array far-field microphones, headphone / microphone combo jack 6-row, spill-resistant, multimedia Fn keys, LED backlight
Multi-touch (opt) 14.0" William 14.0" Do HE Capacit anti-refl	FHD (1920) ThinkPad P Guard	(1080) rivacy I	PS Anti-glare	400 nits	16:9	1000:1	72%	170°	UltraNav™ Security	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch (opt) 14.0" Do		60x1440) I	PS Anti-glare	300 nits	16:9	700:1	72%	170°	Security chip	Discrete TPM 2.0, TCG Certified
anti-refl	UHD (3840) Dolby Vision HDR400	(2160) n™ I	PS Glossy	500 nits	16:9	1400:1	90%	170°		Intel vPro Technology rTouch style match on chip fingerprint reader on the palm rest Near Field Communication
			ch, supports	10-finger ge	esture ((FHD only),			Battery	Integrated Li-ion 51Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
• M.2 2	2 2280 SSI) / SATA 6							Max battery life AC adapter	MobileMark® 2014: 18.3 hr * Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
			IVMe 3.0 x	4 olid State Sto	rago				Preload	Windows® 10 Home 64 or Windows 10 Pro 64
M.2 22 • Intel C	2280, PC	e NVMé SD, M.2	3.0 x 4 2280, PCle	NVMe 3.0 x2	•				Limited warranty	One of the following, configurable by model: 1-year depot repair service 3-year/1-yr battery depot repair service
Optical None		inory i i i	,						Mil-Spec test	MIL-STD-810G military testing
Ethernet Native I via bund	e Intel Ethe undled or o	ernet Con ptional Th	nection I219 ninkPad Eth	9-V (<i>Non-vPr</i> ernet Extens	o) or l2 ion Ad	219-LM (<i>vP.</i> apter Gen 2	ro)		Environment	EPEAT™ Bronze; ENERGY STAR® 7.1; RoHS-compliant
				2.11ac + Blue Wi-Fi + Bluet			er			
• Integra • Integra * For nor	grated Mo grated Mo non-WWAN	bile Broad bile Broad model, it m	lband 4G LT eans the mod	ΓΕ-Α, Fiboco ΓΕ-Α, Fiboco del is NOT WW	m L860 <i>'AN upg</i>	D-GL, MIMC gradable	ard 2x2, M	.2 card		
SIM card (opt) Nano-S Note: The specifications abo	-SIM card			LTE (US) SII	vi card					Lenov





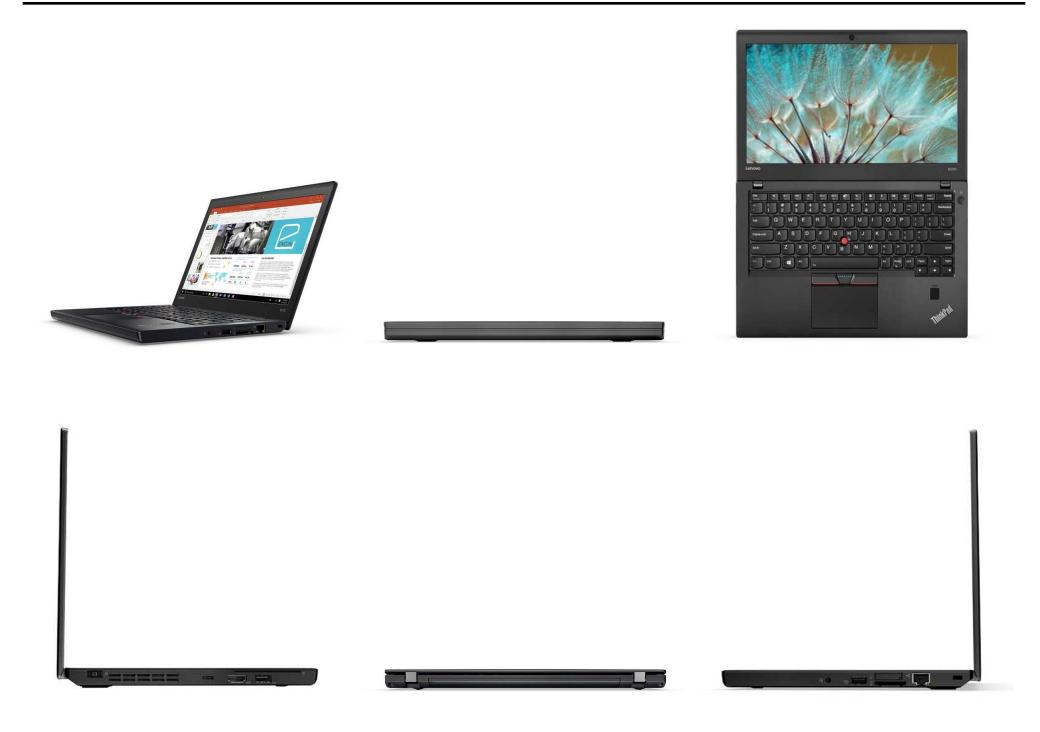




ThinkPad X1 Extreme Platform Specifications

Processor	8th Generation Ir	ntel® Core	e™ i5 / i7 Pro	ocessor					er Optional: Smart card reader
	Processor # of Number Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Media reader Ports	SD Card reader (SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.1 Gen 1 (one Always On),
	i5-8300H i5-8400H 4	8	2.3 GHz 2.5 GHz	4.0 GHz 4.2 GHz	8MB	DDR4-2666	Intel UHD Graphics		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.
	i7-8750H i7-8850H 6	12	2.2 GHz 2.6 GHz	4.1 GHz 4.3 GHz	9MB	DDR4-2000	630		4-in-1 reader (MMC, SD, SDHC, SDXC), security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
Graphics	Intel UHD Graph NVIDIA® GeForce supports external supports four ind	e® GTX 1 I digital n	050 Ti Max nonitor via I	-Q. 4GB (GDDR5 hunder	i memory; bolt™;		Monitor cable (optional) Bundled Accy Camera (optional)	HDMI to VGA: Lénovo HDMI to VGA Monitor Adaptér USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Cable One of the following, configurable by model:
	Max resolution:	5120X28	t displays, 80@30Hz ((Thunderb	olt); 40	96x2160@	60Hz (HDMI)		HD720p camera with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera, fixed focus
Chipset Memory		6MHz DE	R4, dual-cl				SO-DIMM sockets	Audio support	The carriera and nD/20p carriera, 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	72% gan	16:9 asp านt, 170°	ect ratio, 70 viewing an	00:1 contra gle	ast ratio	Ο,	-	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, LED backlight TrackPoint® pointing device and buttonless glass surface multi-touch touchpad
	100% ga	klight, IP: mut, 170	S, 400 nits, ° viewing a	16:9 aspe ngle, multi	ct ration	o, 1200:1 co , anti-reflec	ontrast ratio, tion (AR)	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology
Multi-touch (opt)	Capacitive-type r Supports pen ac	cessory,	please see	the acces	gestur sory co	re (4K only) ompatibility	for details		r Touch style match on chip fingerprint reader on the keyboard bezel
Storage	Up to 2 drives (twoM.2 SSD / SAT	A 6.0Gb/	s (e.g. xxxG					NFC	None
Optane™ memory RAID (optional) Optical	 M.2 SSD / PClopy None RAID 0/1 support None 	•	PCle 3.0 x	4, 32Gb/s	(e.g. x	xxGB SSD	M.2 PCIe NVMe)	Battery Max battery life (MobileMark 2014) AC adapter	Integrated Li-ion 80Wh battery, supports Rapid Charge (charge up to 80% in 1hr) Discrete mode: 9.5 hr; Hybrid mode: 14.9 hr * Battery life varies significantly with settings, usage, & other factors 135W slim tip AC adapter
Ethernet	Native Intel Ethe						vPro))	Preload	Windows® 10 Home 64 or Windows 10 Pro 64
WLAN Bluetooth™	via bundled or op Intel Wireless-AC Bluetooth 5.0 wir	9560, W	/i-Fi 2x2 80	2.11ac + E	Bluetoo	th 5.0, M.2		Limited warranty	One of the following, configurable by model: 1-year depot repair service -3-year/1-yr battery depot repair service
WWAN	None						'	Mil-Spec test	3-year/1-yr battery limited onsite service MIL-STD-810G military testing
SIM card	None							Environment	EPEAT™ Gold (US only); ENERGY STAR® 7.0; RoHS-compliant
Dimensions	WxDxH (non-tou WxDxH (multi-ou	<i>ıch):</i> 14	.24" x 9.67' .24" x 9.67'	" x 0.74";	361.8		7mm x 18.4mm 7mm x 18.7mm	Liviloililoit	El Elli God Griy), EllEllo i Gizit 7.0, Horio compilant
Weight	Non-touch mode Multi-touch mode	<i>l:</i> starti	ng at 3.76 l	b (1.7 kg);	;				
Case color Case material	Black Display cover: 0		RP hybrid;	ib (1.0 kg)					
	ationa about mout n								Langua

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



ThinkPad X270 Platform Specifications

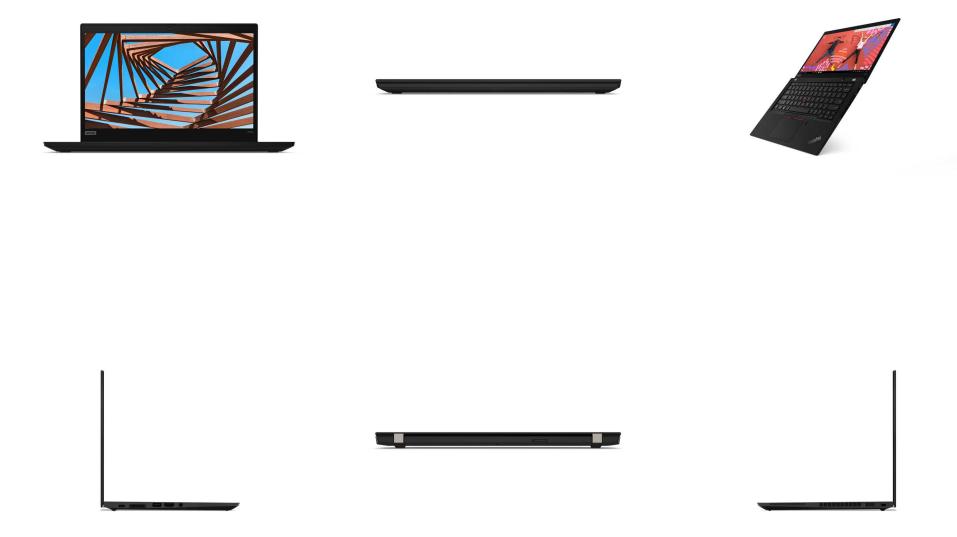
Processor	6th Genera	ation Ir	ntel® Cor	e™ i3 / i5 / i	7 Processor			Dimensions	<i>WxDxH</i> : 12.	03" x 8.21" x 0.80"	; 305.5mm x 208.5m	ım x 20.3mm
	Processor	# of	# of	Base	May Turba	Memory	Processor	Weight	Models	No + 3-cell	3-cell + 3-cell	3 + 6-cell
	Number	-	Threads	Frequency	Frequency	Types	Graphics		Weight	2.79 lb / 1.27 kg	2.98 lb / 1.36 kg	3.33 lb / 1.52 kg
	i3-6006U			2.0 GHz	- 3N			Case color	Black			
	i3-6100U			2.3 GHz	- 3N			Case material		: Glass-Fiber Rei		
	i5-6200U	2	4	2.3 GHz	2.8 GHz 3N	— IDDB4-213	Intel HD Graphics		Bottom:	Glass-Fiber Rei	nforced Plastic	
	i5-6300U		-	2.4 GHz	3.0 GHz 3N	IB_	520	Smart card reade			001(0)	
	i7-6500U	ļ		2.5 GHz	3.1 GHz 4N			Media reader Ports		(MMC, SD, SDHC, Gen 1 (USB 3.0, c		
	i7-6600U			2.6 GHz	3.4 GHz 4N	IB		Ports				elivery and DisplayPort),
	or 7th Ger	neration	n Intel Co	ore i3 / i5 / i	7 Processor				HDMI 1.4b, Et	thernet (RJ-45), D	ock connector	
	Processor	# of	# of	Base	Max Turbo Car	he Memory	Processor					y be lower than theoretical speed
	Number	Cores	Threads		Frequency	Types	Graphics	WiGig dock (opt) Monitor cable	I hinkPad Wic	ig dock, mutually	exclusive with WWAN to VGA Monitor Adap	N (US only)
	i3-7100U	ļ		2.4 GHz	- 3N			(optional)		A: Lenovo USB-C		nei
	i5-7200U			2.5 GHz	3.1 GHz 3N		Intel HD Graphics	(Optional)	USB-C to DP.		to DisplayPort Adap	oter
	i5-7300U	2	4	2.6 GHz	3.5 GHz 3N		620	Camera (ontiona		lution, fixed focus		
	i7-7500U			2.7 GHz	3.5 GHz 4N			Audio support	HD Audio. Re	altek ALC3268 co	dec / stereo speakers	s. 1.5W x 2 /
	i7-7600U			2.8 GHz	3.9 GHz 4N	IB			dual array mic	crophone, combo a	udio/microphone jac	k
Graphics				620 in prod				Keyboard			Fn keys, optional LE	
					HDMI or USB	Type-C;		UltraNav™	TrackPoint® po	ointing device and	buttonless Mylar surf	face multi-touch touchpad
				ent displays	; USB Type-C);	4096x2160@	24Hz (HDMI)	Security	Power-on pas	sword, hard disk p	assword, supervisor	password, security keyhole
Chipset				p) platform	, ,,	-1000X2100@	ZHIZ (HDIVII)	Security chip	Discrete TPM	2.0, TCG Certified		
Memory					DR4 SO-DIMN	1 socket		vPro (optional)	Intel vPro Tec	nnology	chip fingerprint read	or on the nalm root
Momory					lower memory of			NFC (optional)	Near Field Co		chip inigerphini read	er on the paint rest
Display	Some: 12	2.5" (31	7.5mm)	HD (1366x	768), anti-glare	, LED backlig	aht,	Internal battery			i-Polymer 3-cell (23V	Vh)
-17	22	20 nits,	16:9 asp	ect ratio, 5	00:1 contrast r	atio	,	External battery		23Wh) or 6-cell <i>(48</i>		•,
					768), anti-glare			Max battery life	Models	No + 3-cell 3-ce	II + 3-cell 3-cell + 6-ce	ell 48Wh 3-cell + 6-cell 72Wh
					00:1 contrast r x1080), anti-gl			(MobileMark® 2014	Max battery life	e 6.52 hr 13	3.04 hr 20.1 h	nr 26.9 hr
					00:1 contrast r				* Battery life va	aries significantly with	settings, usage, & othe	er factors
Multi-touch (opt)					sture (FHD onl		9 a9.0	AC adapter	45W slim tip A	AC adapter or 45W	USB Type-C AC ada	apter
Storage	System has	one HL	DD slot or	one M.2 228	0 slot exclusively	/ for storage		Preload			installed <i>Some:</i> Win	
· ·					ide, 7mm high				through down Windows 10 F	grade rights in	Some: Win • Lenovo C	idows 10 Pro 64
					de, 7mm high		SSD)		Lenovo Solu		Lenovo C Lenovo S	
					e 3.0 x 2, 16Gl Gb/s, in WWAN		Storago		Lenovo Pow			: Office preloaded;
					AN and WiGig	siot as ziiu i	Siorage,		 ThinkVantag 	ge Product Recove	ery purchase	a product key to activate
Optical	None	araany	0,10,00,0		ar and record					ge System Update		
Ethernet	Non-vPro	model:	Intel Eth	nernet Conr	nection I219-V	(Jacksonville))	1	Adobe® Rea Microsoft® C	ader Office preloaded;		
	vPro mode				nection I219-LI					product key to acti	vate	
WLAN	One of the t	following	g, configui	rable by mod	el (WiGig is mutu	ially exclusive v	vith WWAN):	1		veSafe™ (30-day tr		
	 Realtek® 	RTL8	822BE, V	Vi-Fi 2x2 80	2.11ac + BT4	1		Limited warranty	One of the follo	wing, configurable by	model:	
					Wi-Fi 2x2 802				 1-year depo 	nt repair service		
					Wi-Fi 2x2 802		l 802.11ac + BT4.1			battery depot repai		
Bluetooth™	(US only		11101033-7	10200, N	vialy ouz. I la	u + VVI*I I ZXZ	002.11ac + D14.1			battery limited ons	ite service	
	Bluetooth	4.1 wir	eless, in	tegrated in	Wi-Fi + Blueto	oth_combo ad	apter	Mil-Spec test	MIL-STD-810	G military testing		
					4.2 but is limited			Environment	EPEAT™ Gold	d (US only); ENER	GY STAR® 6.1; RoH	S-compliant
WWAN (optional)	One of the i	following	g, configui	rable by mod	el (mutually excl	usive with WiGig	g):					
	Wireless	WAN	upgradal	ole	TE A							
	Qualcom	m® Sn	andrago	lband 4G L n™ X7 I TE	ı E-A, E-A (Sierra Wire	eless FM7456	5)					
				lband 4G L		71033 EIVI740C	·1					
	Intel XMI	M™ 71	60 (Fibod	com L831-E	EAÚ) (EMEA oi							
SIM card (opt)	Micro-SIM	card s	lot, opt \	erizon LTE	(US) or Lenov	o® Connect (I	EMEA) SIM card					
												Lenove



ThinkPad X280 Platform Specifications

Processor				e™ i3 / i5 P n <i>US and El</i> l		U is NC	T available in	US	Dimensions Weight	WxDxH: 12.11" x 8.26" x 0.69-0.70"; 307.7mm x 209.8mm x 17.4-17.8mm FHD non-touch model: 2.49 lb / 1.13 kg;
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		HD non-touch model: 2.78 lb / 1.26 kg; FHD multi-touch model: 2.79 lb / 1.27 kg
	i3-7130U i5-7200U i5-7300U	2	4	2.7 GHz 2.5 GHz 2.6 GHz	3.1 GHz 3.5 GHz	3MB 3MB 3MB	DDR4-2133	Intel HD Graphics 620	Case color Case material	Black Display cover: Carbon Fiber (FHD non-touch model) or Glass Fiber (HD & FHD multi-touch model); Bottom: Magnesium/Aluminum
	or 8th Ger	neratio	n Intel Co	ore i3 / i5 / i	7 Processo	or			Smart card reade	er Optional: Smart card reader
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Media reader Ports	MicroSD card reader, in the combo slot with nano-SIM card Two USB 3.1 Gen 1 (one Always On),
	i3-8130U i5-8250U i5-8350U i7-8550U i7-8650U	4	8	2.2 GHz 1.6 GHz 1.7 GHz 1.8 GHz 1.9 GHz	3.4 GHz 3.4 GHz 3.6 GHz 4.0 GHz 4.2 GHz	4MB 6MB 6MB 8MB	DDR4-2400	Intel UHD Graphics 620		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 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
Graphics	supports t	externa hree in	l digital n depende	nonitor via ent displays		SB Typ	e-C;	BOHz (HDMI)	Monitor cable (optional) Bundled Accy	* Depending on many factors, actual data transfer speed may be lower than theoretical speed HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Optional: ThinkPad Ethernet Extension Adapter Gen 2
Chipset Memory	4GB, 8GB * 4GB mem * System cl	or 16 ory is N ocks do	GB / 240 IOT availa wn for pro	ble in US an cessors with	R4 / soldere d EMEA lower memo	ory cont	roller	no sockets	Camera (optional	I) 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 /
Display	22	20 nits,	16:9 asp	ect ratio, 4	00:1 contra	st ratio		·		stereo speakers, 2W x 2, Dolby® Audio™ Premium / dual array microphone, headphone / microphone combo jack
Multi-touch (opt)	30	00 nits,	16:9 asp	ect ràtio, 7		st ratio	, LED backl , 170° view		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 i	following	g, configui A 6.0Gb/	rable by mod	<i>lel:</i> GB SSD M.	2)	xGB SSD I	M.2 PCIe NVMe)	Security Security chip vPro (optional) Fingerprint reade	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, anti-spoofing technology
Optane™ memory Optical	/None None								NFC (optional)	Near Field Communication
Ethernet							· I219-LM (v Adapter Ger		Battery Max battery life	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter MobileMark® 2014: 16.6 hr
WLAN + Bluetooth™	Intel Dual * Intel 8265	Band Vacara	Vireless- Supports	AC 8265, V <i>BT4.2 but is</i>	Vi-Fi 2x2 80 limited to BT	2.11ac 4.1 by V	+ Bluetoot Vindows OS	h 4.1, M.2 card	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
WWAN (optional)	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, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable								Preload Limited warranty	Windows® 10 Home 64 or Windows 10 Pro 64 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
SIM card (opt)		card s	lot, in the	e combo slo	ot with micr				Mil-Spec test	MIL-STD-810G military testing
Note: The specifica									Environment	EPEAT™ Gold (US only); ENERGY STAR® 6.1; RoHS-compliant

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



ThinkPad X390 Platform Specifications

Processor	8th G	enera	ation Ir	ntel® Co	ore™	i3 / i5 / i	7 Processo	r				Dimensions	Models	FHD Non-touc	ch	HD/	FHD Multi-touch
	Proce Numb		# of Cores	# of Thread			Max Turbo Frequency	Cache	Memory Types	Proce Grap			Carbon Fiber	311.9mm x 217.0mm 12.28" x 8.54" x 0			-
	i3-814		2	4		.1 GHz .6 GHz	3.9 GHz 3.9 GHz	4MB 6MB					PPS	312.0mm x 217.2mm 12.28" x 8.55" x 0			x 217.2mm x 16.9mm 8" x 8.55" x 0.67"
	i5-836		4	8		.6 GHz	4.1 GHz	_	DDR4-2400	Intel UHD 62		Weight	Models	FHD Non-touch	Н	D	FHD Multi-touch
	i7-856		·			.8 GHz	4.6 GHz	8MB					Carbon Fiber	2.70 lb / 1.22 kg		-	-
	i7-866					.9 GHz	4.8 GHz	8MB				Case color	PPS Black	2.85 lb / 1.29 kg	2.93 lb /	1.33 kg	2.84 lb / 1.28 kg
Graphics	suppo	orts e	xterna rree in	al digital	l mor dent	displays;	HDMI or US	٠.	e-C; 16x2160@2	√U- (UN	MIX	Case material	Display cover: Bottom:	Carbon Fiber (FHD r Magnesium/Aluminu		only) or PPS	S;
Chipset						platform	Hunderbo	1), 408	0002100@2	4HZ (HDI	VII)	Smart card reade Media reader		irt card reader reader, in the combo s	lot with nar	no-SIM card	l
Memory	8GB,	16GE	3 or 32	2GB / 2	400N	инz DDR	4 / soldere	d to sy	stemboard,	no socke	ets	Ports	Two USB 3.1 (Gen 1 (one Always On).		
	* Insta	lled m	nemory	is actua	ally 26	66MHz bu	ıt run at 240	OMHz d	ue to Intel lim	itation			one USB 3.1 T	ype-C Gen 1 (with the ype-C Gen 2 / Thunde	function of	Power Deli	very and DisplayPort),
Display	Size	Resol	lution		Туре	Surface	Brightness	Aspec		Color	Viewing		HDMI 1.4b. Etl	nernet extension conn	ector.		,
	13.3"	HD (1	366x76	68)	TN	Anti-glare		16:9	Ratio 500:1	45%	Angle 90°		combo slot of the	nano-SIM card (WWAI nicrophone combo jack	N models) a	and microSI smart card r	D card reader, reader
		(.		,		j g		10.0	800:1				side dockina c	onnector, security kevl	ńole		,
			(1920x ⁻	,	IPS	Anti-glare	300 nits	16:9	(non-touch 700:1 (multi-touch	12%	170°	Monitor cable (optional)	HDMI to VGA: USB-C to VGA	Lenovo HDMI to VO	GA Monitor A GA Adapte	Adapter r	ver than theoretical speed
	13.3"		(1920x ⁻ Pad Pri d		IPS	Anti-glare	400 nits	16:9	1000:1	72%	178°	Bundled Accy	Optional: Thin	Lenovo USB-C to D kPad Ethernet Extens	ion Adapter		
Multi-touch (opt)	On-ce	ell tou	ıch, su	upports	10-fi	nger ges	ture (FHD	only)				Camera (optional)	one of the follow • HD720p cam	<i>ring, configurable by mod</i> nera with ThinkShutter	<i>eı:</i> camera priv	vacv. fixed f	ocus
	• M.2	2280	0 SSD		NVN	le, PCle						Audio support	 IR camera an HD Audio, Rea 	nd HD720p camera wi altek® ALC3287 codec	th ThinkŚhu /	utter camera	a privacy, fixed focus
Optane™ memory						/le, PCle		3 n	v 2					rs, 1W x 2, Dolby® Aud ield microphone, head			ombo jack
Optical	None		inici O	plane	HOITI	ory, r Oic	, ivivio, i v	JIC 0.0	X Z			 Keyboard		istant, multimedia Fn k	<u> </u>		
Ethernet	Native	e Inte	l Ethe	rnet Co	nnec	ction I219	-V (Non-v	Pro) or	I219-LM (vi	Pro)		UltraNav™	TrackPoint® po	inting device and butto	nless Myla	r surface m	ulti-touch touchpad
								ision A	dapter Gen	2		Security	Power-on pass	sword, hard disk passw	vord, superv	visor passw	ord, security keyhole
WLAN (optional)						e by mode -Fi 2x2 8	9 <i>1:</i> 02.11ac +	Rluetod	oth 5.0			Security chip System Mgt (opt)	Intel vPro Tech	2.0, TCG Certified			
	• Inte	l Wire	eless-A	AX 2226	30, W	/i-Fi 2x2	802.11ax +	Blueto	ooth 5.0			Fingerprint reader	r Optional: Touc	ch style match on chip	fingerprint	reader on tl	he palm rest
Bluetooth™								etooth (combo adap	ter		- (-/ /	Near Field Cor				
WWAN (optional)	• Into	t the to	ollowing d Mob	g, contig	<i>jurabl</i> adha	<i>e by mode</i> nd 4G LT	e <i>l:</i> 'E Eibocor	n I 830	-EB, M.2 ca	rd (EME	A only)	Battery		on 48Wh battery, supp Type-C AC adapter	orts Rapid (Charge (cha	arge up to 80% in 1hr)
	• Inte	grate	d Mob	ile Broa	adba	nd 4G LT	E-A, Fiboo	om L8	50-GL, M.2		(Orliy)	Max battery life	MobileMark® 2	<i>2014:</i> 17.6 hr			
	* For r	non-W	/WAN n	nodel, it	mean	ns the mod	lel is NOT W	WAN up	ogradable			AC adapter		ies significantly with settii ISB Type-C AC adapte		& other factor	S
												Preload		Home 64 or Windows			
												Limited warranty		ring, configurable by mode			
													1-year depot				
													 3-year/1-yr b 3-year/1-yr b 	attery depot repair ser attery limited onsite se	vice ervice		
												Mil-Spec test		3 military testing			
												Environment		ze; ENERGY STAR® 7	.0; RoHS-c	ompliant	
Note: The specifica	tions a	above	mav n	not be av	vailab	ole in all re	eaions.									•	Lenovo





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AMD

ThinkPad X395 Platform Specifications

Processor	AMD Ryze	en™ PR	O Mobile	e Process	ors with Rac	leon™ Ve	ga Graphics	;		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	1111Eaus	2.1 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 Black
	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		2MB L2 / 4MB L3	DDR4-2400		n Vega 8 phics	Smort gord roads	Bottom: Magnesium/Aluminum er Optional: Smart card reader
	Ryzen 7 Pro 3700U	4	8	2.3 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	supports t	externa hree in	Ĭ digital ı depende	monitor via	ega 10 Grap a USB-C or l s; (USB-C); 4	HDMI;	rocessor; 60@24Hz (F	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		ĠB / 24	400MHz	DDR4/s	oldered to sy		ard, no sock le to AMD limi			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	lution	Т	ype Surfa	e 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 (1	1366x76	68)	TN Anti-gl	are 250 nits		300:1	45%	90°	Gamera (optional)	HD720p camera with ThinkShutter camera privacy, fixed focus
	13.3" FHD	`		PS Anti-gl	are 300 nits	16:9	800:1 (non-touch) 700:1 (multi-touch)	72%	170°	Audio support	 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
	13.3" FHD Guar		1080) vacy I	PS Anti-gl	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)			pports 1	0-finger g	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 228M.2 228				l= 0.0 · · 4					System Mat	DASH Management
Optical	None None	0 220	/ Pole i	vivie, PC	le 3.0 x 4					Fingerprint reade	or <i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest None
Ethernet							l219-LM (<i>vP</i> dapter Gen 2			Battery	Integrated Li-ion 48Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter
WLAN <i>(optional)</i> Bluetooth™	Bluetooth	5.0 wir	eless, in	tegrated i			n 5.0 combo adapt	er		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)	One of the i				del:					Preload	Windows® 10 Home 64 or Windows 10 Pro 64
SIM card (opt)	• Integrate * For non-W	ed Mob VWAN m	ile Broad Brodel, it m	dband 4G neans the n	LTE-A, Fibo odel is NOT I n LTE (US)	com L85 WWAN up SIM car	50-GL, M.2 c <i>gradable</i> d	ard		Limited warranty	One of the following, configurable by model: 1-year depot repair service 3-year/1-yr battery depot repair service
										Mil-Spec test	MIL-STD-810G military testing
										Environment	EPEAT™ Bronze; ENERGY STAR® 7.1; RoHS-compliant

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

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

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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.

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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.

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Summary of Changes

This section describes the technical changes made in this edition.

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

June 26, 2019 - Version 544

Additions in this update

► New product(s)

ThinkPad X1 Yoga (4th Gen)

► New model(s)

None

▶ Others

None

Changes in this update

►None

Withdrawals in this update

► Withdrawn product(s)

None











ThinkPad X1 Tablet (3rd Gen) Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor Processor # of # of Base Max Turbo Cache Memory Types Processor Number Cores Threads Frequency Frequency Processor Graphics	Control buttons Dock Monitor cable(opt	Power button, volume control button, reset switch Optional: Hybrid dock t)None) USB-C to RJ45: Lenovo USB-C to Ethernet Adapter
	i5-8250U	Adapter (optional)	USB-C to VGA: Lenovo USB C to VGA Plus Power Adapter USB-C to HDMI: Lenovo USB-C to HDMI Plus Power Adapter
	i7-8650U 1.9 GHz 4.0 GHz 8MB	Camera	Front camera: 2.0-megapixel, fixed focus Rear camera: 8.0-megapixel, auto focus
Graphics	Intel UHD Graphics 620 in processor, supports external digital monitor via USB Type-C	IR Camera Audio support	Optional: IR camera, fixed focus (Not available with NFC) Realtek® ALC3278 codec / stereo speakers, 1W x 2 / two microphones, combo audio/microphone jack
Chipset Memory	Intel SoC (System on Chip) platform 8GB, or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets	Pogo keyboard	Magnetic attached thin keyboard, with TrackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch, backlit
Display	13.0" (330mm) QHD+ (3000x2000), glossy, LED backlight, IPS, anti-figerprint display with Corning® Gorilla® Glass, WideView (160° viewing),	Keyboard color	Black
Multi-touch Pen	400 nits, 3:2 aspect ratio, 1200:1 contrast ratio Capacitive touch panel, supports ten-finger gesture Optional: Lenovo Pen Pro or Lenovo Active Pen (ThinkPad Pen Pro) for multi-touch display	Security Security chip vPro (optional) Fingerprint reade	Kensington lock slot Discrete TPM 2.0 TCG Certified Intel vPro Technology r Optional: Touch style Fingerprint reader
Kick stand	Opening angle up to 170 degrees	NFČ (optional)	Near Field Communication (Not available with the IR camera)
Storage	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)	Battery Max battery life	Integrated Li-Ion 42Wh battery MobileMark® 2014: 9.5 hr
Optical Storage extension	None nOne MicroSD card reader, in the combo slot with nano-SIM card, support	AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter
 Ethernet	USH-I, microSDHC, microSDXC	Light sensor G-sensor	Ambient Light Sensor 3D accelerometer
WLAN	None Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card	Gyroscope	3D gyrometer
	* Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS	GPS Preload	GPŠ function is integrated into WWAN module Some: Windows 10 Pro 64
Bluetooth™	Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter Integrated Mobile Broadband 4G LTE-A, Qualcomm® Snapdragon™ X7 LTE-A	Freioau	Some: Windows 10 P10 64 Some: Windows 10 Home 64
, , ,	(Sierra Wireless EM7455)	Limited warranty	One of the following, configurable by model:
SIM card (opt)	Nano-SIM card slot, in the combo slot with microSD card reader		 1-year depot repair service 3-year/1-yr battery depot repair service
Dimensions	Tablet only: 11.97" x 8.9" x 0.35"; 304.1mm x 226mm x 8.9mm Tablet + keyboard: 11.97" x 8.9" x 0.57"; 304.1mm x 226mm x 14.4mm		3-year/1-yr battery limited onsite service
Weight	Tablet only: starting at 1.96 lb (0.89kg)	Mil-Spec test	MIL-STD-810G military testing
Case color Case material	Tablet+keyboard: starting at 2.8 lb (1.27kg) Black Magnesium/Aluminum	Environment	EPEAT™ Gold, GREENGUARD, Low Halogen, RoHS
Smart card reade Ports	rNone Two USB 3.1 Type-C Gen 1 / Thunderbolt 3 / Power Delivery 3.0, one Pogo keyboard connector, one Pen holder slot, 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		













ThinkPad L380 Yoga Platform Specifications

Processor	Intel® Celeron® 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 Number # of Cores # of Threads Base Frequency Max Turbo Frequency Cache Frequency Memory Types Processor Graphics	Weight Starting at 3.44 lb / 1.56 kg Case color Black or Silver
	i5-720011 2 4 2.5 GHz 3.1 GHz 3MB DDB4-2133 Intel HD Graphics	Case material Display cover: Aluminum Bottom: GFRP
	or 8th Generation Intel Core i5 / i7 Processor	Smart card readerNone
	Discourse # of # of Book May Turks Marson Braceson	Media reader MicroSD card reader Two USB 3.1 Gen 1 (one Always On), two USB 3.1 Type-C Gen 1.
	Number Cores Threads Frequency Frequency Cache Types Graphics	HDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack,
	i5-8250U	microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed
	1.8 GHz	Monitor cable HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor;	(optional) USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter
Grapinos	supports external digital monitor via HDMI or USB Type-C;	Camera 720p: HD720p resolution, low light sensitive, fixed focus
	supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	IR & 720p: IR camera and HD720p camera, fixed focus World facing: Rear camera, 5MP resolution, auto focus
Chipset	Intel SoC (System on Chip) platform	Audio support HD Audio, Řealtek ALC3287 codec, Dolby® Advance / stereo speakers, 2W x 2 /
Memory	Up to 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets	dual array microphone, headphone / microphone combo jack 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	Some: 13.3" (338mm) FHD (1920x1080), glossy, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, 170° viewing angle	Security Power-on password, hard disk password, supervisor password, security keyhole
Multi-touch (opt)	Capacitive-type multi-touch, AR (anti-reflection), supports 10-finger gesture	Security chip Discrete TPM 2.0, TCG Certified vPro (optional) Intel vPro Technology
Hinge Convert-mode	Yoga hinge, 360 degree Laptop, tent, stand, yoga and tablet	Fingerprint reader Optional: Touch style fingerprint reader on the keyboard bezel,
Pen	ThinkPad Pen Pro, active pen for multi-touch display, on-board garage	anti-spoofing technology NFC (optional) 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)
	 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 	with 65W USB Type-C AC adapter Max battery life MobileMark® 2014: 12.85 hr
Optane Memory	None	* Battery life varies significantly with settings, usage, & other factors
Optical Ethernet	None Native Intel Ethernet Connection I219-V (Non-vPro) or I219-LM (vPro))	AC adapter 45W or 65W USB Type-C AC adapter Preload Windows® 10 Home 64 or Windows 10 Pro 64
Linemet	via optional ThinkPad Ethernet Extension Cable Gen 2	Limited warranty One of the following, configurable by model:
WLAN +	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card	1-year depot repair service
Bluetooth™ WWAN	* Wireless card supports BT4.2 but is limited to BT4.1 by Windows OS None	3-year/1-yr battery depot repair service 3-year/1-yr battery limited onsite service
SIM card	None	Mil-Spec test MIL-STD-810G military testing
		Environment EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant
		Lenovo

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ThinkPad L390 Yoga Platform Specifications

Processor	8th Generation Intel® Core™ i3 / i5 / i7 Processor		<i>VxDxH:</i> 12.67" x 8.82" x 0.74"; 321.8mm x 224.2mm x 18.8mm
	Processor # of # of Base Max Turbo Cache Memory Processor		Starting at 3.44 lbs / 1.56 kg Black or Silver
	Number Cores Inreads Frequency Frequency Types Graphics		Display cover: Magnesium / Aluminum
	is 8145U 2 4 2.1 GHz 3.9 GHz 4MB Intel UHD Graphic		Bottom: GFRP
	15-82650 4 8 1.6 GHZ 3.9 GHZ 6MB DDR4-2400 620	Smart card readerN	lone
	i7-8565U 4 8 1.8 GHz 4.6 GHz 8MB		MicroSD card reader
Graphics	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)		wo USB 3.1 Gen 1 (one Always On), wo USB 3.1 Type-C Gen 1 (with the function of Power Delivery and DisplayPort), IDMI 1.4b, Ethernet extension connector, headphone / microphone combo jack, nicroSD card reader, security keyhole
Chipset	Intel SoC (System on Chip) platform		Depending on many factors, actual data transfer speed may be lower than theoretical speed ISB-C to VGA: Lenovo USB-C to VGA Adapter
Memory	32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets		ISB-C to VGA + Power Adapter: Lenovo USB-C to VGA plus Power Adapter
Display	13.3" (338mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, 72% gamut, 170° viewing angle		USB-C to HDMI: Lenovo USB-C to HDMI Adapter USB-C to HDMI + Power Adapter: Lenovo USB-C to HDMI plus Power Adapter
Multi-touch	Capacitive-type multi-touch, AR (anti-reflection), supports 10-finger gesture		JSB-C to DP: Lenovo USB-C to DisplayPort Adapter
Hinge Multi-mode	Yoga hinge, 360 degree Notebook, stand, tent, tablet		USB-C to RJ45: Lenovo USB-C to Ethernet Adapter USB-C to USB-A: Lenovo USB-C to USB-A Adapter
Pen (optional)	ThinkPad Pen Pro, active pen for multi-touch display, on-board garage		ISB-C to USB-C: Lenovo USB-C to USB-C Cable 2M
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	Camera 72	720p: HD720p resolution, low light sensitive, fixed focus R & 720p: IR camera and HD720p camera, fixed focus (black model only) World facing: 5MP resolution, auto focus
	• M.2 (2280) SSD / PCle NVMe, PCle 3.0 x 4		(mutually exclusive with fingerprint reader)
Optane™ Memory Optical	y None None	Audio support H	ID Audio, Realtek ALC3287 codec, Dolby® Audio™ Premium / stereo speakers,
			W x 2 / dual array microphone, headphone / microphone combo jack
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)	UltraNav™ Tı	-row, spill-resistant, multimedia Fn keys, optional LED backlight rackPoint® pointing device and buttonless Mylar surface touchpad, multi-touch
Optical	None	Security chip D	Power-on password, hard disk password, supervisor password, security keyhole biscrete TPM 2.0, TCG Certified
Ethernet	Native Intel Ethernet Connection I219-V (<i>Non-vPro</i>) or I219-LM (<i>vPro</i>) via optional ThinkPad Ethernet Extension Cable or		lone Optional: Touch style fingerprint reader on the palm rest
	Lenovo USB-C to Ethernet Adapter	Fingerprint reader O	(mutually exclusive with World facing camera)
WLAN	Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card	NFC (optional) N	lear Field Communication
Bluetooth™ WWAN	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter None	, w	ntegrated Li-Ion 45Wh battery, supports Rapid Charge (charge up to 80% in 1hr) //ith 65W USB Type-C AC adapter
VVVAIN	NOTE	*1	MobileMark® 2014: 12.17 hr ' Battery life varies significantly with settings, usage, & other factors
		AC adapter 45	5W or 65W USB Type-C AC adapter
			Vindows® 10 Home 64 or Windows 10 Pro 64
		Limited warranty O	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-STD-810G military testing
			NERGY STAR® 7.0; RoHS-compliant
		Environment E	Lenovo











ThinkPad X1 Yoga (3rd Gen) Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor	Smart card readerNone
	Processor Number Cores Threads Frequency Frequency Cache Graphics # of Cores Threads Frequency Frequency Cache Graphics 1.6 GHz 3.4 GHz 6MB	Media reader 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, HDMI 1.4, Ethernet extension connector, nano-SIM card slot (WWAN models),
	1.7 GHz 3.6 GHz 6MB 1.8 GHz 4.0 GHz 8MB 1.9 GHz 4.2 GHz 8MB LPDDR3-2133 Intel UHD Graphics 620 1.9 GHz 4.2 GHz 8MB CPDR3-2133 C	headphone / microphone combo jack, microSD card reader * Depending on many factors, actual data transfer speed may be lower than theoretical speed WiGig dock Monitor cable WiGig dock Monitor cable HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter
Graphics	Intel UHD Graphics 620 in processor; supports external digital monitor via HDMI or USB Type-C; supports three independent displays;	(optional) USB-C to VGA: Lenovo USB-C to VGA Adapter USB-C to DP: Lenovo USB-C to DisplayPort Adapter Camera (optional) One of the following, configurable by model:
Chipset Memory Display	Max resolution: 5120x2880@60Hz (USB Type-C); 4096x2160@30Hz (HDMI) Intel SoC (System on Chip) platform 8GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets Some: 14.0" (355mm) FHD (1920x1080), LED backlight, 300 nits,	720p: HD720p camera with ThinkShutter camera privacy, fixed focus IR & 720p: IR camera and HD720p camera, fixed focus * WWAN models and HDR panel models can not support IR camera Audio support HD Audio, Realtek® ALC3286 codec, Dolby® Audio™ Premium / stereo speakers, 1W x 2 / dual array microphone, headphone / microphone combo jack
. ,	16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle, IP Some: 14.0" (355mm) WQHD (2560x1440), LED backlight, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, 72% gamut, 170° viewing angle, IP	Keyboard 6-row wave keyboard (rise & fall), spill-resistant, multimedia Fn keys, LED backlit
	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	Security Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0 TCG Certified Intel vPro Technology
Multi-touch	Capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge), supports 10-floor gesture, reduces overall display brightness by 10%	Fingerprint reader Touch style match on chip fingerprint reader on the palm rest NFC (optional) Near Field Communication
Hinge Convert-mode Pen <i>(optional)</i>	Yoga hinge, 360 degree Laptop, tent, stand, and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable	Battery Integrated Li-Ion 54Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter Max battery life MobileMark® 2014: 15.4 hr
Storage	Some: M.2 SSD / SATA 6.0Gb/s (e.g. xxxG SSD) Some: M.2 SSD / PCle NVMe, PCle 3.0 x 4, 32Gb/s (e.g. xxxG SSD PCle NVMe	* Battery life varies significantly with settings, usage, & other factors AC adapter 45W or 65W USB Type-C AC adapter
Optical Ethernet	None Native Intel Ethernet Connection WGI219-LM (<i>vPro</i>) via optional ThinkPad Ethernet Extension Cable	Light sensor Ambient Light Sensor G-sensor 3D accelerometer Gyroscope 3D gyrometer GPS GPS GPS function is integrated into WWAN module
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 Bluetooth 4.1 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Preload Windows 10 Pro 64
WWAN (optional)	Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), 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
SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card	Mil-Spec test MIL-STD-810G military testing
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	Environment EPEAT™ Gold; ENERGY STAR®; RoHS-compliant
		Lenovo

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ThinkPad X1 Yoga (4th Gen) Platform Specifications

Processor fe/s # of Ease Max Turbo Scale Memory Type Processor Frequency Processor P												1			
Number Gores Threads Frequency Gregories Scape Gregories Scape Gregories Scape Gregories Scape Gregories Grego	Processor									Drass	2024				
								Memo	ry Types						
Fig. 1, 26, 26, 1 1 15, 16, 14, 16, 16, 17, 17, 17, 18, 18, 16, 14, 18, 18, 14, 18, 18, 18, 18, 18, 18, 18, 18, 18, 18		i5-8265	5U					3					(with the function of Power Delivery and DisplayPort), HDMI 1.4b.		
Graphics Title UHD Graphics B20 in processor Title UHD Graphics B20 in the Intervention Title UHD Graphics B20 in processor Title UHD Graphics B20 in the Intervention Title UHD Graphics B20 in the Intervent				8				— II BUUI	R3-2133				headphone / microphone combo jack, side docking connector, security keyhole		
Triel UFU Graphics Soil processor Supports external (Igital manner vie HDMI or USB Type-C / Thunderbolt; supports three independent displays; supports three independent displays; supports where independent where independent where independent where independent where independent where independent where independent where independent where independent where independent where independent where independent where independent where invision where				ŀ				3		Grapnic	cs 620	Manitanaalal	* Depending on many factors, actual data transfer speed may be lower than theoretical speed		
Supports externed digital monitor via HDMI or USB Type-C / Thunderholt; supports externed digital monitor via HDMI or USB Type-C / Thunderholt; supports three independent displays: Max resolution: 5120x2880 & OHz (USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates mon Chip) plates mon Chip) plates mon Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System System on Chip) plates with the control of HDMI or USB Type-C); 4096x216 & 24Hz (HDMI) Third Soc (System System Sy	Graphica			00 620 i			CITIZ OIVIL	,							
supports three independent displays; Max resolution: 5120x2809 6Pth2 (USB Type-C); 4096x2160 8 24Hz (HDM) Memory 360 of 1056 / 21308Hz LPOPD18 / 30dered to systemboard, no sockets Intel Soc System on Chip) platform (360 of 1056 / 21308Hz LPOPD18 / 30dered to systemboard, no sockets Size Resolution Type Surface Brightness Aspect Angle	Graphics	supports external digital monitor via HDMI or USB Type-C / Thunderbolt; supports three independent displays:								rbolt;		Camera (optional	l) One of the following, configurable by model:		
Chipset Memory (213 Met L2 (1921 3 Met L2 (1921 2 Loodes, Manager 1921 2 Loodes) (213 Met L2 (1921 3 Met L2 (19										1U- /U	DMI)		HD720p camera with ThinkShutter camera privacy, fixed focus IB camera and HD720p camera with ThinkShutter camera privacy, fixed focus		
Memory 3GB or 16GB / 2133MHz LPDDR3 / soldered to systemboard, no sockets Size	Chinset						л туре-о),	403072	.100@2-	+1 12 (1 1	DIVII)	Audio support	HD Audio, Realtek® ALC1012L codec,		
Display Size Resolution Type Surface Brightness Aspect Contrast Color Ratio Color Rati							lered to sy	stemboa	ırd, no s	ockets					
Size Resolution Type Surface Brightness Ratio Camut Angle Sternity TrackPoint* pointing device and buttoniess Glass surface multi-touch buchpad Flut (1920x1080) 14-0" Low Power 1	Display										\ \rac{1}{2} \ \ \rac{1}{2} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Keyboard			
Hu Hu Hu Hu Hu Hu Hu Hu		Size	Resoluti	ion	Туре	Surface	Brightness								
14.0 Low Power IPS Glosey 380 nits 16:9 800:1 72% 170° Final Pad Pinacy FHD (1920x1080) IPS Glosey 380 nits 16:9 100:1 72% 170° FHD (1920x1080) IPS Glosey 380 nits 16:9 100:1 72% 170° Max battery life Ma													Power-on password, hard disk password, supervisor password, security keyhole		
Finderprint reader Touch style match on chip fingerprint reader Touch style match and the chip style fingerprint reader Touch style match and the with Style UsB Type-C AC adapter Mobile March 2014: 18.1 hrs 4 Mobile March 2014: 18.1 hrs 4 Mobile March 2014: 18.1 hrs 4 Mobile March 2014: 18.1 hrs 4 Mobile March 2014: 18.1 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 19.0 hrs 4 Mobile March 2014: 1		14.0"		(1080)	IPS	Glossy	380 nits	16:9	800:1	72%	170°		Discrete TPM 2.0 TCG Certified Optional: Intel vPro Technology		
ThinkPad Privacy IPS Glossy 380 nits 16:9 1000:1 72% 170° Battery Integrated Li-line 51Wh Debtery, supports Rapid Charge up to 80% in 1hh Williams 14:0° WCHD 14:0° WCHD 12:0° WCHD				1000)								Fingerprint reader	r Touch style match on chip fingerprint reader on the palm rest		
Guard 14.0" WOHD 19S Glossy 280 nits 16.9 800:1 72% 170° AC adapter AC a		14.0"			IPS	Glossy	380 nits	16:9	1000:1	72%	170°		,		
Max battery life Max battery life Max battery life AC adapter AS W ISB Type-C AC adapter A			Guard									- Dailery	with 65W USB Type-C AC adapter		
Leboux 1440 Leboux 1450 Leb		14.0"			IPS	Glossy	280 nits	16:9	800:1	72%	170°	Max battery life	<i>MobileMark</i> ® <i>2014:</i> 18.1 hrs		
14.0° Dolby Vision™ PS Glossy 470 nts 16.9 1400:1 90% 170° Gyroscope			,	<i>'</i>	0		200 10			1270		AC adapter	45W or 65W USB Type-C AC adapter		
Multi-louch Multi-louch Hinge Convert-mode Pen Multi-louch Convert-mode Pen Multi-louch An (anti-reflection), AS (anti-smudge), Supports 10-finger gesture Yoga hinge, 360 degree Laptop, tent, stand, and tablet ThinkPad Pen Pro, active pen for multi-louch display, on-board rechargeable Storage One of the following, configurable by model: - Windows 10 Pro 64 - Windows 10 Home 64 - W		14 0"			IPS	Glossy	470 nits	16:9	1400:1	90%	170°				
Multi-touch Capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge), supports 10-finger gesture Voga hinge, 360 degree Laptop, tent, stand, and tablet ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable Storage One of the following, configurable by model: • M. 2 2280 SSD / SATA 6.0Gb/s • M. 2 2280 SSD / PCle NVMe, PCle 3.0 x 4 • Intel Optane Memory Intel Optane Memory H10 with Solid State Storage, M. 2 2280, PCle NVMe 3.0 x 4 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 WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth™ Oblice Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Nano-SiM card slot, optional Verizon LTE (US) SIM card Slot, optional Verizon LTE (US) SIM card Case color Case material Display cover: Aluminium; Bottom: Magnesium Magnesium Magnesium Multi-touch, AR (anti-reflection), AS (anti-smudge), support of the following, configurable by model: • Windows* 10 Pro 64 • United warranty • 1-year depot repair service Mil-Spec test Mil-Spec test Mil-STD-810G military testing EPEAT™ Bronze; ENERGY STAR*7.1; RoHS-compliant • Windows*10 Hone 4 • 1-year depot repair service * 1-year depot repair service * 1-year depot repair service * 1-year depot repair service * 1-year		11.0		·	0	Giocoy	17011110		1 100.1	0070	170				
Hinge Convert-mode Pen ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable Storage 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 • Intel Optane Memory H10 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 WLAN Intel Wireless-AC 9560, Wi-F1 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth 5.0 wireless, integrated in Wi-F1 + Bluetooth combo adapter WWAN (optional) One of the following, configurable by model: • 1-year depot repair service • 1-year depot re	Multi-touch					(anti-refl	ection), AS	3 (anti-sı	mudge),				<u> </u>		
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 WLAN (<i>Optional</i>) WAN (<i>Optional</i>) WAN (<i>Optional</i>) One of the following, configurable by model: • 1-year depot repair service • 1-year depot repair serv	Hinge				C										
Storage 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 Optical Optical None WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth™ Bluetooth™ Bluetooth 5.0 wireless, integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated storage of the following of the						or multi ta	auch dienk	w on be	ard rook	orgon	blo	Limited warranty			
• M.2 2280 SSD / SATA 6.0Gb/s • M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4 • Intel Optane Memory Into Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 Optane™ Memory Intel Optane Memory H10 None Ethernet Native Intel Ethernet Connection I1219-LM (vPro) or I1219-V (Non-vPro) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2 WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth™ Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter WWAN (optional) One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fiboco					<u>'</u>		Judii dispie	ty, OH-DC	alu leci	laryea	DIC	Limited warranty	1-year depot repair service		
• Intel Optane Memory H10 with Solid State Storage, M.2 2280, PCIe NVMe 3.0 x 4 Optane™ Memory Intel Optane Memory H10 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 WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter WWAN (<i>optional</i>) One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions WxDxH: 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Weight Starting at 2.99 lb (1.36kg) Case color Case material Display cover: Aluminium; Bottom: Magnesium	Olorage	• M.2	2280 SSD	/ SATA	6.0Gb/	s									
M.2 2280, PCIe NVMe 3.0 x 4 Optane™ Memory Intel Optane Memory H10 Optical None Ethernet Native Intel Ethernet Connection I1219-LM (vPro) or I1219-V (Non-vPro) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2 WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter WWAN (optional) WWAN (optional) One of the following, configurable by model: Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions WxDXH: 12.71* x 8.58* x 0.61*; 323mm x 218mm x 15.5mm Weight Starting at 2.99 lb (1.36kg) Iron Gray Case color Bottom: Magnesium EPEAT™ BronZe; ENERGY STAR*7.1; ROHS-compliant FEAT™ BronZe; ENERGY STAR*7.1; All STAR*7.1; All STAR*7.1; All STAR*7.1; All STAR*7.1; All STAR*7.1; All STAR*7.1; All STAR*7.1; All STAR*7.								16				· ·	, ,		
Optical None Ethernet Native Intel Ethernet Connection I1219-LM (vPro) or I1219-V (Non-vPro) via bundled or optional ThinkPad Ethernet Extension Adapter Gen 2 WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter WWAN (optional) One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions WxDxH: 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Weight Starting at 2.99 lb (1.36kg) Case color Iron Gray Case material Display cover: Aluminium; Bottom: Magnesium		M.2	2280. PCIe	NVMe	3.0 x 4		iaio Otoraș	,0,				Environment	EPEAT™ Bronze; ENERGY STAR® 7.1; RoHS-compliant		
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 WLAN 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 (<i>optional</i>) <i>One of the following, configurable by model:</i> • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions <i>WxDxH:</i> 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Starting at 2.99 lb (1.36kg) Case color <i>Iron Gray</i> Case material <i>Display cover:</i> Aluminium; <i>Bottom:</i> Magnesium			ptane Men	nory H1	0										
WLAN Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0, M.2 card Bluetooth™ Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter WWAN (optional) One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card • Integrated Mobile Broadband Verizon LTE (US) SIM card SIM card (opt) Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions WxxDxH: 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Weight Starting at 2.99 lb (1.36kg) Iron Gray Case material Display cover: Aluminium; Bottom: Magnesium			Intel Ether	net Con	nection	n I1219-L	M (vPro) o	or I1219-	V (Non-	vPro)		-			
Bluetooth TM Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter WWAN (optional) One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions WxDxH: 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Weight Starting at 2.99 lb (1.36kg) Case color Case material Display cover: Aluminium; Bottom: Magnesium															
WWAN (optional) One of the following, configurable by model: • Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions Weight Starting at 2.99 lb (1.36kg) Iron Gray Case color Case material Display cover: Aluminium; Bottom: Magnesium															
• Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card • Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions WxDxH: 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Weight Starting at 2.99 lb (1.36kg) Iron Gray Display cover: Aluminium; Bottom: Magnesium							T I Didoto	Jul 001111	o adapt	-		+			
SIM card (opt) Nano-SIM card slot, optional Verizon LTE (US) SIM card Dimensions WxDxH: 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Weight Case color Case material Display cover: Bottom: Nano-SIM card slot, optional Verizon LTE (US) SIM card Jerus 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Starting at 2.99 lb (1.36kg) Iron Gray Display cover: Magnesium	(optional)	 Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card 													
Dimensions WxDxH: 12.71" x 8.58" x 0.61"; 323mm x 218mm x 15.5mm Weight Starting at 2.99 lb (1.36kg) Case color Iron Gray Case material Display cover: Aluminium; Bottom: Magnesium	SIM card (ont)	 Integrated Mobile Broadband 4G LTE-A, Fibocom L860-GL, MIMO 2x2, M.2 card 									M.2 card				
Weight Starting at 2.99 lb (1.36kg) Case color Iron Gray Case material Display cover: Aluminium; Bottom: Magnesium				· '			` '		5.5mm			+			
Case material Display cover: Aluminium; Bottom: Magnesium	Weight	Startin	ng at 2.99 lb			, 520									
Bottom: Magnesium				Aluminiu	ım:										
													Lenovo		













ThinkPad X380 Yoga Platform Specifications

Processor			e™ i3 / i5 / i7 Processor	Dimensions	<i>WxDxH</i> : 12.34" x 8.75" x 0.72"; 313.5mm x 222.2mm x 18.2mm			
	Processor # of Number Cores	# of Threads	Base Frequency Frequency Cache Memory Types Processor Graphics	Weight Case color	Starting at 3.17 lb (1.43kg) Black or silver			
	i3-8130U 2	4	2.2 GHz 3.4 GHz 4MB	Case Material	Carbon-Fiber Hybrid			
	i5-8250U i5-8350U		1.6 GHz 3.4 GHz 6MB DDR4-2400 Intel UHD	Smart card reade Media reader	er Optional: Smart card reader (mutually exclusive with NFC) One microSD card slot (microSD, microSDHC, microSDXC), UHS-I			
	i7-8550U 4	8	1.7 GHz 3.6 GHz 6MB DDR4-2400 Graphics 620	Ports	Two USB 3.1 Gen 1 (one Always On), Ethernet extension connector,			
	i7-8650U		1.9 GHz		one USB 3.1 Type-C Gen 2 / Thunderbolt 3, HDMI 1.4b, microSD card reader, nano-SIM card slot (WWAN models), headphone / microphone combo jack			
Graphics			in processor only;	WiGig dock	* Depending on many factors, actual data transfer speed may be lower than theoretical speed None			
	supports externa supports three in		monitor via HDMİ or USB Type-C; ent displays:	Monitor cable	USB-C to VGA:Lenovo USB-C to VGA Plus Power Adapter			
	Max resolution:	4096x23	304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)	(optional)	USB-C to DP: Lenovo USB-C to DisplayPort Adapter HDMI to VGA: Lenovo HDMI to VGA Monitor Adapter One of the following, configurable by model:			
Chipset Memory	Intel SoC (System	m on Ch	ip) platform DDR4 / soldered to systemboard, no sockets	Camera				
Memory	* System clocks	down for	r processors with lower memory controller	Gamera	720p: HD720p camera, fixed focus			
Display	13.3" (337.8mm)) FHD (1	920x1080), LED backlight, IPS	Audio support	IR & 720p: IR camera and HD720p camera, fixed focus HD Audio, Conexant® CX11771 codec / stereo speakers, 2W x 2 /			
Multi-touch	300 nits, 16:9 as	pect rati	o, 800:1 contrast ratio, 170° viewing angle ch, AR (anti-reflection), AS (anti-smudge),	radio dapport	dual array microphone, headphone / microphone combo jack			
	supports 10-finge	er aestui	re	Keyboard	6-row, spill-resistant, multimedia Fn keys, LED backlight			
Hinge Convert-mode	Yoga hinge, 360 Laptop, tent, star	degree	and tablet	UltraNav™	TrackPoint® pointing device and 3+2 buttons Mylar surface multi-touch click pad			
Pen			e pen for multi-touch display, on-board rechargeable	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0 TCG Certified			
Storage	Some: M.2 SSD	/ SATA	6.0Gb/s (e.g. xxxG SSD)	vPro (óptional)	Intel vPro Technology or Optional: Touch style match on chip fingerprint reader on the palm rest			
Optical	None M.2 SSD) / PCIe i	NVMe, PČle 3.0 x 4, 32Gb/s (e.g. xxxG SSD PCle NVMe	NFC (optional)	Near Field Communication (mutually exclusive with smart card reader)			
Optane Memory	None			Battery	Li-Ion 51Wh battery			
Ethernet			nnection I219-V (<i>Non-vPro</i>) or I219-LM (<i>vPro</i>) hernet Extension Cable	Max battery life	MobileMark® 2014: 13.6 hr * Battery life varies significantly with settings, usage, & other factors			
WLAN			-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card	AC adapter	45W or 65W AC adapter (slim tip), 45W or 65W USB Type-C AC adapter			
VVLAIN	* Intel 8265ac ca	ard suppo	orts BT4.2 but is limited to BT4.1 by Windows OS	Light sensor	Ambient Light Sensor			
Bluetooth™	Bluetooth 4.1 wir	reless, in	ntegrated in Wi-Fi + Bluetooth combo adapter	G-sensor/ eCompass	3D accelerometer and 3D magnetometer 3D compass			
WWAN (optional)	Integrated Mobile	e Broadk	pand 4G LTE, om L830-EB), M.2 card (EMEA only)	Gyroscope	3D gyrometer			
SIM card (opt)	Nano-SIM card s		on Loso-Eb), M.2 Card (LMLA Only)	Preload	Some: Windows 10 Home 64 Some: Windows 10 Pro 64			
				Limited warranty	One of the following, configurable by model:			
					1-year depot repair service3-year/1-yr battery depot repair service			
				Mil-Spec test	MIL-STD-810G military testing			
				Environment	EPEAT™ Gold; ENERGY STAR®; RoHS-compliant			











ThinkPad X390 Yoga Platform Specifications

Processor	8th Generation Intel® Core™ i5 / i7 Processor	Smart card reade	r Optional: Smart card reader		
	Processor # of # of Base Max Turbo Cache Memory Types Processor Graphics	Media reader	MicroSD card reader, in the combo slot with nano-SIM card		
		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 Display Port),		
	i5-8265U 4 8 1.6 GHz 3.9 GHz 6MB		one USB 3.1 Type-C Gen 2 / Thunderbolt 3 (with the function of PD and DP),		
	i5-8365U 4 8 1.6 GHz 4.1 GHz 6MB DDR4-2400 Intel UHD		HDMI 1.4b, Ethernet extension connector,		
	17-85650 4 8 1.8 GHz 4.6 GHz 8MB Graphics 620		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		
Object	· / /		USB-C to DP: Lenovo USB-C to DisplayPort Adapter		
Chipset Memory	Intel SoC (System on Chip) platform 8GB or 16GB / 2400MHz DDR4 / soldered to systemboard, no sockets	Bundled Accy	Optional: ThinkPad Ethernet Extension Adapter Gen 2		
Memory	* Installed memory is actually 2666MHz but run at 2400MHz due to Intel limitation	Camera	One of the following, configurable by model:		
Display	13.3" (337.8mm) FHD (1920x1080), LED backlight, IPS, Glossy, 300 nits,	-	 HD720p camera, with ThinkShutter camera privacy, fixed focus IR camera and HD720p camera, with ThinkShutter camera privacy, fixed focus 		
Biopiay	16:9 aspect ratio, 800:1 contrast ratio, Color Gamut 72%, 170° viewing angle,	Audio support	HD Audio, Realtek® ALC3287 codec / stereo speakers, 2W x 2, Dolby® Audio™ Pre-		
	capacitive-type multi-touch, AR (anti-reflection), AS (anti-smudge)	, tadio oappoit	mium / dual array microphone, headphone / microphone combo jack		
Multi-touch	supports 10-finger gesture	Keyboard	6-row, spill-resistant, multimedia Fn keys, LED backlight		
Hinge Convert-mode	Yoga hinge, 360 degree Laptop, tent, stand and tablet	UltraNav™	TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad		
Pen	ThinkPad Pen Pro, active pen for multi-touch display, on-board rechargeable	Security	Power-on password, hard disk password, supervisor password, security keyhole		
Storage	M.2 2280 SSD / SATA 6.0Gb/s	Security chip	Discrete TPM 2.0 TCG Certified		
Sidiage	• M.2 2280 SSD / PCIe NVMe, PCIe 3.0 x 4	vPro (optional)	Intel vPro Technology		
	• M.2 2242 SSD / PCIe NVMe, PCIe 3.0 x 2		rTouch style match on chip fingerprint reader on the palm rest Near Field Communication		
	 Intel Optane Memory H10 with Solid State Storage, 	NFC (optional)			
O-tTM	M.2 2280, PCIe NVMe 3.0 x 4	Battery	Integrated Li-ion 50Wh battery, supports Rapid Charge (charge up to 80% in 1hr) with 65W USB Type-C AC adapter		
Optane™ memory Optical	Optional: Intel Optane memory or Intel Optane Memory H10 None	Max battery life	MobileMark® 2014: 14.5 hrs		
Ethernet		- Wax battery inc	* Battery life varies significantly with settings, usage, & other factors		
Ememer	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	AC adapter	45W or 65W USB Type-C AC adapter		
WLAN	<u> </u>	Light sensor	None		
WLAN	One of the following, configurable by model: Intel Wireless-AC 9560, Wi-Fi 2x2 802.11ac + Bluetooth 5.0	G-sensor	3D accelerometer		
	• Intel Wi-Fi 6 AX200, Wi-Fi 2x2 802.11ax + Bluetooth 5.0	Gyroscope	3D gyrometer		
Bluetooth™	Bluetooth 5.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Preload	Windows® 10 Home 64 or Windows 10 Pro 64		
WWAN (optional)	One of the following, configurable by model:	Limited warranty	One of the following, configurable by model:		
(, , ,	 Integrated Mobile Broadband 4G LTE, Fibocom L830-EB, 		1-year depot repair service		
	M.2 card (EMEA only)		3-year/1-yr battery depot repair service 3-year/1 yr bettery limited engine		
	Integrated Mobile Broadband 4G LTE-A, Fibocom L850-GL, M.2 card * For non-WWAN model, it means the model is NOT WWAN upgradable	Mil O I I	3-year/1-yr battery limited onsite service		
B: :		Mil-Spec test	MIL-STD-810G military testing		
Dimensions Weight	WxDxH: 12.22" x 8.62" x 0.63"; 310.4mm x 219mm x 15.95mm Starting at 2.85 lb (1.29kg)	Environment	EPEAT™ Bronze; ENERGY STAR® 7.0; RoHS-compliant		
	Black or silver				
	Display cover. Carbon-Fiber Hybrid				
	Bottom: Carbon-Fiber Hybrid				
			Longvo		

Lenovo April 2019













ThinkPad Yoga 11e (5th Gen) Platform Specifications

Processor	7th Generation I Intel Pentium® S			Processo	r, Intel	Celeron® pro	cessor, or	Dimensions Weight	WxDxH: 11.81" x 8.27" x 0.89"; 300mm x 210mm x 22.5mm from 3.4 lb (1.54kg)		
	Processor # of Number Cores	# of Threads	Base Frequency	Burst Frequency	Cache	Memory Con- troller	Processor Graph- ics	Case color Case material	Black Display cover: PC/ABS+GF; Bottom: PC/ABS plastic		
	m3-7V30		1.0 GHz	2.6 GHz	4MB	L DDDD0 4000	Intel HD Graphics	Media reader	MicroSD card reader		
	i5-7Y54 2		1.2 GHz	3.2 GHz	4MB	LPDDR3-1866	615	Ports	Two USB 3.1 Gen 1, one USB 3.1 Type-C Gen 1, HDMI1.4, Ethernet (RJ-45), headphone / microphone combo jack,		
	Cel N4100	4	1.1 GHz	2.4 GHz	4MB	DDR4-2400	Intel UHD Graphics 600		microSD card reader, security keyhole * Depending on many factors, actual data transfer speed may be lower than theoretical speed		
	Pen N5000		1.1 GHz	2.7 GHz	4MB	DDI 14-2400	Intel UHD Graphics 605		Power button, volume control button		
Graphics	Intel HD Graphic supports externa supports dual in Max resolution:	al digital depende	monitor vi	a HDMI oı :	USB	Туре-С;	sor,	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 / monaural microphone, headphone / microphone combo jack		
Chipset Memory	Intel SoC (Syste 4GB or 8GB / 18	m on Ch 866MHz	nip) platfor LPDDR3 (m or 2400Ml			(1.2)	Keyboard UltraNav™	6-row, multimedia Fn keys Two buttons click pad below keyboard, multi-touch		
Display MultiTouch	soldered to system 11.6" (295mm) h 250 nits, 16:9 as Capacitive-type	HD (136) spect rat multi-tou	6x768), an io, 800:1 c uch, suppo	ti-glare, L ontrast ra	io, 170		gle	Security Security chip vPro Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified None r None		
Hinge	Yoga hinge, 360	degree	-1-1-4					Battery	Integrated Li-Ion 42Wh battery		
Pen	e Laptop, tent, sta Some: Active p	na ana t en. batte	ablet ries requir	ed. on-bo	ard ga	rage		Max battery life	MobileMark® 2014: 12 hr		
Storage	eMMC flash mei	mory on	board or	,		3-		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	M.2 SSD / PCIe None	NVMe,	PCIe 3.0 x	2, 16Gb/s	5			Preload	Some: Windows 10 Home 64 Some: Windows 10 Pro 64		
Ethernet	Realtek RTL811	1GUS-C	G Gigabit	Network	Conne	ction		Limited warranty	One of the following, configurable by model:		
WLAN	One of the following Intel Wireless-	AC 9260), Wi-Fi 2x2	2 802.11a				Limited warranty	1-year depot repair service 3-year depot repair service		
Bluetooth™	 Intel Wireless- Bluetooth wirele 							Mil-Spec test	MIL-STD-810G military testing		
WWAN	None	,3	,					Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant		

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

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

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

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

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

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

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

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

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

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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.

June 2019 - Version 544

Additions in this update

► New product(s)

None

► New model(s)

None

▶ Others

Update ThinkCentre M920x Tiny with 9 Gen processors Update ThinkCentre M920 Tiny with 9 Gen processors Update ThinkCentre M920 Tower with 9 Gen processors Update ThinkCentre M920 SFF with 9 Gen processors Update ThinkCentre M720 Tiny with 9 Gen processors Update ThinkCentre M720 Tower with 9 Gen processors Update ThinkCentre M720 SFF with 9 Gen processors Update ThinkCentre M920z AIO with 9 Gen processors Update ThinkCentre M820z AIO with 9 Gen processors Update ThinkCentre M820z AIO with 9 Gen processors

Withdrawals in this update

► Withdrawn product(s)

None

▶ Withdrawn model(s)

None













ThinkCentre M810z Platform Specifications

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



























ThinkCentre M820z Platform Specifications

Processor	Intel® Celeron®, Intel	Pentium®	or 8th / 9th Ger	Intel Co	re™ i3 / i5 / i7 / i0	9 series	WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),
1 10003301		Cores /	Frequency		Memory Support		VVLAIV	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), 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 4.2/5.0 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 features	• 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	-	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) Smart USB protection, allows keyboard/ Individual USB port disablement
	Core i3-8300	6/6	3.7G 2.8G / 4.0G	8 MB 9 MB	DDR4-2400 DDR4-2666	UHD 630 UHD 630		mouse only, blocks all storage devices Optional Chassis intrusion switch
	Core i5-8400 Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	1.10,200.0	Some: Lenovo Traditional Keyboard (USB connector), black
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	iviouse	Some: Lenovo Calliope Mouse (USB connector), black 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	Moonanioai	 Toolless back cover, stand, memory removal
	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 c	nlv available via	special b	oid models). DDR	4-2666*.		19.3 X 1.9 X 13.5 (inch) (Touch) 11.6 / 5.25 N/A (Non-touch) 11.1 / 5.05
,	two 260-pin SO-DIMM				,,	,,		With Full Function Monitor stand (No camera):
	* System clocks dowr	n for the p	processors with lo	ower me	mory controller			Tilt: 45° book 5° forward:
Storage	Some: Hard Drive / S	SATA 6.00	Gb/s. 2.5". 5400	rpm or 7	200 rpm			19.5 X 9.9 X 14.6 to 19.1 (IIICII) (Non-touch) 15.8 / 7.18 Lift: 110mm;
o rorrigo	Some: Solid State D	rive (SSE) / SATA 6.0Gb/s	3, 2.5"				Swivei. +/-45
	Some: M.2 SSD / PC				No 0 0 v 0 160h	10		With UltraFlex III stand (No camera): (Tough) 17.0 / 7.05 Tilt: 70° back, -5° forward;
	* 128GB SSD M.2 (2: Some: Intel Optane	⊻42) PO⊓ Memor	e invivie only sup v (not support Ce	leron / F	Pentium Processo	r). M.2		19.3 X 9.9 X 16.4 (nignest) (inch) (10uch) 17.3 / 7.85 Lift 126mm
Optical	Some: DVD-ROM S.	ata 1.5G	b/s Drive, slim (9	.0mm)		,,		491 X 252 X 416 (highest) (mm) (Non-touch) 16.9 / 7.65 Swivel: +/-45°
Media reader	Some: DVD Burner (Optional 3-in-1 media			Drive, s	slim (9.0mm)		Power supply	150 watts, autosensing, 90% PSU
Graphics	Intel HD Graphics 6			main ma	amary DiractV® 1	2	Limited warranty ³	Some: 1-year or 3-year, depot repair service / service upgrades available
Graphics	external monitor supp			IIIaiii iiik	eniory, DirectA	۷,		Some: 1-year or 3-year, limited onsite service / service upgrades available
	Max resolution: 4096	x2304 (D	P)@60Hz, 1920:	k1080 (P	anel)@60Hz		Preload	Preloaded operating system
Display	21.5 " (546.1mm) Ful MVA panel, wide view	I HD 108	0p (1920x1080)	TFT cold	or, Borderless de	sign,		Some: Windows 10 Pro 64-bit
	1000:1 contrast ratio,	anti-alar	e (+/- 09), LED i	lue Light	, 250 fills, 16.9 as t Mode	speci ralio,		Some: Windows 10 Home 64-bit 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	era, with c	dual microphone,	LED ind	licator, physical s	witch on/		 Microsoft Office preloaded; purchase a product key to activate
Controls	off, supports multi-de Physical buttons on s	gree rota ide for m	tion (horizontal 0	$^{\circ}$ to 180 $^{\circ}$, vertical -25° to	25°)		 Cyberlink PowerDVD (only for models with DVD / DVD±RW)
Chipset	Intel B360 Chipset	100 101 111	icroprioric mate a	ina powe	51 011/011			 Cyberlink Power2GO (only for models with DVD±RW) LinkedIn
		000 01100	arta Cmart Daws	Onl o	no othernet (D.L.	15)	Environment	
Rear ports*	Four USB 3.1 Gen1 (one DisplayPort, one	one supp	serial (9-pin).	er On), or	ne etnemet (HJ-4	15),		ENERGY STAR® 7.0*, EPEAT™ Gold rating* (*not for non-OS models), ErP Lot 3, TCO AIO Computer certified, GREENGUARD® certified, TUV Eye comfort certified
Side ports*	one USB 3.1 Gen2 (d	nė is Alw	ays On and fast					(for Full Function Monitor Stand only), TUV Low Blue Light certified, TUV Ultra Low Noise certified (on some models), RoHS-compliant
	one optional card rea						MIL CDEC toot	
M.2 card slot	* Depending on many fa Two M.2 Card slots (c	ctors, actu	al data transfer spe	ed may b	e lower than theore e)	tical speed	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)
Audio support	High Definition (HD)				-		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com
Audio Support	Dolby® Audio™ Premi		anek ALUZ33 / ľ	wo mierr	iai speakers (200	x ∠),	, 10003301103	To companio accessories, piease go to nitp.//smartima.ichovo.com
Note: The enecifie	Doiby Addio Frein							Langua Juna 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 HD 530	Security features	 Security slot (in rear for attachment of optional Kensington® MicroSaver® cable; Boot sequence control 				
	Core i3-6100 Core i5-6500	2/4	3.7G 3.2G / 3.6G	3 MB 6 MB	DDR4-2133 DDR4-2133	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 control of				
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630	1	mouse only, blocks all storage devices Optional Chassis intrusion switch Optional cable lock to physically lock				
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630	1	keyboard and mouse				
	Core i5-7500							Some: Lenovo Calliope Keyboard (USB connector), black				
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	Keyboard	Some: Lenovo Traditional Keyboard (USB connector), black				
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Calliope Mouse (USB connector), black				
Memory	32GB max, DDR4	-2400*. tw	o 260-pin SO-D	IMM soci	kets. dual-channe	l capable	INIOUSE	Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black				
,	* System clocks do		•				Mechanical	Business black color				
Storage	Some: Hard Drive	e / SATA 6 e Drive (S	.0Gb/s, 2.5", 540 SD) / SATA 6.0G	00 rpm oi b/s, 2.5"	7200 rpm		Medianical	Toolless back cover, stand, disk, memory removal Support VESA mount (100mm)				
	Some: M.2 Solid	State Driv	e (SSD) / PCIe N	√VMe, P				Dimensions (WxDxH) Max weight (lb / kg) Adjustments				
Optical	Some: Intel Optar Some: DVD-ROM	ne™ Mem ∉SΔTΔ 1 ¤	ory (models with 5Gh/s Drive, slim	7th gen	Core processor),	M.2		Without stand: 23.0 X 1.8 X 15.4 (inch); (Touch) 17.2 / 7.8				
Optical	Some: DVD-NON	er (DVD±	RW), SATA 1.5G	b/s Drive) e, slim (9.5mm)			584 X 45 X 590 (mm) (Non-touch) 15.0 / 6.8				
Media reader	Optional 9-in-1 me	edia card r	eader			10	_	With Basic 23.0 X 9.6 X 18.0 (inch); (Non-touch) 19.4 / 8.8 Tilt: 45° back, -5° forward				
Graphics	Intel HD Graphics external monitor so	upport via	in processor, us DisplavPort™:	es main	memory, DirectA	12,		Tilt: 61° back,				
	Max resolution: 40)96x2304	(DP)@60Hz, 192					With UltraFlex 23.0X 10.0 X 19.9 (inch); (Touch) 22.7 / 10.3 -5° forward; II stand: 584 X 253 X 505 (mm) (Non-touch) 20.7 / 9.4 Lift: 110mm;				
Display	23.8" (604.5mm) F	Full HD 10	080p (1920x108	0) TFT c	olor, WVA panel,	wide viewing	1	Swivel: +/-45°				
	angle (+/- 89°), LE anti-glare, support	:D backlig :Low Blue	nt, 250 nits, 16:9 Light Mode wo	aspect i rk as sta	atio, 1000:1 conti ndalone monitor v	ast ratio,	Power supply	150 watts, autosensing, 85% PSU				
	DisplayPort (DP in			ik as sia	ridatorio monitor v	πα						
Multi-touch	Optional Projected	l Capacitiv	ve Ťouch (PCT) t	echnolog	y, supports 10-po	oint touch	Limited warranty ³	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,	ricioad	Some: Windows® 7 Professional 32/64 listed) preinstalled through downgrade • Microsoft Office preloaded;				
Chipset	Intel Q270 Chipse	et					-	rights in Windows 10 Pro 64-bit purchase a product key to activate				
Rear ports*	Four USB 3.1 Gen	1, etherne	et (RJ-45), Displa	ayPort in	out combo port,			Some: Windows 10 Pro 64-bit - Only for Window 10 Lenovo Companion				
	optional serial (9-p							- Only for Window 7				
Side ports*	Two USB 3.1 Gen one headphone / r	1 (one is A	Always On and ta	st charg	e), optional card r	reader,		Lenovo Solution CenterLenovo ThinkVantage Tools				
	* Depending on many							ThinkVantage System Update				
M.2 card slot	Two M.2 Card slot					romour opeou		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 [®] Audio™ cer	rtified				, ,		 Cyberlink PowerDVD Create (DVD±RW) 				
WLAN ¹³	Some: 11ac wirel				QCA9377A (dua	l band),	Environment	EPEAT™ Gold rating (North America); ENERGY STAR® 6.1; TCO AIO Computer				
			1 combo adapte		OCA6174A /	l band\		Certified; ULE Gold; ErP Lot 3; GREENGUARD® certified; RoHS-compliant				
	Some: 11ac wirel Wi-Fi + Blı		Jard, Qualcomm 1 combo adapte		QCA6174A (dua	i bana),	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)				
	Wi-Fi + Blu Some: 11ac wirel	uetooth 4. ess, M.2 (1 combo adapte Card, Intel Dual E	r, 1x1 Band Wir	•		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			Dolby® Audio™ Premium		
	Celeron G4900	2/2	3.1G	2 MB	(Up to) DDR4-2400	Graphics 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	1	Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),		
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610]	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,		
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1 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		
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-LM (Jacksonville), Wake on LAN®		
	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						iviariageability	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		adapter to enable vPro function through wireless connection)		
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified		
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security features	 Security slot (in rear for attachment of Power-on, admin, hard disk password 		
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		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) Smart USB protection, allows keyboard/ Individual USB port disablement 		
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		mouse only, blocks all storage devices • Optional Chassis intrusion switch		
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black		
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black		
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Mayoo	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 Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black		
	Core i9-9900	8 / 16	3.1G / 5.0G	16 MB	DDR4-2666	UHD 630		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 /	M sockets or the proce SATA 6.00	, dual-channel cassors with lower made of the control of the contr	apable nemory co rpm or 7	ntroller 200 rpm, support	s up to two	Mechanical	Business black color Toolless back cover, stand, disk, memory removal Support VESA mount (100mm)		
				RAID0/1	support (RAID pr	eset only		Dimensions (WxDxH) Max weight (lb / kg) Adjustments Without stand (No camera):		
	available via Some: Solid State D			2.5"				21.3 Y 1.8 Y 13.7 (inch) (Touch) 1/, 0 / 6.3/		
	Some: M.2 SSD / Po	Cle NVMe	PCle 3.0 x 4*.	32Gh/s				542 X 46 X 349 (mm) (Non-touch) 13.5 / 6.13		
	* 128GB SSD M.2 (224)	2) PCIe NV	Me only supports f	PCIe 3.0 x	2, 16Gb/s			With Full Function Monitor stand (No camera):		
0	Some: Intel Optane	Memory	(not support Ce	eleron / F	entium Processo	r), M.2		21.3 X 9.9 X 15.9 to 20.2 (inch) (Non-touch) 18.2 / 8.26 Tilt: 45° back, -5° forward;		
Optical	Some: DVD-ROM S Some: DVD Burner				lim (9 0mm)			542 X 252 X 405 to 514 (mm) (Notification 16.27 6.20 Lift: 110mm; Swivel: +/-45° With UltraFlex III stand (No camera):		
Media reader	Optional 3-in-1 media			Diivo, o	(0.011111)			21.3 X 9.9 X 14.3 to 17.5 (inch) (Touch) 19.7 / 8.94 Tilt: 70° back, -5° forward;		
Graphics	Intel HD Graphics 6	10/630 in	processor, uses	main me	emory, DirectX® 1	2,	_	542 X 252 X 363 to 444 (mm) (Non-touch) 19.2 / 8.73 Lift: 136mm; Swivel: +/-45°		
	external monitor supplement of the many many monitor supplement of the many many many many many many many many	port via D	isplayPort™;				Power supply	150 watts, autosensing, 90% PSU		
Display	23.8" (604.5mm) Ful	II HD 108	Op (1920x1080)	TFT cold	or , Borderless des		Limited warranty ³	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		
	WVA panel, wide view 1000:1 contrast ration									
	monitor via DisplayPo	ort (DP in	/ out combo)	nac Ligin	i work as s	nanaaiono	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit		
Multi-touch	Optional multi-touch,	supports	10-point, AIT (A	dvanced	In-cell Touch) ted	hnology		Some: Windows 10 1 10 04-bit		
Camera	Some: 1080p came	ra, with du	ıal microphone, l	_ED indic	cator, physical sw	itch on/off,		Preloaded applications (only some listed)		
					180°, vertical -25			Lenovo Vantage		
	Some: RGBIR came supports mul	era, 1080p lti-dearee	, with dual micro	prione, p tal 0° to	180°, vertical -25	ווסוו, ° to 25°)		Microsoft Office preloaded; purchase a product key to activate Orbadials Reveal (10 carb) for good less with DVD (20 carb).		
	Windows He	llo suppor	t, only available	via speci	al bid models	,		 Cyberlink PowerDVD (only for models with DVD / DVD±RW) Cyberlink Power2GO (only for models with DVD±RW) 		
Controls	Physical buttons on s	side for mi	crophone mute a	and powe	er on/off			LinkedIn		
Chipset	Intel Q370 Chipset						Environment	ENERGY STAR® 7.0*, EPEAT™ Gold rating* (*not for non-OS models), ErP Lot 3,		
Rear ports*	Four USB 3.1 Gen1 ((one supp	orts Smart Powe	er On) o	ne ethernet (R.I-4	.5)	Livilorimoni	TCO AIO Computer certified, GREENGUARD® certified,		
	one DisplayPort in/ou					~ <i>)</i> ,		TUV Eye comfort certified, TUV Low Blue Light certified,		
Side ports*	one USB 3.1 Gen2 (one is Alw	ays On and fast	charge),	one USB 3.1 Ge			TUV Ultra Low Noise certified (on some models), RoHS-compliant		
	USB 3.1 Type-C Gen combo jack (3.5mm)		otional card read	er, one h	eadphone / micro	phone	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,		
	* Depending on many fa	actors, actu	al data transfer spe	ed mav b	e lower than theoret	tical speed	A 000000 ==============================	Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus)		
M.2 card slot	Two M.2 Card slots (one for W	LAN, one for SS	D/Optan	e)		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 rec			eiver) 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, III		1			
	Pentium J3710	4/4	1.6 / 2.64 GHz	2MB	DDR3L-1600	Intel HD 405			Dimensions (WxDxH)	Max weight (lb / kg)			
Chipset			C that integrates In es into a single s			ics, memory		M600 Tiny only (1L)	7.05" X 7.20" X 1.36" 179mm X 182.9mm X 34.5mm	2.9 lb (1.3 kg)			
Graphics	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	7.42" X 7.30" X 2.62" 188.4mm X 185.38mm X 66.6mm	3.53 lb (1.6 kg)			
Monitor cable	3840x2160(DP to V		ongle)@30Hz o DVI-D (single lir	nk), or DP	to HDMI 1.4 do	ngle	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation					
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 ³	7					
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 (only some listed)					
Rear ports*			0 (optional extern n some models),					 Desktop Power Manage Lenovo Solution Center 					
	one optional por	t (VGA, 3ı	rd DP, or serial or	n some mo	dels), one head	lphone							
I/O box*			extends two USE					 Lenovo REACHit Lenovo SHAREit Lenovo Bluetooth Lock 					
	rear, two USB 2.	.0 on front	t, via USB (occup actual data transfe	y two spec	the lower than the	M600 Tiny)							
Audio oupport						·	-	McAfee® LiveSafe™ (30)					
Audio support WLAN ¹³			o, Realtek ALC22			er (r watt)		 Microsoft Office preloaded, purchase a product key to activate 					
WLAN			2 Card, Realtek F 4.0 combo adapt		= (duai band),			 PowerDVD Create (DVI) 	D±RW)				
			2 Card, Qualcom		QCA9377 (dua	l band),		 Lenovo ThinkVantage To 	pols [′]				
			4.1 combo adapt					- Only for Window 10	210)				
	Some: 11ac wir	eless, M.2	2 Card, Qualcomr 4.1 combo adapt	m Atheros	QCA6174 (dua	l band),		Lenovo Companion (WiCyberlink PowerDVD (D					
			2 Card, Intel Dual		eless-AC 3165.			 Lénovo QuickOptimizèr 					
	Wi-Fi + E	Bluetooth	4.0 combo adapt	er, 1x1				- Only for Window 7					
			2 Card, Intel Dual		eless-AC 8260,			Rescue and RecoveryPassword Manager					
Bluetooth™		Wi-Fi + Bluetooth 4.1 combo adapter, 2x2 Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapter							adanter		ThinkVantage System U	Jpdate	
Ethernet Modem	One gigabit ethe	ernet port,	Realtek RTL811	1GN, Wak	e on LAN®	adapter	 Lenovo Message Center Plus Adobe® Reader® 						
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 comp	S models); atible; ErP Lot 3			
Security features	Kensington® M • Padlock loop • Smart USB pro	licroSaver otection, a ocks all st	[®] cable)	Hard disBoot seBoot witIndividu	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				
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ThinkCentre M600 Tiny Thin Client Platform Specifications

Processor	Intel® Celeron® Processor N3000 Series or Intel Pentium® Processor N3000 Series	Keyboard	Some: PS/2 Keyboard (PS/2 connector), Lenovo logo (for 2L models)		
	Processor Cores / Threads Frequency (Base/Max) Cache Memory Types Integrated Graphics Celeron N3000 2 / 2 1.04 / 2.08 GHz 2MB DDR3L-1600 Intel HD Celeron N3010 2 / 2 1.04 / 2.24 GHz 2MB DDR3L-1600 Intel HD 400	Mouse	Some: Preferred Pro USB Keyboard (USB connector), Lenovo logo Some: Ultraslim Plus Wireless Keyboard (2.4GHz via USB receiver), black Some: PS/2 Optical Wheel Mouse, black, Lenovo logo (for 2L models) Some: Enhanced Optical USB Mouse, black, Lenovo logo Some: Ultraslim Plus Wireless Mouse (2.4GHz via USB receiver), black		
Chipset	Intel Architecture (IA) SoC that integrates Intel processor core, graphics, memory controller, and I/O interfaces into a single system-on-chip solution	Mechanical	• Tiny (1L or 2L), black color, metal case		
Graphics	Intel HD Graphics in processor, uses main memory, DirectX® 11.1,		Dimensions (WxDxH) Max weight (lb / kg)		
	twoDisplayPort™, one optional 3rd DP (not support DP to HDMI dongle) or VGA, supports triple independent display;		M600 Tiny only (1L) 7.05" X 7.20" X 1.36" 2.9 lb (1.3 kg) 179mm X 182.9mm X 34.5mm		
	Maximum resolution: 3840x2160(DP)@30Hz; 1920x1200(optional VGA)@60Hz; 1920x1080(DP to VGA dongle)@60Hz; 1920x1080(DP to DVI dongle)@60Hz; 3840x2160(DP to HDMI dongle)@30Hz		M600 Tiny only (2L) 7.05" X 7.20" X 3.15" 4.2 lb (1.9 kg) 179mm X 182.9mm X 80mm		
Monitor cable	Optional DP to VGA, DP to DVI-D (single link), or DP to HDMI 1.4 dongle	VESA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm		
Memory	and that 7 DD 10 Low Voltage, DD 10L 1000, non-parity, one 204 pin 00 Divini	Floor Stand	Optional system floor stand for vertical orientation		
Storage	16GB 32GB or 128GB M 2 Solid State Drive (SSD) SATA interface	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)		
Optical Onboard SATA Media reader	None SATA 6.0Gb/s controller, one connectors on planar None	Limited warranty ³	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available Some: 3-year, limited onsite service, OID (Onsite International Delivery) / service upgrades available		
Front ports*	Two USB 3.0 (one is Always On and fast charge), one microphone (stereo, 3.5mm),		For Lenovo service upgrade options, please go to S-TC sheet		
Rear ports*	one headphone / microphone combo jack (stereo, 3.5mm) Two USB 2.0, two USB 3.0, ethernet (RJ-45), two DisplayPort, one optional port (VGA, 3rd DP, or serial on some models), one headphone; additional four serial (9-pin), one parallel (25-pin), and two PS/2 ports on 2L models *Depending on many factors, actual data transfer speed may be lower than theoretical speed None	Preload	Some: Windows Embedded Standard 7 (WES 7) Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise Some: LeTOS (Lenovo Terminal Operating System, Linux-based) Some: LeTOS V2 (Lenovo Terminal Operating System, Linux-based)		
Audio support		Environment	ENERGY STAR® 6.0*, EPEAT™ Gold rating* (*not for non-OS models);		
WLAN ¹³	Some: 11ac wireless, M.2 Card, Realtek RTL8821AE (dual band), Wi-Fi + Bluetooth 4.0 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA9377 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174 (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.0 combo adapter, 1x1 (only for 1L models)	Accessories	GREENGUARD®; RoHS-compliant; Cisco ĒnergyWise compatible; ErP Lot 3 For compatible accessories, please go to TC-AQP sheet		
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapter One gigabit ethernet port, Realtek RTL8111GN, Wake on LAN® None				
Manageability Security chip	None Trusted Platform Module, TCG 1.2-compliant				
Security features	 Security slot (in rear for optional Kensington® MicroSaver® cable) Padlock loop Smart USB protection, allows keyboard/ mouse only, blocks all storage devices Power-on password Administrator password Boot sequence control Boot without keyboard and mouse Individual USB port disablement Chassis intrusion switch 		Lanava Navambar 2017		













ThinkCentre M625 Tiny Platform Specifications

Processor	AMD A9 series	APU					Keyboard Mouse	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo				
	APU	Cores	Frequency	L2	Memory Support	Integrated		Some: USB Optical Wheel Mouse, black, Lenovo logo				
	Al O	Coles	Base/Max	Cache	(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 autoi	ne 260-pin SO- matically clocks	DIMM so down fo	ocket r the lower cap	pability of memory		Optional dust filter M625 Tiny only: 7.05" W X 7.20" D X 1.36" H 179mm W X 182.9mm D X 34.5mm H				
Disk	Some: SATA 6.0 Some: 128GB N Some: 256GB N	VI.2 Sólid	State Drive (SS	D) / PC	le NVMe inter	face face	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 ³	Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available				
Graphics	Mode), supports Max resolution:	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* Rear ports*	Two USB 3.1 Ge one headphone One USB 3.1 Ge two optional port	/ microphen1, three	none combo jac e USB 2.0, ethe	k (3.5mn rnet (RJ	n) -45), two Disp	crophone (3.5mm), layPort, th DisplayPort		 Windows 7 only Lenovo Solution Center Lenovo System Update Factory Recovery 				
I/O box Audio support	None	any factors	s, actual data trans	· ·		han theoretical speed		 User Guide Viewer Microsoft Office preloaded; purchase a product key to activate Adobe® Reader® 				
WLAN ¹³	Some: 11ac wir		·			1 /	Environment	ENERGY STAR® 6.1*, EPEAT™ Gold rating* (*Not for non-OS models),				
VV 27 (1 V	Wi-Fi + E	3luetooth	4.2* combo ad	apter, 2x	(2	,,	Liviloilileit	ErP Lot 3, RoHS-compliant, WEEE, TCO				
Bluetooth™	Some: 11ac wireless, M.2 Card, Qualcomm Átheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2 Some: Bluetooth 4.2* wireless, integrated in Wi-Fi + BT combo adapter * Win 10 RS3 and Win10 earlier version only support Bluetooth 4.1						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	Gigabit ethernet None						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com				
Manageability Security chip Security features	Kensington® M • Smart USB pro	n rear for licroSave otection, ocks all s	r optional er® cable)	 Har Boo Boo Indi 		ord ontrol ooard and mouse ort disablement						













ThinkCentre M625 Tiny Thin Client Platform Specifications

Processor	AMD E2 series A	PU					Keyboard Mouse	Some: Fullsize USB Keyboard (USB connector), black, Lenovo logo Some: USB Optical Wheel Mouse, black, Lenovo logo				
	APU	Cores	Frequency	L2	Memory Support	Integrated	Mechanical					
		Corcs	Base/Max	Cache	(Up to)	Graphics	Mechanicai	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 M625 Tiny Thin Client only:				
Memory	controller in proc	ncy autor essor	natically clocks	down fo	r the lower cap	pability of memory		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	2 Solid S 1.2 Solid	state Drive (SSI State Drive (SS	D) / SATA SD) / PCI	A interface le NVMe interf	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 ³	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models) Some: 1-year, depot service / service upgrades available				
Graphics	AMD Radeon™ (Graphics	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	e optiona up to 2 ii 8840x216 8840x216	al port (VGA or ndependent dis 0 (DP)@60Hz; 0 (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 Vo		o DVI-D (single	link), or	DP to HDMI 1	1.4 dongle	Environment	ENERGY STAR® 6.1*, EPEAT™ Gold rating* (*Not for non-OS models), ErP Lot 3, RoHS-compliant, WEEE, TCO				
Front ports*	<u> </u>		s Always On ar	nd fast ch	narne) one mi	crophone (3.5mm),	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,				
'	one headphone /	microph microph	one combo jac	k (3.5mn	n)	1 (//		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock,				
Rear ports*	One USB 3.1 Ge two optional ports Alternate Mode),	s (Port 1 Port 2 fo	for VGA / seria or serial)	I / USB 2	2.0 Type-C (wit	th DisplayPort	Accessories	Fungus, Solar Radiation) For compatible accessories, please go to http://smartfind.lenovo.com				
I/O box	* Depending on ma None	ny factors	, actual data trans	sfer speed	I may be lower t	han theoretical speed						
Audio support	High Definition (H	HD) Audi	o, Realtek ALC	233-VB2	-CG / internal	speaker (1.5 watt)						
WLAN ¹³	Some: 11ac wire Wi-Fi + B Some: 11ac wire Wi-Fi + B Some: 11ac wire	Bluetooth eless, M. Bluetooth eless, M. Bluetooth eless, M.	4.2* combo ad 2 Card, Qualco 4.2* combo ad 2 Card, Realtel 4.2* combo ad 2 Card, Qualco	apter, 1x mm Athe apter, 1x k RTL882 apter, 2x mm Athe	:1 eros QCA9377 :1 22BE (dual ba :2 eros QCA6174	7 (dual band), nd),						
Bluetooth™	Wi-Fi + B Some: Bluetooth	Bluetooth n 4.2* wir	4.2* combo ad eless, integrate	apter, 2x ed in Wi-l	:2 Fi + BT combo	adapter						
Ethernet Modem	* Win 10 RS3 and Gigabit ethernet, None	d Win10	earlier version	only supp	port Bluetooth	4.1						
Manageability Security chip	None Discrete TPM 2.0											
Security teatures	Security slot (ir Kensington® Mi Smart USB pro mouse only, blo Power-on pass	icroSave otection, a ocks all s	r® cable) allows keyboard	HarBooBooIndi	ot without keyb	ord ontrol ooard and mouse ort disablement						



















ThinkCentre

ThinkCentre M630e Tiny Platform Specifications

Processor	Intel® Pentium®, or 8th	ion Intel Core™	i3 / i5 P	rocessor		Manageability None						
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics	Security chip Security features	atures • Security slot (in rear for optional • Boot sequence control		control		
	Pentium Gold 5405U	2/4	2.3G	2 MB	DDR4-2133	UHD 610		 Kensington® MicroSaver® cable) Chassis intrusion switch Boot without keyboard and mo Individual USB port disableme 			yboard and mouse	
	Core i3-8145U	2/4	2.1G / 3.9G	4 MB	DDR4-2400	UHD 620					port disablement	
	Core i5-8265U	4/8	1.6G / 3.9G	6 MB	DDR4-2400	UHD 620		 Power-on password Administrator password Smart USB protection, allows k mouse only, blocks all storage of the storage				cks all storage devices
Memory	16GB max, DDR4-266 * System automaticall	66*, one 2 y clocks (260-pin SO-DIMI	M socke	ets, non-ECC with lower memo	ory controlle	Kevhoard	Hard d	Hard disk password Some: Lenovo Calliope Keyboard (USB connector), black			
Storage	Some: Hard Drive / S					,	Mouse	Some: L	Some: Lenovo Calliope Nouse (USB connector), black			
Onboard SATA	Some: Solid State Dr Some: M.2 SSD (228 Some: M.2 SSD (224 One onboard SATA 6.	rive (SSD 30) / PCle 12) / PCle) / SATA 6.0Gb/s NVMe, PCIe 3.0 NVMe, PCIe 3.0	s, 2.5" 0 x 4. 32	2Gb/s		Mechanical	 Option 	Tiny (1L), black color; metal case Optional dust filter One 2.5" bay for HDD/SSD, two M.2 slots (one for WLAN, one for M.2 SSD)			N, one for M.2 SSD)
Graphics	Intel HD Graphics 61	0/620 in	processor, uses	main m	emory DirectX®	12. one	1			Dimensior	ns (WxDxH)	Weight (Approx.)
·	DisplayPort™, one HD Max resolution: 4096x	MI, up to 2304 (DF	2 independent of 2 inde	displays :2304 (H	;	12, 0110		Tiny only	у		20" X 1.36" .9mm X 34.5mm	2.91 lb (1.32 kg), vary by config
Monitor cable	Optional DP to VGA d	ongle or	DP to HDMI 1.4	dongle			VESA mount	None				
Chipset	Intel SoC (System or	n Chip) p	latform				Floor Stand	Optional system floor stand for vertical orientation				
Front ports* (Std.)	One USB 3.1 Gen1, o				nicrophone (3.5m	nm),	Power supply	Some: 65 watts adapter, autosensing, 88% PSU				
Rear ports* (Std.) Rear ports* (Opt.)	one headphone / micr Two USB 3.1 Gen1, to None	ophone o wo USB 2	combo jack (3.5n d.0, one ethernet	nm) : (RJ-45)), one DisplayPor	rt, one HDM	Limited warranty	Some: 1-year, depot service / service upgrades available Some: 1-year, limited onsite service / service upgrades available				
	* Depending on many fac	ctors, actua	al data transfer spe	ed may b	e lower than theore	etical speed	Preload	Preloaded operating system				
Audio support	Realtek ALC233VB / i	internal s	peaker (1.5 watt))				Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit				
WLAN	Some: 11ac wireless,				(dual band),		1			ions (only some I	listed)	
	Some: 11ac wireless Wi-Fi + Blueto	, M.2 Car ooth 4.2 c	ombo adapter, 2	822BE x2	,			LenoveMicros	o Vantage soft Office pr	` •		
	Some: 11ac wireless Wi-Fi + Blueto		ombo adapter, 1		ess-AC 3165,			LinkedIn				
	Some: 11ac wireless	, M.2 Car	d, Intel Dual Bar	nd Wirel	ess-AC 8265,		Environment	ENERGY STAR® 7.0, ErP Lot 3, TCO, RoHS-compliant, WEEE, REACH				VEEE, REACH
Diverse	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter						MIL-SPEC test	Coming	soon			
Bluetooth Ethernet Ethernet (Opt.)	Gigabit ethernet, Rea None	wireless, Itek RTL8	integrated in Wi- 3111HN-CG	-rı + B1	combo adapter		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			d.lenovo.com	

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 Gen	eration Ir	ntel Core™ i3 / i5	/ i7 Processor	r Security features	Security slot (in rear for optional	Power-on password			
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)		Coounty Touristo	Kensington® MicroSaver® cable) • Padlock loop	Administrator password Hard disk password			
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		 Smart USB protection, allows keyboard/ 	Boot sequence control			
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610		 mouse only, blocks all storage devices Optional cable lock to physically lock 	Boot without keyboard and mouseIndividual USB port disablement			
	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	110,000.0	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		 Approx. 13.2 lb (6.0 kg), weight may vary 				
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630		 Toolless cover, disk, optical removal 				
Memory	64GB max, UDIMN dual-channel capa * System automati	ble*			•		r	 Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 2.5", internal, HDD/SSD (optional b. 	av)			
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		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 x1*				
Optical	Some: DVD-ROM Some: DVD Burn	me: Intel Optane™ Memory (models with 7th gen Core processor), M.2 me: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm) me: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (9.0mm)			101.2		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 PCIe x16 slot (x4)					
Onboard SATA Media reader	Three onboard SA Optional 7-in-1 me	dia reade	r				Floor Stand	optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slo Optional system floor stand for vertical orientation				
Graphics	Intel HD Graphics one VGA, two Disp discrete graphics t Max resolution: 40 Some: NVIDIA Ge two Display	olayPort™, o support 96x2304 (eforce® G` /Port, 35 (, supports 3 inde more displays; (DP)@60Hz; 204 r 730 , DirectX 12 vatts;	pendent 8x1536 2, 2GB, F	displays, works a (VGA)@50Hz PCIe 2.0 x8 adapt	long with	т омог 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	Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel processor)				
Chipset	Intel B250 Chipse	et										
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						
D +	bid), microphone (3.5mm), h	eadphone (3.5m	im)) 0 (0)							
Rear ports*	Two USB 3.1 Gen serial (9-pin), optic							Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Preloaded applications (only some				
	two PS/2 ports (ke	yboard/m	ouse);	1101 (110	10), 0110 1 0, 1, 1111	Diopiayi ort,	,					
	additional DisplayF	ort on op	tional graphics o	n some	models			listed)				
Rear audio ports?	Line-in (3.5mm), lii	ne-out (3.	5mm), micropho	ne-in (3.	ōmm)			 Microsoft Office preloaded; 				
ILLL 1004	None * Depending on many	v factors av	rtual data transfer s	eneed ma	, he lower than theo	retical speed		purchase a product key to activate				
Audio support	High Definition (HI				·		1	Only for Window 10Lenovo Companion				
WLAN ¹³	Some: 11ac wirele	, .				,	+	- Only for Window 7				
VVL/AIN			1 combo adapte		QUASSITA (uua	i ballu),		Lenovo Solution Center Lenovo Think/Ventego Teolo				
	Some: 11ac wirele	ess, M.2 (Card, Qualcomm	Atheros	QCA6174A (dua	l band),		Lenovo ThinkVantage ToolsCreate Recovery Media				
			1 combo adapte		ologo AC 0165			Adobe® Reader®				
	Some: 11ac wirele Wi-Fi + Bli		zard, intel Dual E 1 combo adaptel		eless-AC 3165,			Cyberlink PowerDVD Create				
	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 (uetooth 4.	Card, Intel Dual E 1 combo adapte	Sand Wir r. 2x2	•		Environment	(DVD±RW) ENERGY STAR® 6.1, EPEAT™ Gold rating	(North America),			
Bluetooth™	Some: Bluetooth	4.1 wirele	ss, integrated in '	Ŵi-Fi + E	T combo adapte	r		ErP Lot 3, GREENGUARD®, RoHS-compliant,				
Ethernet	Gigabit ethernet, F	Realtek R	L8111GN, Wake	on LAN	(B)			TUV low noise verified (on some models)				
Modem	None						Accessories	For compatible accessories, please go to	http://www.lenovoquickpick.com			
Manageability Security chip	None TPM (Trusted Platt * Downgrade to TF				G Win7 32 OS							













ThinkCentre M710 Tiny Platform Specifications

Processor	Intel® Celeron®. Int	el Pentiur	n®. or 6/7th Gene	eration In	tel Core™ i3 / i5 /	i7 Processor	Security features	Security slot (in real	ar for optional • Administrato	or password			
	Processor	Cores /	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)		- Coounty Toutards	Kensington® Micro	sington® MicroSaver® cable) • Hard disk password • Boot sequence control				
	Pentium G4400T	2/2	2.9G	3 MB	DDR4-2133	HD 510		 mouse only, blocks all storage devices Power-on password Boot without keyboard and Individual USB port disable 					
	Pentium G4560T	2/4	2.9G	3 MB	DDR4-2400	HD 610		Chassis intrusion switch					
	Pentium G4600T	2/4	3.0G	3 MB	DDR4-2400	HD 630	Vovboord	Comor Longua Calli					
	Core i3-6100T	2/4	3.2G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calli	ope Keyboard (USB connector), blact tional Keyboard (USB connector), bla	r ack			
	Core i5-6500T	4/4	2.5G / 3.1G	6 MB	DDR4-2133	HD 530		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB received					
	Core i7-6700T	4/8	2.8G / 3.6G	8 MB	DDR4-2133	HD 530	Mouse	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), bla					
	Core i3-7100T	2/4	3.4G	3 MB	DDR4-2400	HD 630							
	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		 Toolless HDD, SSE Optional toolless c 					
	Core i7-7700T	4/8	2.9G / 3.8G	8 MB	DDR4-2400	HD 630		 Optional dust filter 	nassis screw				
Memory	32GB max, DDR4- dual-channel capa		o 260-pin SO-DI	MM sock	ets, non-ECC,			Mario Ti	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"		/s		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	ie™ Memo	ory (models with	7th gen	Core processor),	М.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			
Onboard SATA	Some: DVD Burne One onboard SATA	er (DVD±F	RW), slim (9.0mm			box	VESA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm					
Media reader	None						Floor Stand	Optional system floor stand for vertical orientation					
Graphics	Intel HD Graphics two DisplayPort™,	one optio	nal video port (H	DMI, VG	A, 3rd DP, or UŚĒ		Power supply	90 watts AC/DC adapter, autosensing, 88% PSU (only for models with I/O box)					
	with DisplayPort Al Max resolution: 409	96x2304 (6x2304	(Type-C)@60Hz;		Limited warranty ³ 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 VG	A, DP to [HDMI 1.4	Preload	Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit					
Chipset	Intel B250 Chipse	t											
Front ports*	Two USB 3.1 Gen1	(one is A	Always On and fa	st charge	e), one microphor	ne (3.5mm),		(not available with 7th Gen Intel processor)					
Rear ports*	one headphone / n Four USB 3.1 Gen or two specific USB	1 (optiona	ıl external optical	box or e				Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit					
	two optional ports (with DisplayPort A	(Port 1 for Iternate N	VGA / 3rd DP / I Mode), Port 2 for	HĎMI / s serial)	erial / USB 3.1 Ty	pe-C Gen 1		Preloaded applicati	` •				
I/O box*	Optional external I/ on rear, two USB 2							 Microsoft Office preloaded; purchase a product key to activate Only for Window 10 					
	Tiny) * Depending on many	factors an	ctual data transfer s	peed may	be lower than theor	retical speed		 Lenovo Companio 	Lenovo Companion				
Audio support	High Definition (HD			· ·			-	- Only for Window 7	ontor				
WLAN ¹³	Some: 11ac wirele	<u> </u>			•	,	1	Lenovo Solution CLenovo ThinkVanta					
WLAIN					QCA9377A (duai	barid),		Create Recovery N					
	Wi-Fi + Bluetooth 4.1 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),							 Adobe® Reader® 					
	Wi-Fi + Blu Some: 11ac wirele		1 combo adapter Card. Intel Dual B		eless-AC 3165.			 Cyberlink PowerD\ (DVD±RW) 	/D Create				
	Wi-Fi + Blu	etooth 4.	1 combo adapter	, 1x1			Environment	ENERGY STAR® 6.1	, EPEAT™ Gold rating (North Americ	ea),			
		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	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Sho Fungus, Solar Radiation)					
Manageability Security chip	None TPM (Trusted Platform Module) 2.0*, TCG Certified						Accessories		ssories, please go to http://www.len	ovoquickpick.com			
. ,	* Downgrade to TP	M1.2 for t	he models with V	Vin10 D	G Win7 32 OS								

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		 Padlock loop Smart USB protection, allows keyboard/ Boot sequence control 			
	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		 Optional cable lock to physically lock Individual USB port disablement 			
	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				•		 (WxDxH) 5.7" X 11.5" X 14.4"; 145mm X 292.7mm X 366mm Approx. 14.3 lb (6.5 kg), weight may vary by configuration Optional dust filter 			
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: Intel Optane™ Memory (models with 7th gen Core processor), M.2 Some: DVD-ROM SATA 1.5Gb/s Drive, slim (9.0mm) Some: DVD Burner (DVD±RW), SATA 1.5Gb/s Drive, slim (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 SATA 6.0Gb/s connectors Optional 7-in-1 media reader							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			
Graphics	Intel HD Graphics one VGA, two Disp discrete graphics the Max resolution: 40th Some: NVIDIA Ge two Display	olayPort™ o support 96x2304 f orce® G rPort, 35 v	, supports 3 inde more displays; (DP) @ 60Hz; 204 T 730 , 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,		Some: 1-year or 3-year, limited onsite service / service upgrades avail Preload Preloaded operating system Preloaded applications (only s				
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 (3.5mm), headphone (3.5mm) Two USB 3.1 Gen1, two USB 2.0, optional two USB 2.0, serial (9-pin), optional 2nd serial (9-pin), optional parallel (25-pin), ethernet (RJ-45), one VGA, two DisplayPort two PS/2 ports (keyboard/mouse); additional VGA, DisplayPort, or HDMI on optional graphics on some models							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		 Cyberlink PowerDVD Create (DVD±RW) 			
	* Depending on many	/ factors, a	ctual data transfer s	speed mag	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 ¹³	Some: 11ac wirele Wi-Fi + Blu	ietooth 4.	1 combo adapter	r, 1x1	,	,,	Accessories	TUV low noise verified (on some models) For compatible accessories, please go to http://www.lenovoquickpick.com			
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.1 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,					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	1		eration Ir	T		Security features		Power-on password
	Processor	Cores / Threads	Frequency Base/Max(GHz)	Cache	Memory Support (Up to)	Integrated Graphics		Padlock loop	Administrator passwordHard disk password
	Celeron G3900	2/2	2.8G	2 MB	DDR4-2133	HD 510			Boot sequence control
	Celeron G3930	2/2	2.9G	3 MB	DDR4-2133	HD 610			 Boot without keyboard and mouse Individual USB port disablement
	Pentium G4400	2/2	3.3G	3 MB	DDR4-2133	HD 510		 Optional smart cable clip to physically lock both keyboard and mouse Individual USB port disappropriate Optional chassis intrusion 	
	Pentium G4500	2/2	3.5G	3 MB	DDR4-2133	HD 530	Keyboard	Some: Lenovo Calliope Keyboard (USB cor	nnector), black
	Pentium G4560	2/4	3.5G	3 MB	DDR4-2400	HD 610	1	Some: Lenovo Traditional Keyboard (USB o	connector), black
	Pentium G4600	2/4	3.6G	3 MB	DDR4-2400	HD 630	Mouse	Some: Lenovo Calliope Mouse (USB conne	
	Core i3-6100	2/4	3.7G	3 MB	DDR4-2133	HD 530		Some: Lenovo Fingerprint Mouse (USB cor	nnector), windows Hello support, blac
	Core i5-6400	4/4	2.7G / 3.3G	6 MB	DDR4-2133	HD 530	Mechanical	• SFF (7.4L), black color, metal case	000 Farm V 070 Farm
	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 3 Approx. 9.37 lb (4.25 kg), weight may vary 	
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		Bay 1: Slim external ODD bay	by configuration
	Core i3-7100	2/4	3.9G	3 MB	DDR4-2400	HD 630		Bay 2: 3.5", 1" high, internal, supports 2.5" of	or 3.5" HDD/SSD (2.5 to 3.5 bracket
	Core i3-7300	2/4	4.0G	4 MB	DDR4-2400	HD 630		comes with disk)	04
	Core i5-7400	4/4	3.0G / 3.5G	6 MB	DDR4-2400	HD 630		Slot 1: low-profile (length < 152mm, height < Slot 2: low-profile (length < 152mm, height <	64mm), PCIe 3.0 X16" 64mm), PCIe 3.0 X1*
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630		M.2 card slots: one for SSD	Co-min, role olo XI
	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 orier	
Memory	32GB max, UDIMN dual-channel capa	bĺe	,		•	,	Packaging	 (WxDxH) 7.7" X 15.4" X 19.7"; 195mm X 3 Cross weight (approx.) 14.22 lb (6.45 kg) 	390mm X 500mm
01	*System automatic						Power supply	Some: 180 watts, autosensing, 85% PSU	J
Storage	Some: Hard Drive Some: Solid State Some: M.2 Solid S	Drive (S	SD) / SATA 6.0G	b/s. 2.5"	r		Limited warranty ³	Some: 1-year or 3-year, depot service / s Some: 1-year or 3-year, limited onsite se	
Optical	Some: DVD-ROM					3	Preload	Preload Preloaded operating system	
0 1 10474	Some: DVD Burne			b/s Drive	e, slim (9.0mm)			Some: Windows® 10 Pro 64-bit	
Onboard SATA Media reader	Two onboard SATA Optional 7-in-1 me							Some: Windows 10 Home 64-bit	actalled through downgrade rights
Graphics	Intel HD Graphics			occor uc	oc main mamary	DiroctV® 12	-	Some: Windows 7 Professional 32/64 preir in Windows 10 Pro 64-bit(not availa	ble with 7th Gen Intel processor)
Graphics	one VGA, one Disp	olavPort™	. supports 2 inde	enendent	displavs, works a	long with		Preloaded applications (only some listed)
	discrete graphics to	o support	more displays;					Microsoft Office preloaded;	
	Max resolution: 40							purchase a product key to activateCyberlink PowerDVD (DVD, DVD±RW)	
	Some: NVIDIA Ge two Display			2, 2GB, F	Cie 2.0 x8 adapti	er,		Cyberlink PowerDVD (DVD, DVD±RW) Cyberlink PowerDVD Create (DVD±RW)	
	Max resolu	tion: 3840)x2160 (DisplayP	ort)@60	Hz:			- Only for Window 10	
Monitor cable	Optional DP to VG					HDMI 1.4		Lenovo Companion Color for Window 7	
Chipset	Intel B250 Chipse	et					1	Only for Window 7Lenovo Solution Center	
Front ports*	Two USB 3.1 Gen1	1. microph	none (3.5mm), or	ne headr	phone / microphon	e combo iack	d	 Lenovo System Update 	
•	(3.5mm)		, ,,			,]	Create Récovery Media	
Rear ports*	Two USB 3.1 Gen1	1, two US	B 2.0, optional tw	o USB 2	2.0, serial (9-pin),	optional 2nd		Adobe® Reader®	
	serial (9-pin), optio	9-pin), optional parallel (25-pin), ethernet (RJ-45), one VGA, one DisplayPort, Eal external USB to PS/2 ports cable (for PS/2 keyboard / mouse):		Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3,			
	additional DisplayF					,	<u> </u>	RoHS-compliant, WEEE	
Rear audio ports*	Line-out jack (3.5m		g. api 1100 0	551110			Accessories	For compatible accessories, please go to ht	tp://www.lenovoquickpick.com
IEEE 1394*	None `	,							
	* Depending on many	· · · · · ·			,				
Audio support	High Definition (HD	D) Audio,	Realtek ALC233	/ interna	l speaker (1.5 wat	t)	1		
WLAN ¹³	None								
Bluetooth™ Ethernet	None	Pooltok D	FI Q111LINI MALA	on I AN	1®				
Modem	Gigabit ethernet, F None	neallek H	LOTTIMIN, WAKE	OILAN	I**				
Manageability	None						1		
Security chip	TPM (Trusted Platf	form Mod	ule) 2.0, TCG Ce	rtified					
					G Win7 32 OS		1		













ThinkCentre M715 SFF Platform Specifications

						lo "	
Processor	AMD A6 / A8 / A10 / A1			/ 5 / 7 series	·	Security features	Security slot (in rear for optional Power-on password Administrator password Administrator password
	APU / processor	Cores / Threads	Frequency (Base/Max)	L2 Cache	Integrated Graphics		 Kensington® MicroSaver® cable) Padlock loop Smart USB protection, allows keyboard/ Administrator password Hard disk password Boot sequence control
	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		 Approx. 13.2 lb (6.0 kg), weight may vary by configuration
Memory	64GB max, UDIMM, DI dual-channel capable* * System automatically	clocks down	for the proces	sors with low	er memory controller		Toolless cover, disk, optical removal Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", nternal, HDD/SSD
Storage	Some: Hard Drive / SA Some: Solid State Driv Some: M.2 Solid State	re (SSD) / Ś/	ATA 6.0Gb/s, 2.	5" ່	'		Bay 3: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk) Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16* Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1*
Optical	Some: DVD-ROM SAT Some: DVD Burner (D	VD±RW), SA	ATA 1.5Gb/s Dr		mm)		Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1* Slot 4: no slot, only bracket for optional port extension*
Onboard SATA Media reader	Three onboard SATA 6. Optional 7-in-1 media r	eader				_	M.2 card slots: two (one for WLAN, one for SSD) * Optional front USB3.1 Type-C x2 module occupies PCIe x16 slot (x4 card), optional rear 2x USB2.0 / parallel / 2nd serial occupies one expansion slot
Graphics	AMD Radeon™ Graph memory, DirectX® 12, c	ics in proce	ssor (not for A DisplayPort™	MD Ryzen p (Onboard VC	rocessor), uses main AA and DP ports	Floor Stand	Optional system floor stand for vertical orientation
	are invalid on the mode displays, works along v Max resolution: 4096x2 Some: NVIDIA Gefore	els with AMD vith AMD dis 160 (DP)@6	Ryzen process crete graphics 1 30Hz: 1920x120	sor), supports to support m 10 (VGA)@6	s 3 independent ore displays; 0Hz	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 92% PSU (only available via special bid)
	two DisplayPort Max resolution:	, 35 watts; 3840x2160	(DisplavPort)@	60Hz:		Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
Monitor cable	Optional DP to VGA, D	P to DVI-D (s	single link), DP	to dual DP, c	or DP to HDMI 1.4	Preload	Preloaded operating system
Chipset	AMD B350 Chipset						Some: Windows® 7 Professional 32/64 preinstalled through downgrade rights in Windows 10 Pro 64-bit (Only available with Pro A6/A10/A12-8xxx APUs)
Front ports*	Two USB 3.1 Gen2, two available via special bid	o USB 3.1 G d), microphor	en1, optional tv ne (3.5mm), he	vo USB 3.1 T adphone (3.5	Type-C Gen 2 (only 5mm)		Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit
Rear ports*	Two USB 3.1 Gen1, two	USB 2.0, o	ptional two US	B 2.0, serial	(9-pin), optional		Preloaded applications (only some listed)
	2nd serial (9-pin), optio DisplayPort (not availab	nai parailei (de on model	25-pin), etnern s with AMD Rv	et (HJ-45), 0 zen processo	ne vGA and two or), two PS/2 ports		Microsoft Office preloaded;
	(keyboard / mouse);	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	o with the ray	Lon process	51), two 1 6/2 ports		purchase a product key to activate - Only for Window 10
	àdditional DisplayPort	on optional g	raphics on som	e models			Lenovo Companion
Rear audio ports	Line-in (3.5mm), line-or	ut (3.5mm), r	nicrophone-in (3.5mm)			- Only for Window 7
IEEE 1394*	None * Depending on many factor	ors. actual data	a transfer speed i	nav be lower t	han theoretical speed		 Lenovo Solution Center Lenovo ThinkVantage Tools
Audio support	High Definition (HD) Au				· · · · · · · · · · · · · · · · · · ·	1	Create Recovery Media
WLAN	Some: 11ac wireless,			IAE (dual ba	nd),	1	 Adobe® Reader® Cyberlink PowerDVD Create (DVD±RW)
	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 Platform Specifications

Processor	AMD A6, A10, or	A12 ser	ries APUs				Keyboard	Some: Fullsize USB Keyboard (USB connector), Lenovo logo		
	APU	Cores	Frequency Base/Max	L2 Cache	Memory Types	Integrated Graphics	Mouse	Some: Lenovo New Slim USB Keyboard (USB connector), black, Lenovo logo Some: USB Optical Wheel Mouse, black, Lenovo logo		
	PRO A6-9500E	2	3.0 / 3.4 GHz	1 MB	DDR4-2400	Radeon R5 Series	Mechanical	Tiny (1L), black color; metal case		
	PRO A10-9700E	4	3.0 / 3.5 GHz	2 MB	DDR4-2400	Radeon R7 Series		M715 Tiny only: 7.05" W X 7.20" D X 1.36" H		
	PRO A12-9800E	4	3.1 / 3.8 GHz	2 MB	DDR4-2400	Radeon R7 Series		179mm W X 182.9mm D X 34.5mm H		
	PRO A6-8570E	2	3.0 / 3.4 GHz	1 MB	DDR4-2400	Radeon R5 Series		2.9 lb (1.3 kg), weight may vary by configuration		
	PRO A10-8770E	4	2.8 / 3.5 GHz	2 MB	DDR4-2400	Radeon R7 Series		With VESA mount & ODD box:		
	PRO A12-8870E	4	2.9 / 3.8 GHz	2 MB	DDR4-2400	Radeon R7 Series		7.42" W X 7.30" D X 2.48" H 188.4mm W X 185.38mm D X 63mm H		
Memory	32GB max, DDR- *16GB single SO							4.12 lb (1.87 kg), weight may vary by configuration With VESA mount & I/O box:		
Disk	Some: SATA 6.0 Some: Solid Sta	te Drive	(SSD) / SATA 6	.0Gb/s,	2.5"	D/A/a intenfere		7.42" W X 7.30" D X 2.62" H 188.4mm W X 185.38mm D X 66.6mm H 3.53 lb (1.6 kg), weight may vary by configuration		
Optical	Some: M.2 Solid Some: DVD-ROI Some: DVD±RW	M, 9.0mı	m high, viá USE	3 externa	al ODD box	IVMe interface	VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation		
Onboard SATA Media reader	One SATA cable None	(1-drop 1	to device), one	SATA 6.0	OGb/s connect		Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models) 90 watts AC/DC adapter, autosensing, 88% PSU (only for models with I/O box)		
Graphics	DisplayPort™, on	ID Radeon™ Graphics in processor, uses main memory, DirectX® 12, two playPort™, one optional port (HDMI, VGA, or 3rd DP), supports 3 independer					Limited warranty ³ Preload	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available		
	port or DP to DVI Max resolution: 4	splays (supports maximum of 2 concurrent HDMI/DVI displays when using Fort or DP to DVI/HDMI dongles); ax resolution: 4096x2160 (DP) @60Hz; 4096x2160 (HDMI) @30Hz;						Preloaded operating system Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit - Windows 10 only		
DP cable	Optional DP to V	920x120 GA, DP	00 (VGA)@60H to DVI-D (single	z e link), or	DP to HDMI 1	1.4 dongle		Some: Windows® 7 Professional 64 • Lenovo Companion		
Chipset	AMD B300 Chip	set						rights in Windows 10 Pro 64-bit purchase a product key to activate		
Front ports*						one (stereo, 3.5mm),		- Windows 7 only		
Rear ports*	one specific USB	three U	JSB 2.0 (optional some models).	al extern ethernet	al optical box (RJ-45), two [or I/O box occupies DisplavPort.		 Lenovo Solution Center ThinkVantage System Update Create Recovery Media 		
I/O box*	one optional port Optional external serial, and two P	(VGA, 3 I/O box S/2, via	, 3rd DP, HDMI, or serial on some models), one headphone ox, extends four USB 2.0 (two on front and two on rear), one a USB port (occupy one specific USB 2.0 of M715q Tiny) ors, actual data transfer speed may be lower than theoretical speed		Create Recovery Media Lenovo ThinkVantage Tools CyberlinkPowerDVD Create(DVD±RW Microsoft Office preloaded; purchase a product key to activate					
Audio support	High Definition (F	ID) Audi	io, Realtek ALC	233-CG	/ internal spea	ker (1.5 watt)		 Adobe® Reader® 		
WLAN ¹³		luetooth	4.0 combo ada	apter, 1x	1 `	,.	Environment	ENERGY STAR® 6.1*, EPEAT™ Gold rating* (*Not for non-OS models); ErP Lot 3; GREENGUARD®; RoHS-compliant		
	Wi-Fi + Bluetooth 4.0 combo adapter, 1x1 Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band), 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						Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com		
Bluetooth™ Ethernet Modem	Some: Bluetooth 4.0 or 4.1 wireless, integrated in Wi-Fi + BT combo adapte Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN® None									
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0	, TCG C	Certified							
Security features	Kensington® Mi Padlock loop Smart USB pro	croSave tection, ocks all s	er® cable)	 Hai Bood Indi 	ministrator pas rd disk passwo ot sequence co ot without keyb ividual USB po assis intrusion	ord ontrol ooard and mouse ort disablement				













ThinkCentre M715 Tiny (2nd Gen) Platform Specifications

Processor	AMD Athlon, A6, A10,	A12, or	Ryzen process	sor			Security features	Security slot (in rear for optional Administrator password			
	Processor	Cores / Threads		L2 Cache	Memory Support (Up to)	Integrated Graphics		 Kensington® MicroSaver® cable) Padlock loop Smart USB protection, allows keyboard/mouse only, blocks all storage devices Hard disk password Boot sequence control Boot without keyboard and mound individual USB port disablement 			
	Athlon 200GE Athlon PRO 200GE	2/4	3.2 GHz 3.2 GHz	1 MB	DDR4-2933 DDR4-2933	Radeon Vega 3 Radeon Vega 3		Power-on password Chassis intrusion switch			
	PRO A6-8570E	_		1 MB	DDR4-2933 DDR4-2400		Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
		2/2	3.0 / 3.4 GHz	2 MB	DDR4-2400 DDR4-2400	Radeon R5	,	Some: Lenovo Traditional Keyboard (USB connector), black			
	PRO A10-8770E	2/2	2.8 / 3.5 GHz	1 MB	DDR4-2400 DDR4-2400	Radeon R7 Radeon R5	Mouse	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	PRO A6-9500E 2 / 2 3.0 / 3.4 GHz 1 MB DDR4-2400 Radeon R5 PRO A10-9700E 4 / 4 3.0 / 3.5 GHz 2 MB DDR4-2400 Radeon R7 PRO A12-9800E 4 / 4 3.1 / 3.8 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 Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	Ryzen 3 2200GE 4 / 4 3.2 / 3.6 GHz 2 MB DDR4-2933 Radeon Vega 8 Ryzen 3 PRO 2200GE 4 / 4 3.2 / 3.6 GHz 2 MB DDR4-2933 Radeon Vega 8						Mechanical	Tiny (1L), black color; metal case			
							iviechanicai	Toolless chassis open (need optional toolless chassis screw)			
								Optional dust filter			
	Ryzen 5 2400GE	4/8	3.2 / 3.8 GHz			Radeon RX Vega 11		M715 Gen2 Tiny only:			
	Ryzen 5 PRO 2400GE	4/8	3.2 / 3.8 GHz	2 MB	DDR4-2933	Radeon RX Vega 11		7.05" W X 7.20" D X 1.36" H			
Memory	32GB max, DDR4 266 * System automatically							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 / SATA 6.0Gb/s, 2.5", 5400 rpm or 7200 rpm Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" Some: M.2 SSD / PCle NVMe, PCle 3.0 x 4*, 32Gb/s * 128GB SSD M.2 (2242) PCle NVMe only supports PCle 3.0 x 2, 16Gb/s Some: DVD-ROM, 9.0mm high, via USB external 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			
•	Some: DVD±RW, 9.0	mm high	, via USB exte	rnal OE	DD box		Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO model	le)		
Onboard SATA	One SATA cable (1-dro	•	,·			-	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available	-5)		
Graphics Monitor cable	AMD Radeon™ Graph DisplayPort™, one opt displays (supports ma port or DP to DVI/HDM Max resolution: 4096x Optional DP to VGA de	ional por ximum o /II dongle 2160 (DF 1200 (VC	t (HDMI, VGA f 2 concurrent es, and Athlon P)@60Hz; 409 GA)@60Hz	, or 3rd HDMI/I / Athlor 6x2160	DP), suppor DVI displays a PRO only s (HDMI)@30	ts 3 independent when using HDMI support 2 displays); DHz;	Preload	Preloaded operating system Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 10 Pro 64-bit purchase a product key to activate			
Chipset	AMD B300 Chipset	<u> </u>		<u> </u>				 Cyberlink PowerDVD (only for mo 			
	Two USB 3.1 Gen1 (or 3.5mm), one headpho							with DVD / DVD±RW) • Cyberlink Power2GO (only for mo	odels		
Rear ports* (Std.)	One USB 3.1 Gen1 ar							with DVD±RW) ● LinkedIn - Windows 7 only			
Rear ports* (Opt.)	One optional port (VG * Depending on many fac ** Not support VGA, 3rd [tors, actua	al data transfer s	speed ma	ay be lower tha	an theoretical speed		 Lenovo Solution Center ThinkVantage System Update Create Recovery Media 			
Audio support	High Definition (HD) A	udio, Re	altek ALC233-	·VB2 / ii	nternal spea	ker (1.5 watt)		 Microsoft Office preloaded; purchase a product key to activat 	to		
WLAN	Some: 11ac wireless, Wi-Fi + Blueto	oth 4.2*	combo adapte	er, 1x1	`	•		Adobe® Reader®			
	Some: 11ac wireless, Wi-Fi + Blueto	oth 4.2*	combo adapte	er, 1x1		, ,,	Environment	ENERGY STAR® 7.0*, EPEAT™ Gold rating* (*Not for non-OS models); ErP Lot 3; ; RoHS-compliant			
	Some: 11ac wireless, Wi-Fi + Blueto	oth 4.2*	combo adapte	er, 2x2	`	,.	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperatu- Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, S	ure, Shock		
	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band), Wi-Fi + Bluetooth 4.2* combo adapter, 2x2 Some: Bluetooth 4.2* wireless, integrated in Wi-Fi + BT combo adapter						Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Bluetooth Ethernet	* Hardware supports E Gigabit ethernet, Real	3T 4.2, b	ut Win10 RS3	and ea	rlier only sup						
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, TCC	G Certifie	ed								













ThinkCentre M715 Tiny Thin Client Platform Specifications

Processor	AMD A6, A10, or	A12 sei	ies APUs				Keyboard		Fullsize USB Keyboard (USB connector), Lenovo logo
	APU	Cores	Frequency	L2	Memory	Integrated	Mouse		USB Optical Wheel Mouse, black, Lenovo logo
	PRO A6-8570E	2	Base/Max 3.0 / 3.4 GHz	Cache 1 MB	Types DDR4-2400	Graphics Radeon R5 Series	Mechanical	Tiny (1L M715 Ti	.), black color; metal case
	PRO A10-8770E	4	2.8 / 3.5 GHz	2 MB	DDR4-2400 DDR4-2400	Radeon R7 Series		7.05" W	X 7.20" D X 1.36" H
	PRO A12-8870E*	4	2.9 / 3.8 GHz	2 MB	DDR4-2400	Radeon R7 Series	-	179mm	W X 182.9mm D X 34.5mm H
						via special bid models	VECA mount		.3 kg), weight may vary by configuration
Memory	4GB max, DDR4					na opoolai bia modolo	Floor Stand		I VESA mount bracket kit, supports VESA 75mm and 100mm I system floor stand for vertical orientation
Disk	Some: 256GB Se		<u>'</u>				Power supply	65 watts	s AC/DC adapter, autosensing, 88% PSU (not included for TIO models)
DISK	*256GB SATA (sup	port Wir	ndows 10 IOT ón	ly) is only	/ available via s	special bid models	Limited warranty ³		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	ace	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 (d. Fatt)			
Audio support	High Definition (H		*			,			
WLAN ¹³	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			Har	d disk passwo	ord			
		tootion	allowe keybeer						
	Power-on passy		.3		assis intrusion				
	 Padlock loop Smart USB promouse only, blo 	tection, ocks all s	allows keyboard	d/	vidual USB po	oard and mouse ort disablement			













ThinkCentre M715 Tiny Thin Client (2nd Gen) Platform Specifications

		1				
Processor	AMD Athlon, A6, A10, or Ryzen processor	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	APU Cores / Frequency L2 Memory Support (Up to) Integrated Graphics	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			
	Athlon PRO 200GE 2 / 4 3.2 GHz 1 MB DDR4-2933 Radeon Vega 3		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black			
	PRO A6-8570E 2 / 2 3.0 / 3.4 GHz 1 MB DDR4-2400 Radeon R5		Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black			
	PRO A10-8770E 4 / 4 2.8 / 3.5 GHz 2 MB DDR4-2400 Radeon R7	Mechanical	Tiny (1L), black color; metal case • Toolless chassis open (need optional toolless chassis screw)			
	Ryzen 3 PRO 2200GE 4 / 4 3.2 / 3.6 GHz 2 MB DDR4-2933 Radeon Vega 8		Optional dust filter			
Memory	8GB max, DDR4 2666*, two 260-pin SO-DIMM sockets, dual-channel capable * System automatically clocks down for the lower memory controller		M715 Gen2 Tiny only: 7.05" W X 7.20" D X 1.36" H 179mm W X 182.9mm D X 34.5mm H			
Disk	Some: 32GB M.2 Solid State Drive (SSD) / SATA interface		2.91 lb (1.32 kg), weight may vary by configuration			
Optical	Some: 128GB M.2 Solid State Drive (SSD) / PCIe NVMe, PCIe 3.0 x 2 None	VESA mount	Optional VESA mount bracket kit, supports VESA 75mm and 100mm			
Onboard SATA	One SATA cable (1-drop to device), one SATA 6.0Gb/s connector on planar	Floor Stand	Optional system floor stand for vertical orientation			
Graphics	AMD Radeon™ Graphics in processor, uses main memory, DirectX® 12, two	Power supply	65 watts AC/DC adapter, autosensing, 88% PSU (not included for TIO models)			
	DisplayPort™, one optional port (HDMI, VGA, or 3rd DP), supports 3 independent displays (supports maximum of 2 concurrent HDMI/DVI displays when using HDMI	Limited warranty	1-year or 3-year, limited onsite service / service upgrades available			
	port or DP to DVI/HDMI dongles, and Athlon / Athlon PRO only support 2 displays);	Preload	Preloaded operating system			
	Max resolution: 4096x2160 (DP)@60Hz; 4096x2160 (HDMI)@30Hz;		Some: Windows Embedded Standard 7 V2 (WES 7 V2) Some: Windows 10 IoT Enterprise			
Monitor cable	1920x1200 (VGA)@60Hz Optional 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	Environment	ENERGY STAR® 6.1*, EPEAT™ Gold rating* (*not for non-OS models); ErP Lot 3; RoHS-compliant			
Front ports* (Std.)) Two USB 3.1 Gen1 (one is Always On and fast charge), one microphone (stereo,	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature.			
Rear ports* (Std.)	3.5mm), one headphone / microphone combo jack (stereo, 3.5mm)) One USB 3.1 Gen1 and three USB 2.0, ethernet (RJ-45), two DisplayPort,		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock)			
	one headphoneone	Accessories	For compatible accessories, please go to http://smartfind.lenovo.com			
Rear ports* (Opt.)	One optional port (VGA**, 3rd DP**, HDMI**, or serial on some models)					
	* Depending on many factors, actual data transfer speed may be lower than theoretical speed ** Not support VGA, 3rd DP, HDMI for the models with Athlon / Athlon PRO					
Audio support	High Definition (HD) Audio, Realtek ALC233-VB2 / internal speaker (1.5 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, Qualcomm Atheros QCA9377 (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, Qualcomm Atheros QCA6174A (dual band),					
	Wi-Fi + Bluetooth 4.2* combo adapter, 2x2					
Bluetooth	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					
Ethernet	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN®					
Manageability Security chip	DASH 1.0/1.1 Discrete TPM 2.0, TCG Certified	-				
Security features	 Security slot (in rear for optional Kensington® MicroSaver® cable) Padlock loop Smart USB protection, allows keyboard/mouse only, blocks all storage devices Power-on password Administrator password Boot sequence control Boot without keyboard and mouse Individual USB port disablement Chassis intrusion switch 					













ThinkCentre M720 SFF Platform Specifications

Processor	Intel® Celeron®, Intel I	Pentium®	or 8th Generati	on Intel C	Core™ i3 / i5 / i7 E	rncessor	1	Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),
1 10063301		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	Discount of the TM	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 3.1G / 4.3G	9 MB 9 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630	Security features	Security slot (in rear for optional Power-on password
	Core i5-8600 Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		Kensington® MicroSaver® cable) • Administrator password
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		 Padlock loop Optional cable lock to physically lock Boot sequence control
	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 i3-9300	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		 Optional chassis intrusion switch Individual USB port disablement
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		 Optional chassis E-Lock (special bid) Smart USB protection, allows keyboard/
	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 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		UHD 630		Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
Memory	64GB max, UDIMM, I			DIMM co			Mouse	Some: Lenovo Calliope Mouse (USB connector), black
Memory	dual-channel capable		50, IOUI 200-PIII	DIIVIIVI 50	ckets, non-Ecc,			Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black
	* System automatical		down for the prod	cessors v	vith lower memor	y controlle	r	Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
Storage	Some: Hard Drive / Some: Solid State Dri Some: M.2 Solid State * M.2 SSD (2242) PC	rive (SSD te Drive () / SATA 6.0Gb/s SSD) / PCIe NVI	i, 2.5" Me, PCle	3.0 x 4*, 32Gb/s	;	Mechanical	 SFF (8.4L), black color; metal case (WxDxH) 3.64" X 11.44" X 13.52"; 92.5mm X 290.5mm X 343.5mm Approx. 13.24 lb (6.0 kg), weight may vary by configuration
Optical	Some: Intel Optane TM Some: DVD-ROM SA	Memory	(not support Ce	leron / Po	entium Processor	r), M.2		Toolless cover, disk, optical, and extension card removal Optional dust filter
Option	Some: DVD Burner ((DVD±RW	/), SATA 1.5Gb/s		lim (9.0mm)			Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD
Onboard SATA	Three onboard SATA	6.0Gb/s c	onnectors		,			Bay 3: 2.5", internal, HDD/SSD (optional bay)
Media reader	Optional 7-in-1 media						_	Slot 1: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x16
Graphics	Intel UHD Graphics							Slot 2: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1 Slot 3: low-profile (length < 147mm, height < 68.9mm), PCle 3.0 x1
	one VGA, two Display discrete graphics to s			naent als	spiays, works alor	ig with		Slot 4: no slot, only bracket for optional port extension
	Max resolution: 4096x			1536 (VC	GA)@50Hz			M.2 card slots: Two (one for WLAN, one for SSD/Optane)
	Some: NVIDIA Gefor	′ce® GŤ 7	30, DirectX 12, 2			r,	Floor Stand	Optional system floor stand for vertical orientation
	two DisplayPo	rt, 35 wat	ts; 160 (DisplayPori	∖കഭവ⊔⊸			Power supply	Some: 180 watts, autosensing, 85% PSU
Monitor cable	Optional DP to VGA	n. 3040x2 dongle. Di	o to DVI-D donal	e, DP to	, dual DP donale (for Collage		Some: 210 watts, autosensing, 85% PSU
	Display with intel integ							Some: 260 watts, autosensing, 92% PSU (only available via special bid)
Chipset	Intel B360 Chipset						Limited warranty	³ 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 1x microphone (3.5m)						Preload	Preloaded operating system
Front ports* (Opt.	Optional: 1x media re		aapiione / iiiiol0	priorie oc	indo jack (o.diiii	''/		Some: Windows 10 Pro 64-bit
Rear ports* (Std.)	4x USB 2.0, 1x serial	(9-pin), 1	x ethernet (RJ-4	5), 1x VG	A, 2x DisplayPor	rt,		Some: Windows 10 Home 64-bit Preloaded applications (only some listed)
	1x line-out (3.5mm)							Lenovo Vantage
Hear ports* (Opt.	Optional: 2x USB 3.1	Gen1 via	PCI2 x1**, 2x U	SB 3.1 Ty	ype-C Gen2 via F	Cle x4**		Microsoft Office preloaded:
	(special bid only), 1x 2 pin), 2x PS/2 ports (ke	∠nu sena evboard/r	າ (ອ-ທານ), 4x sena nouse), addition:	u (9-pin) al RJ-45	via FOIE XI, IX P and video norts a	aranei (25- availahle on		purchase a product key to activate
	optional graphics or e	thernet c	ard	21 1 10 40	and video porto c	wanabio oi		Cyberlink PowerDVD (only for models with DVD / DVD±RW) Cyberlink Power2CO (only for models with DVD / DVD±RW)
	* Depending on many fac	ctors, actua	al data transfer spe			ical speed		Cyberlink Power2GO (only for models with DVD±RW) LinkedIn
	** Choose either 2x USB						Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, TCO,
Audio support	High Definition (HD) A					tt)	Liviloiiileiit	TUV low noise verified (coming soon, on some models), RoHS-compliant
WLAN	Some: 11ac wireless Wi-Fi + Blueto		d, Realtek RTL8 ombo adapter, 1		dual band),		Accessories	For compatible accessories, please go to http://smartfind.lenovo.com













ThinkCentre M720 Tiny Platform Specifications

Processor	Intel® Celeron®, Intel I	Pentium®,	or 8th Generation	on Intel	Core™ i3 / i5 / i7	Processor	Manageability	None				
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	Security chip	Discrete TPM 2.0, TC	CG Certified			
	Celeron G4900T	Threads 2 / 2	Base/Max(GHz) 2.9G	2 MB	(Up to) DDR4-2400	Graphics UHD 610	Security leatures	 Security slot (in real Kensington® Micros 	ar for optional	Boot sequence Boot without keep	control yboard and mouse	
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400 DDR4-2400	UHD 610		Chassis intrusion s		Individual USB	port disablement	
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		 Power-on password 	d	 Smart USB prof 	ection, allows keyboard/	
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630		Administrator passy	word	mouse only, blo	cks all storage devices	
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630		Hard disk password				
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Callio				
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black				
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	Mouse					
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630						
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630						
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630	Mechanical	Tiny (1L), black color	; metal case			
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630		Toolless chassis opToolless HDD, SSD	pen (need optiona	al toolless chassis s	crew)	
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630		 Optional dust filter 	, memory remova	dI .		
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		one 2.5" bay for HDD	SSD, one PCIe	3.0 x8 slot (low-prof	ile), two M.2 slots (one	
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630		for WLAN, one for M.	.2 SSD), 2.5" HDI	D/SSD and PCle ca	rd are mutually exclusive	
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630			Dimensio	ns (WxDxH)	Weight (Approx.)	
Memory	32GB max, DDR4-26	66* two 2	260-nin SO-DIMI	/ socke	ts non-FCC		1	Tiny only		.20" X 1.36"	2.91 lb (1.32 kg),	
WEITIOT y	dual-channel capable		.00-piii 30-Diivii	VI SOUNC	is, 11011-LOO,			l'iniy onny		.9mm X 34.5mm	vary by config	
	* System automatical		down for the prod	cessors	with lower memo	ry controller	r	With VESA mount &	7.42" X 7	.30" X 2.48"	3.66 lb (1.66 kg),	
Storage	Some: Hard Drive / S	SATA 6.00	ab/s, 2.5", 5400 r	pm or 7	200 rpm		1	ODD box		5.38mm X 63mm	vary by config	
Ü	Some: Solid State Dr	ive (SSD) / SATA 6.0Gb/s	, 2.5"	•			Optional VESA mount bracket kit, supports VESA 75mm and 10		and 100mm		
	Some: M.2 SSD / PC				210 2 0 v 0 160h	10	VESA mount Floor Stand	Optional system floor	r stand for vertica	l orientation	and roomin	
	* 128GB SSD M.2 (22 Some: Intel Optane TM	1 Memory	(not support Ce	ports Pt Ieron / F	Pentium Processo	or) M 2						
Optical	Some: DVD-ROM, sl	im (9.0mr	n), via ÚSB exte	rnal OD	D box	*	Power supply	Some: 65 watts AC/I Some: 90 watts AC/I	DC adapter, autos	sensing, 88% PSU		
	Some: DVD Burner ($DVD \pm RW$), slim (9.0mm),	via USE	B external ODD b	ox		Some: 135 watts AC				
Onboard SATA	One onboard SATA 6						Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available				
Graphics	Intel HD Graphics 61						Limited Warranty	Some: 1-year or 3-y				
	DisplayPort™, one HE or USB 3.1 Type-C Ge						Preload	Preloaded operating	a system			
	Max resolution: 4096					t diopidyo,		Some: Windows® 10	0 Pro 64-bit			
	4096>	(2160 (on	board HDMI)@2	4Hz; 20	48x1536 (VGA)@	҈950Hz		Some: Windows 10	Home 64-bit	!! - 4!\		
Monitor cable	Optional DP to VGA d					(for Collage		Preloaded applicationLenovo Vantage	ons (only some	listea)		
	Display with intel integ	grated gra	ipnics), or DP to	HDMI 1	.4 dongle			 Microsoft Office pre 	eloaded:			
Chipset	Intel B360 Chipset							purchase a produc	t key to activate			
Front ports* (Std.)	one USB 3.1 Gen1 (A							 Cyberlink PowerDV 			RW)	
Poor porte* (Std.)	one microphone (3.5r 2x USB 3.1 Gen2, 2x	nm), one	headphone / mid	crophon	e combo jack (3.5	omm)		Cyberlink Power2GLinkedIn	O (only for mode	els with DVD±RW)		
Rear ports* (Opt.)) Two optional ports (m	utually ex	clusive with PCI	e (no-4	Port 1 for VGA /	2nd DP /	Carrier and		EDEATM Cold	ations (North Associa	-\ F-D1 -+ 0 TOO	
(2nd HDMI / serial / US	Two optional ports (mutually exclusive with 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;				serial;	Environment	ENERGY STAR® 7.0. TUV ultra low noise v	, EPEAL TO GOID 18	oon on some mode	a), EIP LOUS, TOO,	
	Optional ports via PCle card: 2x USB 3.1 Gen1 via PCle x1, 4x serial (9-pin						MIL-SPEC test				de], High Temperature,	
	PCIe x1 * Depending on many fac	etore actua	al data transfer sne	ad may h	e lower than theore	tical speed	WIL-SI LO lest	Low Temperature. Te	mperature Shock	. Humidity. Sand an	d Dust, Vibration, Shock,	
Audio support	Realtek ALC233VB2		<u> </u>			nicai speca	+	Fungus, Solar Radiat	tion)		, , ,	
WLAN	Some: 11ac wireless		· •	`			Accessories	For compatible acces	ssories, please go	to http://smartfine	d.lenovo.com	
VVLAIN	Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 1	0210⊑ (x1	duai band),							
	Some: 11ac wireless	, M.2 Car	d, Realtek RTL8	822BE ((dual band),							
			ombo adapter, 2		40.0405							
	Some: 11ac wireless		d, Intel Dual Bar ombo adapter, 1		ess-AC 3165,							
	Some: 11ac wireless				ess-AC 8265.							
	Wi-Fi + Blueto	oth 4.2 c	ombo adapter, 2	x2								
Bluetooth	Some: Bluetooth 4.2	wireless,	integrated in Wi	-Fi + BT	combo adapter	I ANI®						
Ethernet Ethernet (Opt.)	Gigabit ethernet, Intel Some: Intel Ethernet											
Euromot (Opt.)	Como. Intol Ethollict	SOLVOL AL	ιαριοι 1000-14, <u>ξ</u>	igabit 6		,, 1 OIO AT						













ThinkCentre M720 Tower Platform Specifications

Processor	Intel® Celeron®, Intel	Pantium®	or 8th Generati	on Intel	Core™ i3 / i5 / i7 I	Processor	WLAN ¹³	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),
1 10003301		Cores /	Frequency		Memory Support		VVLAIN	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1
	Processor		Base/Max(GHz)	Cache	(Up to)	Graphics		Some: 11ac wireless, M.2 Card, Realtek RTL8822BE (dual band),
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Wi-Fi + Bluetooth 4.2 combo adapter, 1x1
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610		Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630		Wi-Fi + Bluetooth 4.2 combo adapter, 2x2
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Bluetooth™	Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-V (Jacksonville), Wake on LAN
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4*, gigabit ethernet, 4x RJ-45, PCle Some: Bitland BN8E88*, gigabit ethernet, 1x RJ-45, PCle x1 (special bid only)
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630		* Choose either I350-T4 or BN8E88
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability	None
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security features	Security slot (in rear for optional Power-on password
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Kensington® MicroSaver® cable) ● Administrator password
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630		Padlock loop Hard disk password Ortional applie lock to physically lock a Post appropriate control.
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630		 Optional cable lock to physically lock both keyboard and mouse Boot sequence control Boot without keyboard and mouse
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		 Optional chassis intrusion switch Individual USB port disablement
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		 Optional chassis E-Lock (special bid) Smart USB protection, allows keyboar
	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 Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black
Memory	64GB max, UDIMM,	DDR4-26	66*, four 288-pir	DIMM s	ockets, non-ECC	,		Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)
	dual-channel capable				201		Mouse	Some: Lenovo Calliope Mouse (USB connector), black
	* System automatical	,				ry controlle	r	Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, bla
Storage	Some: Hard Drive / S	SATA 6.00	Gb/s, 2.5" or 3.5'	, 5400 rj	om or 7200 rpm			Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special bid)
	Some: Solid State D Some: M.2 Solid Sta	ite Drive	/) / SAIA 6.0GD/: (SSD) / PCIe NV	s, ∠.5 Me PCI	e 3.0 x 4* 32Gb/s	2	Mashaniaal	, , , , , , , , , , , , , , , , , , , ,
	* 128GB SSD M.2 (2)	242) PCI	e NVMe only sup	ports P	Cle 3.0 x 2, 16Gb	/s	Mechanical	 Tower (15L), black color, metal case (WxDxH) 5.91" X 10.65" X 14.17"; 150mm X 270.5mm X 360mm
	Some: Intel Optane [™]	Memory	/ (not support Ce	eleron / F	Pentium Processo	r), M.2		• Approx. 15.21 lb (6.9 kg), weight may vary by configuration
Optical	Some: DVD-ROM S	ATA 1.5G	b/s Drive, slim (9).0mm)	olina (O Omana)			Optional dust filter
Onboard SATA	Some: DVD Burner Three onboard SATA	6.0Gb/s	v), SAIA 1.5Gb/s	b Dilve, s	SIIII (9.0IIIII)			Bay 1: Slim external ODD bay
Media reader	Optional 7-in-1 media		001111001010					Bay 2: 3.5", 1" high, internal, HDD/SSD Bay 3: 3.5", 1" high, internal, HDD/SSD (optional bay)
Graphics	Intel UHD Graphics	610/630	in processor, use	s main r	memory. DirectX®	12.		Slot 1: half-length full-height (length < 189mm, height < 104mm), PCIe 3.0 x16
	one VGA, two Display	yPort™, s	upports 3 indepe	ndent di	splays, works alo	ng with		Slot 2: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1
	discrete graphics to s			.4500 (V	(O.A.) @ FOLL-			Slot 3: half-length full-height (length < 189mm, height < 104mm), PCle 3.0 x1
	Max resolution: 4096: Some: NVIDIA Gefore	X2304 (D rce® GT 7	P)@6UHZ;2U48) 730	(1536 (V	GA)@50HZ :lo 2 0 v16 adante	ar .		Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane)
	two DisplayPo			_00, 10	70 2.0 X 10 adapte	,··,	Power aupply	
	Max resolution	n: 3840x2	2160 (DisplayPor	t)@60H	z;		Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU
Monitor Cable	Optional DP to VGA					for Collage		Some: 260 watts, autosensing, 92% PSU (only available via special bid)
Chinaat	Display with intel inte	grateu gr	apriics), or DF to	ו וואוטח	.4 dongle		Limited warrantv ³	³ Some: 1-year or 3-year, depot service / service upgrades available
Chipset	Intel B360 Chipset	1100 0 1	0 1 1 1100		0.0 4 (45)4/ 1			Some: 1-year or 3-year, limited onsite service / service upgrades available
Front ports* (Std.) 2x USB 3.1 Gen2, 2x 1x microphone (3.5m						Preload	Preloaded operating system
Front ports* (Opt	Optional: 1x media re		aupriorie / micro	priorie c	ombo jack (3.5mi	11)		Some: Windows® 10 Pro 64-bit
Rear ports* (Std.	4x USB 2.0, 1x serial	(9-pin).	x ethernet (RJ-4	5). 1x V	GA. 2x DisplavPo	rt.		Some: Windows 10 Home 64-bit Preloaded applications (only some listed)
	1x line-out (3.5mm)							Lenovo Vantage
неаг ports* (Opt.) Optional: 2x USB 3.1	Gen1 via	PCle x1**, 2x U	SB 3.1 7	Type-C Gen2 via I	Cle x4**		Microsoft Office preloaded;
	(special bid only), 1x 1x parallel (25-pin), 2	∠na seria x PS/2 n/	ıı (9-pin), 4x seria orts (keyboard/m	ai (9-pin) ouse) a	⊓via PUIE X I , dditional R.I-45 ⊇i	nd video		purchase a product key to activate
	ports available on opt				dullional 110-45 al	ia video		Cyberlink PowerDVD (only for models with DVD / DVD±RW) Cyberlink PowerDVD (only for models with DVD / DVD±RW)
	* Depending on many fa	ctors, actu	al data transfer spe	ed may b		tical speed		 Cýberlink Power2GO (onlý for models with DVD±RW) LinkedIn
	** Choose either 2x USE	3 3.1 Gen1	or 2x USB 3.1 Typ	e-C Gen2	2		Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, TCO,
Audio support	High Definition (HD)	Audio, Re	altek ALC233VE	32 / inter	nal speaker (2 wa	tt)		TUV low noise verified (coming soon, on some models), RoHS-compliant
							Accessories	For compatible accessories, please go to http://smartfind.lenovo.com













ThinkCentre M725 SFF Platform Specifications

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Processor	AMD A6 / A8 / A10 / A	A12 and F	·		i ı		Ethernet (Opt.)	Gigabit ethernet, Realtek RTL8111EPV, Wake on LAN® Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCIe x1 (special bid only)			
	Processor	Cores / Threads	Frequency (Base/Max)	L2 Cache	Memory Support (Up to)	Integrated Graphics	Manageability Security chip	DASH 10/1.1 Discrete TPM 2.0, TCG Certified			
	PRO A6-9500	2/2	3.5 / 3.8	1MB	DDR4-2400	Radeon R5	Security features	Security slot (in rear for optional • Power-on password			
	PRO A8-9600	4/4	3.1 / 3.4	-	DDR4-2400	Radeon R7	,	Kensington® MicroSaver® cable) • Administrator password			
	PRO A10-9700	4/4	3.5 / 3.8	+	DDR4-2400	Radeon R7		Padlock loop			
	PRO A12-9800	4/4	3.8 / 4.2		DDR4-2400	Radeon R7		Smart USB protection, allows keyboard/ Boot sequence control Boot without keyboard and mouse			
	Ryzen 3 2300X	4/4	3.5 / 4.0		DDR4-2933	None		 mouse only, blocks all storage devices Optional cable lock to physically lock Individual USB port disablement 			
	Ryzen 5 2500X	4/8	3.6 / 4.0	† 	DDR4-2933	None		both keyboard and mouse • Optional chassis intrusion switch			
	Ryzen 3 PRO 2200G	4/4	3.5 / 3.6		DDR4-2933	Radeon Vega 8	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Ryzen 5 PRO 2400G	4/8	3.6 / 3.8			Radeon RX Vega 11	.,	Some: Lenovo Traditional Keyboard (USB connector), black			
	Ryzen 5 PRO 2600	6/12	3.4 / 3.9	-	DDR4-2933	None		Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black			
	Ryzen 7 PRO 2700	8/16	3.2 / 4.1	4MB	DDR4-2933	None	Mouse	Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid) Some: Lenovo Calliope Mouse (USB connector), black			
Memory	64GB max, UDIMM, DDR4-2666*, four 288-pin DIMM sockets, non-ECC, dual-channel capable * Systemboard supports up to DDR4-2666, memory frequency may automatically clocks down for the lower capability of memory controller in processor							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)			
Storage	Some: Hard Drive / Some: Solid State D Some: M.2 SSD / PC * 128GB SSD M.2 (2: supports PCle 3.0 x 2	SATA 6.00 rive (SSD Cle NVMe 242) PCIe 2, 16Gb/s	Ab/s, 2.5" or 3) / SATA 6.0G , PCIe 3.0 x 4 e NVMe and A	8.5", 540 ab/s, 2.5 1*, 32Gb AMD A6	00 rpm or 720 0/s / A8 / A10 /	00 rpm	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. 13.2 lb (6.0 kg), weight may vary by configuration Toolless cover, disk, optical removal Optional dust filter Bay 1: Slim external ODD bay 			
Optical	Some: DVD-ROM S. Some: DVD Burner	(DVD±RW	/), SATA 1.5G	ib)s Driv	ré, slim (9.0n	nm)		Bay 2: 3.5", nternal, HDD/SSD Bay 2: 2.5", internal, HDD/SSD (bay only comes with 2.5" 2nd disk)			
Onboard SATA	Three onboard SATA available via special b	oid model)		AID 0/1	support (RA	ID preset only		Slot 1: low-profile (length < 150mm, height < 68mm), PCle 3.0 x16 Slot 2: low-profile (length < 150mm, height < 68mm), PCle 2.0 x1			
Media reader	Optional 7-in-1 media reader							Slot 3: low-profile (length < 150mm, height < 68mm), PCIe 2.0 x1			
Graphics	memory, DirectX® 12,	AMD Radeon™ Graphics in processor (only for some processors), uses main memory, DirectX® 12, one VGA, two DisplayPort™ (Onboard VGA and DP ports are only available on the models with integrated graphics), supports 3 independen						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			
	Max resolution: 4096; Some: NVIDIA Gefor adapter, two D	x2160 (DF r ce® GT 7 DisplayPor	P)@60Hz; 192 3 0 , DirectX 1. rt, 35 watts;	20x1200 2, 2GB) (VĠA)@60 GDDR5, PC	Hz	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)			
Manitar apple	Max resolution	n: 3840x2	160 (DisplayF	Port)@6	0Hz		Limited warranty	1-year or 3-year, limited onsite service / service upgrades available			
Monitor cable	Optional DP to VGA or DP to HDMI 1.4 do	dongle, Di ongle	o to DVI-D do	ngle, DI	P to dual DP	dongle,	Preload	Preloaded operating system Some: Windows 10 Pro 64-bit			
Chipset	AMD B450 Chipset							Some: Windows 10 Home 64-bit			
Front ports* (Std.) 2x USB 3.1 Gen2, 2x	USB 3.1	Gen1, 1x mic	rophone	e (3.5mm), 1	x headphone		Preloaded applications (only some listed)			
	(3.5mm)		100 0 4 T					Lenovo VantageMicrosoft Office preloaded;			
	.) Optional: 1x media re) 2x USB 3.1 Gen1, 2x 2x DisplayPort**, 2x F (3.5mm), 1x micropho	USB 2.0. PS/2 ports	, 1x serial (9-p s (keyboard / i	oin), 1x	ethernet (RJ	-45), 1x VGA**,		 purchase a product key to activate Cyberlink PowerDVD (only for models with DVD / DVD±RW) Cyberlink Power2GO (only for models with DVD±RW) 			
Rear ports* (Opt.) <i>Optionál:</i> 2x USB 2.0 and video ports availa), 1x`2nd : able on op	serial (9-pin), otional graphic	cs or eth	nernet card		Environment	LinkedIn ENERGY STAR® 7.0*, EPEAT™ Gold rating* (*not for non-OS models);			
	* Depending on many fa ** only available on the r	ctors, actua nodels with	al data transfer integrated grap	speed maphics	ay be lower tha	an theoretical speed	Accessories	ErP Lot 3; RoHS-compliant For compatible accessories, please go to http://smartfind.lenovo.com			
Audio support	High Definition (HD)						ACCESSUITES	To companione accessories, please go to mup.//smartimu.ienovo.com			
WLAN	Some: 11ac wireless Wi-Fi + Bluet Some: 11ac wireless Wi-Fi + Bluet 11ac wireless Wi-Fi + Bluet Some: 11ac wireless	s, M.2 Car ooth 4.2 c s, M.2 Car ooth 4.2* s, M.2 Car ooth 4.2* s, M.2 Car	d, Realtek RT combo adapte d, Qualcomm combo adapt d, Realtek RT combo adapt d, Qualcomm		CE (dual bands s QCA9377 <i>I</i> BE (dual ban	d), A (dual band), d),					
Bluetooth™	Wi-Fi + Blueto Some: Bluetooth 4.2 * Hardware supports	* wireless	s, integrated ir	า Wi-Fi -							













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		 Smart USB protection, allows keyboard/ Boot sequence control 			
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530		 mouse only, blocks all storage devices Optional cable lock to physically lock Boot without keyboard and mouse Individual USB port disablement 			
	Core i3-7300	2/4	4.0G /	4 MB	DDR4-2400	HD 630		 Optional cable lock to physically lock both keyboard and mouse Individual USB port disablement Optional chassis intrusion switch 			
	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	 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. 11.92 lb (5.4 kg), weight may vary by configuration 			
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		 Toolless cover, disk, optical, graphic card removal Optional dust filter Bay 1: Slim external ODD bay 			
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 PCIe x16 (x4 signal) slot optional rear 2x USB2.0 / parallel / 2nd serial / cable lock / Wi-Fi antenna occupies one expansion slot			
	Max resolution: 409 Some: NVIDIA Ge	96x2304 ((DP) @ 60Hz; 204 T 730 Direct Y 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									
Front ports*	Four USB 3.1 Gen				en 2 (only availabl	e via special		Some: 1-year or 3-year, limited onsite service / service upgrades available			
Rear audio ports	Four USB 3.1 Gen optional parallel (2: PS/2 ports (keyboa additional DisplayF	Preke (3.5mm), headphone (3.5mm) at 3.1 Gen1, optional two USB 2.0, serial (9-pin), optional 2nd serial (9-pin), arallel (25-pin), ethernet (RJ-45), one VGA, two DisplayPort, optional two s (keyboard/mouse); DisplayPort on optional graphics on some models .5mm), line-out (3.5mm), microphone-in (3.5mm)					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							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>	-	 Lenovo ThinkVantage Tools 			
WLAN ¹³	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),		 Create Recovery Media Adobe® Reader® Cyberlink PowerDVD Create (DVD±RW) 			
	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	 Security slot (in rear for optional Kensington® MicroSaver® cable) Administrator password Hard disk password
	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		 Chassis intrusion switch
	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 warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available
	two optional ports (Port 1 for VGA / 3rd DP / HDMI / serial / USB 3.1 Type-C Gen 1 (with DisplayPort Alternate Mode), Port 2 for serial)	Preload	Some: Windows® 7 Professional 32/64 Preloaded applications (only some preinstalled through downgrade listed)
I/O box*	Optional external I/O box, extends two USB 2.0, two USB 3.1 Gen1, and one serial on rear, two USB 2.0 on front, via USB cable (occupy two specific USB 3.1 Gen1 of		rights in Windows 10 Pro 64-bit • Microsoft Office preloaded; (not available with 7th Gen Intel 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 ¹³	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),		Lenovo Solution CenterLenovo ThinkVantage Tools
	Wi-Fi + Bluetooth 4.2 combo adapter, 2x2 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165,		Create Recovery Media
	Wi-Fi + Bluetooth 4.2 combo adapter, 1x1		Adobe® Reader® Cyberlink PowerDVD Create
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265, Wi-Fi + Bluetooth 4.2 combo adapter, 2x2		(ĎVD±RW)
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,	Environment	Intel Unite (vPro models only) ENERGY STAR® 6.1, EPEAT™ Gold rating (North America),
Bluetooth™	Wi-Fi + Bluetooth 4.2 combo adapter, Intel vPro technology support, 2x2 Some: Bluetooth 4.2 wireless, integrated in Wi-Fi + BT combo adapter * Hardware supports BT 4.2, but Win10 RS3 and earlier only supports BT 4.1	ENVIRONMENT	ErP Lot 3, GREENGUARD®, RoHS-compliant, TUV low noise verified (on some models)
Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®	MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature,
Manageability	Intel Active Management Technology 11.0 (Intel AMT 11.0); Intel vPro technology on some models (require choosing a vPro-support Wi-Fi		Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus, Solar Radiation)
Security chip	adapter to enable vPro function through wireless connection) TPM (Trusted Platform Module) 2.0*, TCG Certified * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com

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













ThinkCentre M910 Tower Platform Specifications

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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		 Padlock loop Smart USB protection, allows keyboard/ Hard disk password Boot sequence control 																				
	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	, , , , , , , , , , , , , , , , , , ,		,	*		 Optional cáble lock to physically lock both keyboard and mouse Individual USB port disablement Optional chassis intrusion switch 																				
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		• Approx. 15.45 lb (7 kg), weight may vary by configuration																				
Media reader	(RAID preset only a Optional 7-in-1 me			odel)				 Toolless cover, disk, optical, graphic card removal Optional carry handle, dust filter 																				
Graphics	<u>'</u>			20 in processor uses main mamory DirectV® 10				Bay 1: Slim external ODD bay																				
Graphics	Intel HD Graphics 510/530/610/630 in processor, uses main memory, DirectX® 12 one VGA, two DisplayPort™, supports 3 independent displays, works along with							Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD Bay 3: 3.5", 1" high, internal, HDD/SSD																				
	discrete graphics to support more displays;					Ü		Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk) Bay 5: 2.5", internal, HDD/SSD (optional bay)																				
	Max resolution: 4096x2304 (DP)@60Hz; 2048x1536 (VGA)@50Hz Some: NVIDIA Geforce® GT 730, DirectX 12, 2GB, PCIe 2.0 x8 adapter,																											
						two DisplayPort, 35 watts;					GI,		Notes: M910 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and 1 eSATA device (front access HDD) Slot 1: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x16*															
	Max resolu	Max resolution: 3840x2160 (DisplayPort)@60Hz;					Max resolution: 3840x2160 (DisplayPort) @ 60Hz;					Max resolution: 3840x2160 (DisplayPort)@60Hz;																
	Some: AMD Radeon™ R7 350, DirectX 11, 2GB, PCIe 3.0 x8 adapter,							Slot 2: full-length full-height (length < 268mm, height < 112mm), PCIe 3.0 x1*																				
		DirectX 12, 8GB, PCIe 3.0 x16 adapter, one DVI-D, one HDMI,					Max resolution: 4096x2160 (HDMI)@24Hz; 2048x1536 (VGA)@85Hz ome: NVIDIA Geforce GTX™ 1080 (only available via special bid model), DirectX 12, 8GB, PCIe 3.0 x16 adapter, one DVI-D, one HDMI,						Slot 3: full-length full-height (length < 268mm, height < 112mm), PCle 3.0 x16 (x4 signal)*															
	Some: NVIDIA Ge											DirectX 12, 8GB, PCIe 3.0 x16 adapter, one DVI-D, one HDMI,					Some: NVIDIA Geforce GTX™ 1080 (onlý available via special bid model), DirectX 12, 8GB, PCIe 3.0 x16 adapter, one DVI-D, one HDMI,					DirectX 12, 8GB, PCIe 3.0 x16 adapter, one DVI-D, one HDMI,						Slot 4: no slot, only bracket for optional port extension*
																											three DisplayPort, 180 watts, occupies two slots;	
					096x2160 (HDMI)	@60Hz		* Optional 2 front USB3.1 Type-C ports module occupies PCIe x16 (x4 signal) sloptional 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	splayPort,	DVI-D, or HDMI	on optio	nai graphics on s	ome models		preinstalled through downgrade • Microsoft Office preloaded;																				
IEEE 1394*	Line-in (3.5mm), lir	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	D) Audio, F	Realtek ALC662	/ optiona	l internal speaker	(1.5 watt)		Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit - Only for Window 7 • Lenovo Solution Center																				
WLAN	Some: 11ac wirele Wi-Fi + Blu	ess, M.2 Cuetooth 4.	Card, Qualcomm 1 combo adapter	Atheros	QCA9377A (dual	band),		Lenovo Think Vantage Tools Create Recovery Media																				
	Some: 11ac wirele	Some: 11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),				11ac wireless, M.2 Card, Qualcomm Atheros QCA6174A (dual band),			band),		 Adobe® Reader® 																	
	Wi-Fi + Bluetooth 4.1 combo adapter, 2x2							Cyberlink PowerDVD Create (DVD - DW)																				
	Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 3165, Wi-Fi + Bluetooth 4.1 combo adapter, 1x1						Cardina a const	(DVD±RW)																				
	Some: 11ac wirele	ess, M.2 C	Card, Intel Dual E	and Wire	eless-AC 8265,		Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, GREENGUARD®, RoHS-compliant, TUV low noise verified (on some models)																				
			1 combo adapter		Noce AC 9965																							
	Some: 11ac wirele Wi-Fi + Blu	ະວຣ, เงเ.∠ ເ uetooth 4∵	zaru, iritei Dual E 1 combo adaptei	and wife . Intel vP	eiess-AC 8265, ro technology su	oport. 2x2	Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com																				
Bluetooth™	Some: Bluetooth							, vi vi vi vi vi vi vi vi vi vi vi vi vi																				













ThinkCentre M910x Tiny Platform Specifications

Processor	Intel® Celeron®, In	tel Pentiur	n®. or 6/7th Gene	eration In	tel Core™ i3 / i5 /	' i7 Processor	Ethernet	Gigabit	ethernet. Inte	el Ethernet Connection I219-LM(Jac	ksonville). Wake on LAN®			
	,	Cores /	Frequency		Memory Support		Manageability			nt Technology 11.0 (Intel AMT 11.0);				
	Processor Core i5-6500T		Base/Max(GHz) 2.5G / 3.1G	Cache 6 MB	(Up to) DDR4-2133	Graphics HD 530	Wanageabiiity	Intel vPr	Intel vPro technology on some models (require choosing a vPro-support Wi-Fi adapter to enable vPro function through wireless connection)					
	Core i7-6700T	4/4	2.8G / 3.6G	8 MB	DDR4-2133	HD 530	Security chip	TPM (Trusted Platform Module) 2.0*, TCG Certified * Downgrade to TPM1.2 for the models with Win10 DG Win7 32 OS						
	Core i5-7500T	4/4	2.7G / 3.3G	6 MB	DDR4-2100	HD 630								
	Core i5-7600T	4/4	2.8G / 3.7G	6 MB	DDR4-2400	HD 630	Security features	Security slot (in rear for optional Kensington® MicroSaver® cable) Smort USP protection elleged for the series of the s						
	Core i7-7700T	4/8	2.9G / 3.8G	8 MB	DDR4-2400	HD 630								
	Core i5-6500	4/4	3.2G / 3.6G	6 MB	DDR4-2133	HD 530			 Smart USB protection, allows keyboard/ Boot without keyboard and mou mouse only, blocks all storage devices Individual USB port disablemen 					
	Core i7-6700	4/8	3.4G / 4.0G	8 MB	DDR4-2133	HD 530			Power-on password • Chassis intrusion switch					
	Core i5-7500	4/4	3.4G / 3.8G	6 MB	DDR4-2400	HD 630			nistrator pass					
	Core i5-7600	4/4	3.5G / 4.1G	6 MB	DDR4-2400	HD 630	Keyboard	Some:	Lenovo Calli	ope Keyboard (USB connector), blac	ck .			
	Core i7-7700	4/8	3.6G / 4.2G	8 MB	DDR4-2400	HD 630				itional Keyboard (USB connector), b ope Wireless Keyboard (2.4GHz via				
Memory	32GB max, DDR4	-2400* tv	n 260-pin SO-DI	MM sock	ets non-FCC		Mouse			ope Mouse (USB connector), black	USB receiver), black			
Wichiory	dual-channel capa	ble						Some:	Lenovo Calli	ope Wireless Mouse (2.4GHz via US	SB receiver), black			
	* System automati	ically clock	ks down for the p	rocessor	s with lower mem	ory controller	Mechanical	Tiny (11), black colo	r; metal case	·			
Storage	Some: Hard Drive	e* / SATA (6.0Gb/s, 2.5", 54	00 rpm o	r 7200 rpm, APS]	 Toolle 	ss chassis o	pen				
	Some: Solid State	Drive (S	SD)* / SATA 6.00	ab/s, 2.5"						D, memory removal				
	(* 2.5" HDD/SSD a Some: M.2 SSD (v 4 32Gh/e			nai toolless c nal dust filter	hassis screw				
	RAID 0/1	support (F	AID preset only	available	via special bid m	odel)		Optio	nar adot mitor					
.	Some: Intel Optai	ne™ Mem	ory (models with	7th gen	Core processor),	M.2				Dimensions (WxDxH)	Weight (Approx.)			
Optical	Some: DVD-RON Some: DVD Burn	er (DVD±l	RW), slim (9.0mn	kternal O n), via US	DD box SB external ODD	box		M910 I	iny 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			
Onboard SATA Media reader	One onboard SATA None	4 6.0Gb/s	connector					With VI ODD b	ESA mount & ox	7.42" X 7.30" X 2.48" 188.4mm X 185.38mm X 63mm	3.66 lb (1.66 kg), vary by config			
Graphics	Intel HD Graphics two DisplayPort™.	s 510/530 one optio	/610/630 in proce nal video port (H	essor, us DMI. VG	es main memory, A. 3rd DP. or USE	DirectX [®] 12, 3 3.1 Type-C		With VESA mount 8			3.66 lb (1.66 kg),			
	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;							I/O box 188.4mm X 185.38mm X 66.6mm vary by config						
		920x120	0 (VGA) @60Hz		VESA mount Floor Stand		Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation							
	Some: AMD Rade	eon™ RX 4 ienlavPort	460 , DirectX 12, (35 watts (TDP)	4GB, PC	le 3.0 x8 adapter independent disp	(low profile),	Power supply	ower supply 135 watts AC/DC adapter, autosensing, 88% PSU						
	along with	2 onboard	DisplayPort to	support ι	up to 6 independe	nt displays;	Limited warranty	ted warranty ³ Some: 1-year or 3-year, depot service / service upgrades available						
	Max resolu	ition: 5120)x2880 @60Hz (ι	up to 2 m	ini DisplayPort);		Some: 1-year or 3-year, limited onsite service / service upgra-							
Monitor cable	Optional DP to VG	A, DP to I	Sx2160 @60Hz (ı DVI-D, DP to dua	up to 4 m I DP, min	ini DisplayPort) i DP to DP, or DP	to HDMI 1.4	Preload	Some:	olications (only some					
Chipset	Intel Q270 Chipse	et]	preinstalled through downgrade rights in Windows 10 Pro 64-bit (not available with 7th Gen Intel processor) Some: Windows 10 Pro 64-bit Some: Windows 10 Home 64-bit Island Island) Microsoft Office preloaded; purchase a product key to activate only for Window 10 Lenovo Companion Intel Unite download link						
Front ports*	Two USB 3.1 Gen	1 (one is A	Always On and fa	st charge	e), one microphor	ne (3.5mm),	1							
	one headphone / r	microphon	e combo jack (3.	5mm)										
Rear ports*	Four USB 3.1 Gen													
	USB 3.1 Gen1), effor the models with	n BX 460	oranhics): Port 1	for IVGA	/ 3rd DP / HDMI	/ serial /				(vPro models	s only)			
	USB 3.1 Type-C G	ien 1 (with	DisplayPort Alte	rnate Mo	ode)]; Port 2 for [s	erial]				low 7				
I/O box*	Optional external I	/O box, ex	tends two USB 2	2,0, two l	JSB 3.1 Gen1, ar	nd one serial				Lenovo Solu Lenovo Thiol	tion Center kVantage Tools			
	on rear, two USB 2 * Depending on man									Create Reco				
Audio cupport	High Definition (HI	· ·		, ,			-			 Adobe[®] Rea 	der [®]			
Audio support		, ,				,	-				werDVD Create			
WLAN ¹³		uetooth 4.	2 combo adapter	, 1x1				(DVD±RW) ● Intel Unite (vPro models only)						
	Some: 11ac wirel				QCA6174A (dual	band),	Environment			, EPEAT™ Gold rating (North Ameri	ca),			
	Some: 11ac wirel	ess, M.2 (Sand Wire	eless-AC 3165,			ErP Lot 3, GREENGUARD®, RoHS-compliant, TUV low noise verified (on some models)						
			2 combo adapter		aloce AC OOSE		MIL-SPEC test				udel. High Temperature			
	Some: 11ac wirel Wi-Fi + Bli		zard, intel Dual E 2 combo adapter		51535-AU 0203,		5. 25 1551	t 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, Intel Dual E	and Wire	eless-AC 8265,			Fungus, Solar Radiation)						
Divista sti Tu								Accessories For compatible accessories, please go to http://www.lenovoquio			novoquickpick.com			
Bluetooth™	* Hardware suppo													
	riaiuwaie suppo	113 11 4.2	, but will to moo	unu tall	ici oriiy supports	D1 4.1								





















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	Cache	Memory Support (Up to)		WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band),			
	Celeron G4900	2/2	3.1G	2 MB	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 Some: 11ac wireless, M.2 Card, Intel Dual Band Wireless-AC 8265,			
	Pentium Gold G5400	2/4	3.7G	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	Divistanth	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 Ethernet	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®			
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	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	Security chip	adapter to enable vPro function through wireless connection) Discrete TPM 2.0, TCG Certified			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630		· · · · · · · · · · · · · · · · · · ·			
	Core i7-8700	6/12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630	Security leatures	 Security slot (in rear for optional Kensington® MicroSaver® cable) Power-on password Administrator password 			
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Padlock loop			
	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 Optional chassis intrusion switch Boot without keyboard and mouse Individual USB port disablement 			
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		Optional chassis E-Lock (special bid)			
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		mouse only, blocks all storage devices			
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Calliope Keyboard (USB connector), black			
	Core i7-9700	8/8	3.0G / 4.7G 3.1G / 5.0G	12 MB 16 MB	DDR4-2666 DDR4-2666	UHD 630 UHD 630		Some: Lenovo Traditional Keyboard (USB connector), black			
	Core i9-9900	8/16					_	Some: Lenovo Calliope Wireless Keyboard (2.4GHz via USB receiver), black Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)			
Memory	64GB max, DDR4-26						Mouse	Some: Lenovo Reyboard (F3/2 connector), black (only available via special bit			
Storage	* System automatica Some: Hard Drive / Some: Solid State D Some: M.2 Solid Sta	SATA 6.00 Orive (SSD	Gb/s, 2.5" or 3.5" 0) / SATA 6.0Gb/s	, 5400 rp s, 2.5"	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 ^T Some: DVD-ROM, S Some: DVD Burner	242) PCI Memory SATA 1.50	e NVMe only sup / (not support Ce ab/s Drive, slim (ports PC eleron / P 9.0mm)	Cle 3.0 x 2, 16Gb/ entium 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	6.0Gb/s co	onnectors, RAID			only		 Optional dust filter Bay 1: Slim external ODD bay Bay 2: 3.5", 1" high, internal, HDD/SSD 			
Media reader	Optional 7-in-1 media		,								
Graphics	Intel UHD Graphics one VGA, two Displat discrete graphics to a Max resolution: 4096 Some: NVIDIA Gefo two DisplayPo Max resolution	yPort™, si support m x2304 (Dl rce® GT 7 ort, 35 wa	upports 3 indepe ore displays; P)@60Hz; 2048x '30 , DirectX 12, 2	ndent dis 1536 (V 2GB, PC	splays, works alo 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 intel	dongle, D	P to DVI-D dong	é, DP to	dual DP dongle (for Collage	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 210 watts, autosensing, 85% PSU Some: 260 watts, 85% PSU Some: 260 watt			
Chipset	Intel Q370 Chipset						1 5 - 5 - 1	Some: 260 watts, autosensing, 92% PSU (only available via special bid)			
Front ports* (Std.) 2x USB 3.1 Gen2, 2x 1x microphone (3.5m	(USB 3.1 nm), 1x he	Gen1, 1x USB 3	3.1 Type-	C Gen1 (15W cha	arging), n)	Limited warranty	Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available			
Front ports* (Opt.) Optional: 1x media reader Rear ports* (Std.) 4x USB 3.1 Gen1, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort,							Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit			
1x line-out (3.5mm) Rear ports* (Opt.) Optional: 2x USB 2.0, 2x USB 3.1 Gen1 via PCle x1, 2x USB 3.1 Type-C Gen2 via PCle x4 (special bid only), 1x 2nd serial (9-pin), 4x serial (9-pin) via PCle x1, 1x parallel (25-pin), 2x PS/2 ports (keyboard/mouse), 1x Thunderbolt 3 (combo USB3.1 Type-C Gen 2 / DisplayPort) via PCle 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								ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant			
								For compatible accessories, please go to http://smartfind.lenovo.com			



















ThinkCentre M920 Tiny Platform Specifications

Processor	Intel® Celeron®, Intel F	Pentium®	or 8th / 9th Gen	Intel Co	ore™ i3 / i5 / i7 / i	9 Processor	Bluetooth	Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter				
1 10000001		Cores /	Frequency	M			Ethernet	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®				
	Processor	Threads	Base/Max(GHz)	Cache	(Up to)	Graphics	Ethernet (Opt.)				rnet, 4x RJ-45, PCIe x4	
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Manageability	Intel Active Manager	el Active Management Technology 12 (Intel AMT 12); el vPro technology on some models (require choosing a vPro-support V			
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610		adapter to enable vPro function through wireless connection) Discrete TPM 2.0, TCG Certified		nn)		
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610	Security chip			511)		
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630	Security features	Security slot (in real	Security slot (in rear for optional Boot sequence control		control	
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Kensington® Micro	nsington® MicroSaver® cable) assis intrusion switch • Boot without keyboard and mo Individual USB port disableme			
	Pentium Gold G5420T	2/4	3.2G 3.1G	4 MB 6 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 630						
	Core i3-8100T Core i3-8300T	4/4	3.1G 3.2G	8 MB	DDR4-2400 DDR4-2400	UHD 630		 Power-on password Administrator password Smart USB protection, allows mouse only, blocks all storage 				
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630		 Hard disk passwor 			one an otorage aeriese	
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Keyboard	Some: Lenovo Callie	ope Keyboard (US	B connector), black		
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630		Some: Lenovo Tradi	itional Keyboard (l	JSB connector), bla	ck	
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	Mouse	Some: Lenovo Callie	ope Wireless Keyl	oard (2.4GHz via U	ISB receiver), black	
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630	iviouse	Some: Lenovo Callie	ope Mouse (USB) ernrint Mouse (USB)	connector), black 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	se (2.4GHz via USE	3 receiver), black	
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color	-	,	,,	
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630	IVICCITATIICAI	• Toolless chassis or		l toolless chassis so	crew)	
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630		 Toolless HDD, SSE 	D, mèmory remova		,	
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666	UHD 630		Optional dust filter DE how for LIDE		O vO alat /law profi	la) two M O alata (ana	
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630			ne 2.5" bay for HDD/SSD, one PCIe 3.0 x8 slot (low-profile), two M.2 s or WLAN, one for M.2 SSD), 2.5" HDD/SSD and PCIe card are mutual			
Memory	32GB max, DDR4-266	36* two 2	260-nin SO-DIMI	/ socket	e dual-channal	canable						
	* System automaticall	y clocks o	down for the pro	cessors	with lower memo			Tiny only		ns (WxDxH) 20" X 1.36"	Weight (Approx.) 2.91 lb (1.32 kg),	
Storage	Some: Hard Drive / S				200 rpm				179mm X 182.	9mm X 34.5mm	vary by config	
	Some: Solid State Dr Some: M.2 SSD / PC							With VESA mount &		30" X 2.48"	3.66 lb (1.66 kg),	
	* 128GB SSD M.2 (22	242) PCIe	NVMe only sup	ports PC	Cle 3.0 x 2, 16Gb	o/s		ODD box 188.4mm X 185.38mm X 63mm vary by c				
Optical	Some: Intel Optane™ Some: DVD-ROM, sli Some: DVD Burner (I	m (9.0mr	n), via USB exte	rnal ODI	D box		VESA mount Floor Stand	Optional VESA mount bracket kit, supports VESA 75mm and 100mm Optional system floor stand for vertical orientation		nd 100mm		
Onboard SATA	One onboard SATA 6.	0Gb/s co	nnector	via USD	external ODD t	JOX	Power supply	Some: 65 watts AC/DC adapter, autosensing, 88% PSU				
Graphics	Intel HD Graphics 61 DisplayPort™, one HD	0/630 in	processor, uses	main me	emory, DirectX®	12, one	1	Some: 90 watts AC/	: 90 watts AC/DC adapter, autosensing, 88% PSU : 135 watts AC/DC adapter, autosensing, 88% PSU			
	or USB 3.1 Type-C Ge	en1 with [DisplayPort funct	ion), up	to 3 independen	t displays:	Limited warranty	Some: 1-year or 3-year, depot service / service upgrades av		es available		
	Max resolution: 4096x	2304 (DF	P)@60Hz; 4096x	2304 (Ty	/pe-C)@60Hz;		Limited Warranty	Some: 1-year or 3-year, limited onsite service / service upgrades				
Monitor cable	4096x Optional DP to VGA d		board HDMI)@2 to DVI-D donal				Preload	Preloaded operatin				
	Display with intel integ					(ioi ooilago		Some: Windows® 1 Some: Windows 10				
Chipset	Intel Q370 Chipset						1	Preloaded applicati		isted)		
Front ports (Std.)	*one USB 3.1 Gen1 (A	lways On	and fast charge), one U	SB 3.1 Type-C G	en 1,	1	 Lenovo Vantage 				
. , ,	one microphone (3.5n	nm), one	headphone / mid	rophone	e combo jack (3.	5mm)		Microsoft Office pr				
	* 2x USB 3.1 Gen2, 2x							purchase a productCyberlink PowerD\		Is with DVD / DVD+	RW)	
Rear ports (Opt.)	* Two optional ports (m 2nd HDMI / serial / US	utualiy ex	Clusive with PCI	e card): DP func	PORT I for VGA /	2nd DP /		Cyberlink Power20	GO (only for mode	Is with DVD±RW)	,	
	Optional ports via PC	le card: 2	x USB 3.1 Gen1	via PCI	e x1. 4x serial (9	-pin) via		• LinkedIn		, , , , ,		
	PCle x1, 1x Thunderb	olt 3 (con	nbo USB3.1 Typ	e-C Gen	2 / DisplayPort)	via PCIe x4		Intel Unite (Machine Type 10V8 models only)				
	* Depending on many fac					etical speed	Environment	ENERGY STAR® 7.0				
Audio support	Realtek ALC233VB2			`			MIL-SPEC test	TUV ultra low noise				
WLAN	Some: 11ac wireless, M.2 Card, Realtek RTL8821CE (dual band), Wi-Fi + Bluetooth 4.2 combo adapter, 1x1							MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Short Fungus, Solar Radiation)				
	Some: 11ac wireless	d, Realtek RTL8 ombo adapter, 2	822BE (dual band),		Accessories	For compatible acces	<u> </u>	to http://emartfine	Llonovo com		
	Some: 11ac wireless	, M.2 Car	d, Intel Dual Bar	nd Wirele	ess-AC 3165,		70063201162	i or compatible acces	ssories, piease go	to mup.//smartime	i.ieii0vo.coiii	
	Wi-Fi + Blueto Some: 11ac wireless		ombo adapter, 1		000 AC 9065							
			d, intel Dual Bar ombo adapter, 2		555-AU 0200,							
	Some: 11ac wireless	, M.2 Car	d, Intel Wireless	AC 956								
	Wi-Fi + Blueto	oth 5.0 c	ombo adapter, lı	ntel vPro	technology sup	port, 2x2						





















ThinkCentre M920 Tower Platform Specifications

Processor	Intel® Celeron®, Intel	Pantium®	or 8th /9th Gan	Intel Co	ro™ i3 / i5 / i7 / i0	Processor		USB3.1 Type-C Gen 2 / DisplayPort) via PCIe x4 (available on 09/30/2018),				
F10C62201		Cores /	Frequency		Memory Support			additional RJ-45 and video ports available on optional graphics or ethernet card				
	Processor	Threads	Base/Max(GHz)	Cache	(Up to)	Graphics		* Depending on many factors, actual data transfer speed may be lower than theoretical speed				
	Celeron G4900	2/2	3.1G	2 MB	DDR4-2400	UHD 610	Audio support	High Definition (HD) Audio, Realtek ALC233VB2 / internal speaker (2 watt)				
	Celeron G4920	2/2	3.2G	2 MB	DDR4-2400	UHD 610	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8821CE (dual band), 1x1				
	Celeron G4930	2/2	3.2G	2 MB	DDR4-2400	UHD 610		Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Realtek RTL8822BE (dual band), 2x2				
	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	2/4	3.9G	4 MB	DDR4-2400	UHD 630		Some: Bluetooth 4.2/5.0 wireless, integrated in Wi-Fi + BT combo adapter				
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	Bluetooth™	Gigabit ethernet, Intel Ethernet Connection I219-LM(Jacksonville), Wake on LAN®				
	Pentium Gold G5620	2/4	4.0G	4 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCle x4 Some: Bitland BN8E88, gigabit ethernet, 1x RJ-45, PCle x1 (special bid only)				
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Manageability	Intel Active Management Technology 12 (Intel AMT 12); 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		adapter to enable vPro function through wireless connection)				
	Core i5-8500	6/6	3.0G / 4.1G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified				
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	Security features	Security slot (in rear for optional Power-on password				
	Core i7-8700	6 / 12	3.2G / 4.6G	12 MB	DDR4-2666	UHD 630		Kensington® MicroSaver® cable) • Administrator password				
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630		Padlock loop Hard disk password Optional calls to place to place the 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 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 i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630		 Optional chassis E-Lock (special bid) Smart USB protection, allows keyboard/ 				
	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 Some: Lenovo Keyboard (PS/2 connector), black (only available via special bid)				
Memory	64GB max, DDR4-2666*, four 288-pin DIMM sockets, dual-channel capable * System automatically clocks down for the processors with lower memory controll						Mouse r	Some: Lenovo Calliope Mouse (USB connector), black Some: Lenovo Fingerprint Mouse (USB connector), Windows Hello support, black				
Storage	Some: Hard Drive / Some: Solid State D	rive (SSE) / SATA 6.0Gb/s	s, 2.5"	•			Some: Lenovo Calliope Wireless Mouse (2.4GHz via USB receiver), black Some: Lenovo Mouse (PS/2 connector), black (only available via special b				
	Some: M.2 Solid Sta * SSD M.2 (2242) PC Some: Intel Optane ^T	le NVMe Memory	only supports P	Cle 3.0 x eleron / P	c 2, 16Gb/s Pentium Processo	r), M.2	Mechanical	 Tower (18L), black color, metal case (WxDxH) 6.5" X 12.65" X 16.15"; 165mm X 321.35mm X 410.25mm Approx. 15.45 lb (7 kg), weight may vary by configuration 				
Optical	Optional DVD-ROM	or DVD Bu	urner (DVD±RW)	, SATA 1	.5Gb/s Drive, slin	n (9.0mm)		Toolless cover, disk, optical, extension card removal				
Onboard SATA	Four onboard SATA 6 available via special I			U/ I supp	ort (RAID preset	only		Optional carry handle, dust filter Bay 1: Slim external ODD bay				
Media reader	Optional 7-in-1 media	a reader	,					Bay 2: 5.25", 1.6" high, external, ODD / optional front access HDD				
Graphics	Intel UHD Graphics	610/630	in processor, use	es main r	nemory DirectX®	12.	1	Bay 3: 3.5", 1" high, internal, HDD/SSD				
	one VGA, two Display	yPort™, s	upports 3 indepe					Bay 4: 3.5", 1" high, internal, HDD/SSD (optional bay, bay comes with disk)				
	discrete graphics to s	support m	ore displays;	4500 () (04\050!!			Bay 5: 2.5", internal, HDD/SSD (optional bay) Notes: M920 Tower supports up to 3 SATA devices (ODD/HDD/SSD) and				
	Max resolution: 4096. Some: NVIDIA Gefo					\r		1 eSATA device (front access HDD)				
	two DisplayPo			2GB, FC	ie 2.0 x io auapie	71,		Slot 1: full-length (< 268mm) full-height (< 112mm), PCIe 3.0 x16				
	Max resolutio	n: 3840x2	2160 (DisplayPor	t)@60Hz	7 ;			Slot 2: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x1				
	Some: NVIDIA Gefore	rce GTX	1060 (special bio	l only), D	irectX 12, 6GB, F	PCIe 3.0		Slot 3: full-length (< 268mm) full-height (< 112mm), PCle 3.0 x16 (x4 signal)				
					tts, occupies two			Slot 4: no slot, only bracket for optional port extension M.2 card slots: Two (one for WLAN, one for SSD/Optane)				
	5120x3200 (E	n: 2560x)P)@60H	1600 (DVI-D)@61	JHZ; 409	6x2160 (HDMI)@	60HZ	D					
Monitor Cable	Optional DP to VGA of Display with intel inte	dongle, D	P to DVI-D dong			(for Collage	Power supply	Some: 180 watts, autosensing, 85% PSU Some: 250 watts, autosensing, 85% PSU Some: 400 watts, autosensing, 92% PSU (only available via special bid)				
Chipset	Intel Q370 Chipset						Limited warranty					
Front ports* (Std.	Front ports* (Std.) 2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x USB 3.1 Type-C Gen1 (15W charging),							Some: 1-year or 3-year, limited onsite service / service upgrades available				
Front ports* (Opt.	1x microphone (3.5mm), 1x headphone / microphone combo jack (3.5mm) Front ports* (Opt.) Optional: 1x media reader Rear ports* (Std.) 4x USB 3.1 Gen1, 1x serial (9-pin), 1x ethernet (RJ-45), 1x VGA, 2x DisplayPort,						Preload	Some: Windows® 10 Pro 64-bit Some: Windows 10 Home 64-bit				
	1x line-out (3.5mm)						Environment	ENERGY STAR® 6.1, EPEAT™ Gold rating (North America), ErP Lot 3, TCO, TUV low noise verified (coming soon, on some models), RoHS-compliant				
ricai porto (Opt.	Rear ports* (Opt.) Optional: 2x USB 2.0, 2x USB 3.1 Gen1 via PCIe x1, 2x USB 3.1 Type-C Gen2 v 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						Accessories					



















ThinkCentre M920x Tiny Platform Specifications

Processor	Intel® Celeron®, Intel Pen	tium®. or 8	th / 9th Gen Intel C	Core™ i3	/ i5 / i7 / i9 Process	or		4x Mini DisplayPort, up to 4 indepe	ndent displays, works	along with			
	Processor	Cores /	Frequency	Cache	Memory Support	Integrated	1	onboard DP and HDMI to support u Max resolution: 5120x2880@60F	p to 6 independent di	splays;			
		Threads	Base/Max(GHz)		(Up to)	Graphics	4	4096x2160@60H	Iz ((up to 4 Mini Displ	avPort)			
	Celeron G4900 Celeron G4920	2/2	3.1G 3.2G	2 MB 2 MB	DDR4-2400 DDR4-2400	UHD 610 UHD 610	Monitor cable	Optional DP to VGA dongle, DP to DVI-D do with intel integrated graphics), or DP to HDN	ngle, DP to dual DP o	dongle (for Collage Display			
	Celeron G4930	2/2	3.2G 3.2G	2 MB	DDR4-2400 DDR4-2400	UHD 610	Chipset	Intel Q370 Chipset	11 1.4 dongle, Milli Di	10 DI			
	Celeron G4950	2/2	3.3G	2 MB	DDR4-2400	UHD 610	1∟	•					
	Pentium Gold G5400	2/4	3.7G	4 MB	DDR4-2400	UHD 610	Front ports (Std.)*	one USB 3.1 Gen1 (Always On and fast cha one microphone (3.5mm), one headphone /	rge), one USB 3.1 Typ microphone combo is	pe-C Gen 1, ack (3 5mm)			
	Pentium Gold G5500	2/4	3.8G	4 MB	DDR4-2400	UHD 630	Rear ports (Std.)*	2x USB 3.1 Gen2, 2x USB 3.1 Gen1, 1x eth	ernet (RJ-45), 1x DP,	1x HDMI			
	Pentium Gold G5600	2/4	3.9G	4 MB	DDR4-2400	UHD 630	Rear ports (Opt.)*	Two optional ports (mutually exclusive with F	PCIe card): Port 1 for	VGA / 2nd DP / 2nd HDMI /			
	Pentium Gold G5420	2/4	3.8G	4 MB	DDR4-2400	UHD 610	1	serial / USB 3.1 Type-C Gen 1 with DP funct Optional ports via PCIe card: 2x USB 3.1 Ge	en1 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 USB3.1 Type-C Gen :	2 / DP) via PCIe x4				
	Core i3-8100	4/4	3.6G	6 MB	DDR4-2400	UHD 630	1	* Depending on many factors, actual data tra		· · · · · · · · · · · · · · · · · · ·			
	Core i3-8300	4/4	3.7G	8 MB	DDR4-2400	UHD 630	Audio support	Realtek ALC233VB2 / optional internal spea	ker (1.5 watt or 2 wat	t)			
	Core i5-8400	6/6	2.8G / 4.0G	9 MB	DDR4-2666	UHD 630	WLAN	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Rea					
	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, Res Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Inte	altek RTL8822BE (du	al band), 2x2			
	Core i5-8600	6/6	3.1G / 4.3G	9 MB	DDR4-2666	UHD 630	1	Some: 11ac Wi-Fi + BT 4.2, M.2 Card, Inte					
	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, Inte					
	Core i3-9100	4/4	3.6G / 4.2G	6 MB	DDR4-2400	UHD 630	Bluetooth	Intel vPro technology support, 2x2 Some: Bluetooth 4.2/5.0 wireless, integrate	ed in Wi-Fi + BT comb	no adanter			
	Core i3-9300	4/4	3.7G / 4.3G	8 MB	DDR4-2400	UHD 630	Ethernet	Gigabit ethernet, Intel Ethernet Connection I	219-LM(Jacksonville)	, Wake on LAN®			
	Core i3-9320	4/4	3.7G / 4.4G	8 MB	DDR4-2400	UHD 630	Ethernet (Opt.)	Some: Intel Ethernet Server Adapter I350-7	ne: Intel Ethernet Server Adapter I350-T4, gigabit ethernet, 4x RJ-45, PCIe x4				
	Core i5-9400	6/6	2.9G / 4.1G	9 MB	DDR4-2666	UHD 630	Manageability		e Management Technology 12 (Intel AMT 12);				
	Core i5-9500	6/6	3.0G / 4.4G	9 MB	DDR4-2666	UHD 630		intel vero technology on some models (requal adapter to enable vero function through wire	Boot sequence control Boot without keyboard and mouse Individual USB port disablement Smart USB protection, allows keyboard/ mouse only, blocks all storage devices Boot sequence control Boot without keyboard and mouse Individual USB port disablement Smart USB protection, allows keyboard/ mouse only, blocks all storage devices Boot sequence control Boot without keyboard and mouse Smart USB protection, allows keyboard/ mouse only, blocks all storage devices Boot sequence control Boot without keyboard and mouse Individual USB port disablement Smart USB protection, allows keyboard/ mouse only, blocks all storage devices Boot sequence control				
	Core i5-9600	6/6	3.1G / 4.6G	9 MB	DDR4-2666	UHD 630	Security chip	Discrete TPM 2.0, TCG Certified					
	Celeron G4900T	2/2	2.9G	2 MB	DDR4-2400	UHD 610	Security features	 Security slot (in rear for optional 					
	Celeron G4930T	2/2	3.0G	2 MB	DDR4-2400	UHD 610]	Kensington® MicroSaver® cable) • Chassis intrusion switch					
	Pentium Gold G5400T	2/4	3.1G	4 MB	DDR4-2400	UHD 610]	Power-on password					
	Pentium Gold G5500T	2/4	3.2G	4 MB	DDR4-2400	UHD 630		Administrator password					
	Pentium Gold G5600T	2/4	3.3G	4 MB	DDR4-2400	UHD 630		Hard disk password					
	Pentium Gold G5420T	2/4	3.2G	4 MB	DDR4-2400	UHD 610	Keyboard	Some: Lenovo Calliope Keyboard (USB co					
	Core i3-8100T	4/4	3.1G	6 MB	DDR4-2400	UHD 630	1	Some: Lenovo Calliope Wireless Keyboard					
	Core i3-8300T	4/4	3.2G	8 MB	DDR4-2400	UHD 630	Mouse	Some: Lenovo Calliope Mouse (USB conn					
	Core i5-8400T	6/6	1.7G / 3.3G	9 MB	DDR4-2666	UHD 630	1	Some: Lenovo Fingerprint Mouse (USB co Some: Lenovo Calliope Wireless Mouse (2	nnector), Windows H 2 4GHz via LISB recei	ello support, black ver) black			
	Core i5-8500T	6/6	2.1G / 3.5G	9 MB	DDR4-2666	UHD 630	Machaniaal	<u>'</u>	+ai iz via 00b iccci	ver), black			
	Core i5-8600T	6/6	2.3G / 3.7G	9 MB	DDR4-2666	UHD 630	Mechanical	Tiny (1L), black color; metal case Toolless chassis open (need optional toolle	ess chassis screw)				
	Core i7-8700T	6/12	2.4G / 4.0G	12 MB	DDR4-2666	UHD 630	4	 Toolless HDD, SSD, memory removal 	,				
	Core i3-9100T	4/4	3.1G / 3.7G	6 MB	DDR4-2400	UHD 630	4	 Optional dust filter one 2.5" bay for HDD/SSD, one PCIe 3.0 x8 	clot (low profile) thre	oo M 2 slots (one for WLAN			
	Core i3-9300T	4/4	3.2G / 3.8G	8 MB	DDR4-2400	UHD 630	4	two for M.2 SSD), 2.5" HDD/SSD and PCIe					
	Core i5-9400T	6/6	1.8G / 3.4G	9 MB	DDR4-2666	UHD 630	4	,.	ns (WxDxH)				
	Core i5-9500T	6/6	2.2G / 3.7G	9 MB	DDR4-2666	UHD 630	4		20" X 1.36"	Weight (Approx.)			
	Core i5-9600T	6/6	2.3G / 3.9G	9 MB	DDR4-2666	UHD 630	4		9mm X 34.5mm	2.91 lb (1.32 kg), vary by config			
	Core i7-9700T	8/8	2.0G / 4.3G	12 MB	DDR4-2666 DDR4-2666	UHD 630	4		30" X 2.48"	3.66 lb (1.66 kg),			
	Core i9-9900T	8/16	2.1G / 4.4G	16 MB	DDR4-2666	UHD 630	<u> </u>		5.38mm 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 bracket kit, supports \ Optional system floor stand for vertical orien		mm			
Storage	Some: Hard Drive / SA	TA 6.0Gb/s	, 2.5", 5400 rpm o	r 7200 rp	m		Power supply	· · · · · · · · · · · · · · · · · · ·					
	Some: Solid State Drive Some: M.2 SSD (support	art un tá tw	n M 2 SSD) / PCIe	NVMe	PCIe 3 0 x 4* 32GI	h/s	- '''	135 watts AC/DC adapter, autosensing, 88% PSU Some: 1-year or 3-year, depot service / service upgrades available Some: 1-year or 3-year, limited onsite service / service upgrades available					
	BAID 0/1 suppo	rt (RAID n	reset only available	via sneo	cial hid model)	o, o,	Limited warranty						
	RAID 0/1 support (RAID preset only available via special bid model) * 128GB SSD M.2 (2242) PCle NVMe only supports PCle 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						Preload						
Optical	Some: DVD-ROM, slim	(9.0mm),	via USB external C	DDD box	11 F100e5501), IVI.2		Toload	Preload 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	lim (9.0mm), via U	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	one HDMI, one optional or USB 3.1 Type-C Gen1	video port (with Displ	(2nd HDMI, VGA, 2 ayPort function), up	2nd DP, p to 3 ind	ependent displays;		MIL-SPEC test	MIL-STD-810G military certification (Low Pressure [Altitude], High Temperature, Low Temperature, Temperature Shock, Humidity, Sand and Dust, Vibration, Shock, Fungus,					
	Max resolution:c4096x23 4096x2 Some: AMD Radeon™	216Ò (ońbo	ard HDMI)@24Hz	: 2048x1	536 (VGA)@50Hz		Accessories	Solar Radiation) For compatible accessories, please go to http://smartfind.lenovo.com					













ThinkSmart Hub 500 Platform Specifications

Positioning	Purpose-built Skype Room Systems device	Security chip	TPM (Trusted Platform Module) 2.0, TCG Certified		
Processor	7th Gen Intel Core™ i5 Processor with vPro Processor Cores / Frequency Base/Max(GHz) Cache (Up to) Graphics Core i5-7500T 4 / 4 2.7G / 3.3G 6 MB DDR4-2400 HD 630	Security features	optional Kensington® MicroSaver® cable; • Boot sequence control Kensington lock also locks chassis) • Secure cable management door • Boot without keyboard and mouse • USB port disablement		
Memory	4GBx2, DDR4-2400, two 260-pin SO-DIMM sockets, dual-channel capable	Keyboard Mouse	None None		
Storage	128GB M.2 Solid State Drive (SSD) / PCle NVMe, PCle 3.0 x 4, 32Gb/s	Mechanical	Business black color		
Graphics Display	Intel HD Graphics 630 in processor, uses main memory, DirectX® 12 11.6" (294.64mm) Full HD 1080p (1920x1080) TFT color, wide viewing angle (+/-85°), LED backlight, 300 nits, 16:9 aspect ratio, 800:1 contrast ratio, anti-glare, smudge resistant Supports 10-point touch, OGS		 (WxDxH) 7.60" X 10.98" X 7.02"; 193.25mm X 278.9mm X 178.45mm Approx. 5.51 lb (2.5 kg) Secure Cable Management Door, secures physical ports and prevents cables being accidentally disconnected 360 degree rotatable Display 		
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) adicators 360 degree LED ring on hinge neck, indicates Skype status for all users in the		Limited warranty ³ 3-year, limited onsite service / service upgrades available		
	room; power LED on power button	Preload	Preloaded operating system		
Chipset	Intel Q270 Chipset		Windows® 10 IoT Enterprise CBB X64 (RS3)		
Ports*	Four USB 3.1 Gen1(Type A), two HDMI-out, one HDMI-in (1920x1080@60Hz at maximum), one ethernet (RJ-45), one headphone / microphone combo jack		Preloaded applications Microsoft Skype Room Systems App		
	(3.5mm), one power connector	Certification	Skype for Business Group Certified		
M.2 card slot	* Depending on many factors, actual data transfer speed may be lower than theoretical speed Two M.2 Card slots (one for WLAN, one for SSD)	Environment	ErP Lot 26, GREENGUARD® certified, RoHS, WEEE		
		Accessories	For compatible accessories, please go to http://www.lenovoquickpick.com		
Audio support	Dual 4W speakers, 2 omnidirectional microphones for 360 degree audio capture				
WLAN ¹³	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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ThinkCentre Tiny-in-One (TIO) 22

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

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

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













ThinkCentre Tiny-in-One (TIO) 22 Gen3

Model	Non-touch model: Touch model:	10R1PAR1++/10R1P 10R0PAR1++/10R0P		1
Form factor	Tiny-in-One, offers	a full All-In-One exper	ience when optional Tiny slots into	1
Compatible Tiny:			15 / M93/p* / M83 / M73* / M53 /	
	Chromebox Tiny * Non-TIO models	can't be turned on by p	pressing power button of TIO	ļ
Panel	TFT-LCD, In-Plane	Switching technology	**, White LED backlight	! i
Viewable image size	21.5" (546.1mm) d		A, PLS, and IPS panels	;
Max view area (W x H) Bezel Width	18.74" x 10.54" / 4 Top / Side: 2mm, B	76.1mm x 267.8mm		
Native resolution	1920x1080	Ottom: 22. mm		ľ
Multi-touch Aspect ratio	Optional 10-point n 16:9	nulti-touch, supports V	/ake on Touch	١,
Pixel pitch (mm)	0.24795mm			
Dot/Pixel per Inch Brightness	102.4 dpi 250 nits or cd/m² (t	vnical)		l`
Contrast ratio	1000:1 (typical)	ypicai)		1
Pixel response time Color gamut	14ms (default), ove 72%	er drive to 4ms, 6ms		ľ
Anti-reflective	Anti-glare			
Viewing angle at 10:1 CF		zontal, 178° (+/- 89°) v	ertical	
Preset resolutions	640x350 @ 70Hz 640x480 @ 60Hz,	66Hz 72Hz 75Hz		
	720x400 @ 70Hz			
	800x600 @ 60Hz, 1024x768 @ 60Hz			
	1152x864 @75Hz			
	1280x800 @ 60Hz 1280x1024 @ 60H			
	1366x768 @ 60Hz			
	1440x900 @ 60Hz 1600x1200 @ 60H			
	1680x1050 @ 60H			
Process / user cettings	1920x1080 @ 60H			
Presets / user settings On screen display	On screen display	with digital user contro	le (8 languages)	$\frac{1}{1}$
Control features	Ftont: Exit button Right / Br	n, Left / Mode-switchin ightness button, Enter	g button (TIO / monitor mode), / Menu button, Power button	
Tiny-in-One Power On		p button, Volume dowr n keyboard or pressing	Power button positioned on TIO	
	can turn on both TI	O and Tiny (only some	Tiny support, see compatible list)	
Side ports (TIO)	connected via USE		3 or M53 installed or USB 2.0	
	Notes: The USB p	ort is only available wh	en a Tiny is istalled or a PC is	
Side ports (Tiny)		via USB upstream por by installed Tiny (optio		
Rear ports	One DisplayPort in	port, one USB upstre	am port, one power connector	
3-in-1 Cable			cter, USB [supports USB 3.1 Gen1 ing to Tiny installed (optional)	
Camera	720p camera with	dual microphone for V	DIP, LED indicator	
Internal Speaker	2 watt x2			-
Security	compatible), locks offered by Tiny inst	optional Tiny with TIO	al cable lock (Kensington® lock 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	
				1

)	Mounting features Adjustable stand	Wall or desk mounting using the extend arm or third-party accessories meeting the VESA FPMPMI® (100mm mount) Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; Pivot: clockwise 0° to 90°
	Power supply Power consumption	90 watts AC/DC adapter, 88% PSU, universal 19 watts typical, 32 watts maximum, <0.5 watts standby / suspend
	Limited warranty	3-years, Customer Carry-In or Mail-In via Rapid Replacement Service
	VESA-compliant Ergonomics Emission standards Environmental	VESA DDC2B/CI, VESA DPMS-compliant ISO 9241-307, TUV Eye Comfort certified FCC Class B TCO 7.0, TCO Edge 2.0, WEEE, RoHS, ENERGY STAR® 7.0, EPEAT™ Gold rating, ULE Gold, TUV, VOC
	Windows certifications	Windows 7 and Windows 10 certified
	Ship group	TIO (Monitor), detachable stand, AC/DC power adapter, power cord, 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 M910 / M710 / M900 / M700 /		M93/p Tiny,	Chromebox
	M600 / M715 / M83 / M53 Tiny	M73 Tiny	
Turn on TIO and			
Tiny together via	iny together via All models		Not support
Alt + P on USB KB			
Turn on TIO and			
Tiny together via	All models	TIO models	All models
TIO Power Button			













ThinkCentre Tiny-in-One (TIO) 24

Model	10LLPAR6++ / 10L	LPAT6++	
Form factor		a full All-In-One experience clean cabling and effortle	e when optional Tiny slots into
Compatible Tiny:		•	y*, M83 Tiny, M73 Tiny*, or
	M53 Tiny, Chromet		oing power button of TIO 24
Panel		Switching (IPS), White LE	sing power button of TIO 24
Viewable image size	23.8" (604.7mm) di	agonal	D backlight
Max view area (W x H) Bezel Width	21.06" x 12.32" / 53 Top / Side: 2mm, B	35.0mm x 313.0mm ottom: 16.3mm	
Optimum resolution	1920x1080		
Aspect ratio Pixel pitch (mm)	16:9 0.2745mm		
Dot/Pixel per Inch Brightness	92.6 dpi 250 nits or cd/m ² (t	vnical)	
Contrast ratio	1000:1 (typical)	ypicai)	
Pixel response time Color gamut	7ms 72%		
Anti-reflective	Anti-glare		-1
		ontal, 178° (+/- 89°) vertic	al
Preset resolutions	640x350 @ 70Hz 640x480 @ 60Hz,	66Hz, 72Hz, 75Hz	
	720x400 @ 70Hz 800x600 @ 60Hz,	79Hz 75Hz	
	1024x768 @ 60Hz		
	1152x864 @75Hz 1280x800 @ 60Hz		
	1280x1024 @ 60H	z, 72Hz, 75Hz	
	1366x768 @ 60Hz 1440x900 @ 60Hz	, 75Hz	
	1600x1200 @ 60H: 1680x1050 @ 60H		
5	1920x1080 @ 60H	z	
Presets / user settings	Presets: 25; user se	ettings: 25 with digital user controls (8) languages)
On screen display Control features	Mode-switching (TI	O mode / standalone mon	itor mode, switches video /
		sources) / Back button, Lef Selection button / Menu bu	
Tiny-in-One Power On	Pressing Alt + P or	keyboard or pressing Pov	ver button positioned on TIO
Front ports	Two USB 3.0 or two	O and Tiny (only some Tin o USB 2.0 (when M73 or N	y support, see compatible list) 153 installed or USB 2.0
•	connected via USB		lphone / microphone combo
	jack (3.5mm) * The USB ports ar	e only available when a Ti	ny is istalled or a PC is
Side ports	connected via USE Side ports offered I	supstream port by installed Tiny (optional)	
Rear ports	One DisplayPort 1.	2 port, one USB upstream	port, one power connector
3-in-1 Cable			USB 3.0 [supports USB 3.0/ ig to Tiny installed (optional)
Internal Speaker	1.5 watt x1	,, : , ::: :::::::::::::::::::::::::::	
Security			able lock (Kensington® lock ogether, more security features
	offered by Tiny inst		ogothor, more eccurity reatures
Mechanical	Dimensions	TIO 24 without stand	TIO 24 with stand
	W x D x H (inch)	21.24 x 2.7 x 13.64	21.24 x 9.90 x 15.16 - 19.46
	W x D x H (mm)	539.6 x 68.2 x 346.45	539.6 x 251.4 x 385.08 - 495.08
	Weight (approximately)	12.25 lb /5.5	7 kg (with stand)
		l	

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

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













ThinkCentre Tiny-in-One (TIO) 24 Gen3

Model	Non-touch model: Touch model:	10QYPAR1++/10QYPA 10QXPAR1++/10QXPA	_ ′
Form factor	Tiny-in-One, offers		ence when optional Tiny slots into
Competible Tipy:		ean cabling and effortles	
Compatible Tiny:	Chromebox Tiny)U / IVI / UU / IVI 6 UU / IVI / I :	5 / M93/p* / M83 / M73* / M53 /
		can't be turned on by pr	essing power button of TIO
Panel	TFT-LCD, In-Plane	Switching technology**	, White LED backlight
Viousble image size		vitching may refer to VA	, PLS, and IPS panels
Viewable image size Max view area (W x H)	23.8" (604.7mm) di 21.06" x 12.32" / 53	35.0mm x 313.0mm	
Bezel Width `	Top / Side: 2mm, B		
Native resolution Multi-touch	1920x1080	aulti tauch, cupporte Wa	ko an Tauah
Aspect ratio	16:9	nulti-touch, supports Wa	ike off fodelf
Pixel pitch (mm)	0.2745mm		
Dot/Pixel per Inch Brightness	92.6 dpi	vnical)	
Contrast ratio	250 nits or cd/m ² (t 1000:1 (typical)	ypicai)	
Pixel response time	14ms (default), ove	er drive to 4ms, 6ms	
Color gamut Anti-reflective	72%		
Viewing angle at 10:1 CF	Anti-glare R178° (+/- 89°) horiz	ontal. 178° (+/- 89°) ver	tical
Preset resolutions	640x350 @ 70Hz	, , ,	
	640x480 @ 60Hz,	67Hz, 72Hz, 75Hz	
	720x400 @ 70Hz 800x600 @ 60Hz,	70Hz 75Hz	
	1024x768 @ 60Hz		
	1152x864 @75Hz		
	1280x800 @ 60Hz 1280x1024 @ 60H		
	1366x768 @ 60Hz		
	1440x900 @ 60Hz		
	1600x1200 @ 60H: 1680x1050 @ 60H		
	1920x1080 @ 60H		
Presets / user settings	Presets: 25; user se	ettings: 25	
On screen display		with digital user controls	
Control features			button (TIO / monitor mode), Menu button, Power button
	Bottom: Volume u	ip button, Volume down	button
Tiny-in-One Power On	Pressing Alt + P or	keyboard or pressing F	Power button positioned on TIO
Side ports (TIO)			Finy support, see compatible list) or M53 installed or USB 2.0
Gido porto (110)	connected via USE		or Mod motalled or GGB 2.0
			n a Tiny is istalled or a PC is
Side ports (Tiny)		via USB upstream port by installed Tiny (optiona	al)
Rear ports	One DisplayPort in	port, one USB upstrear	n port, one power connector
3-in-1 Cable			er, USB [supports USB 3.1 Gen1
Camera		dual microphone for VC	g to Tiny installed (optional) DIP. LED indicator
Internal Speaker	2 watt x2		,
Security	Security keyhole fo	r attachment of optional	cable lock (Kensington® lock
	compatible), locks offered by Tiny inst		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
		-	

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

ThinkCentre Tiny-in-One 24 Gen3 Compatible list							
Model	M910 / M710 / M900 / M700 /	M93/p Tiny,	Chromebox				
	M600 / M715 / M83 / M53 Tiny	M73 Tiny					
Turn on TIO and							
Tiny together via	All models	All models	Not support				
Alt + P on USB KB							
Turn on TIO and							
Tiny together via	All models	TIO models	All models				
TIO Power Button							













ThinkCentre Tiny-in-One (TIO) 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	Mech	nanical		TIO without	t stand	TI	O with stand	
Compatible Tiny:	ThinkCentre Tiny, ThinkCentre Nano, and ThinkStaion Tiny			Dimensions	614 0 4 72 00) v /12 1	6140 × 20	9.0 x 444.25 - 554.25	
Panel	TFT-LCD, In-Plane Switching technology**, White LED backlight **Notes: In-Plane Switching may refer to IPS, PLS, ADS, AHVA, and AA			(W x D x H mm / inch)	614.0 x 73.89 / 24.17 x 2.91			12.95 x 17.49 - 21.82	
Viewable image size Max view area (W x H)	27" (685.8mm) diagonal 23.49" x 13.22" / 596.7mm x 335.7mm			Weight (Approx.)	4.91 kg / 10	0.82 lb	7.9	5 kg / 17.53 lb	
Bezel Width Native resolution Multi-touch	Top / Side: 2mm, Bottom: 23.3mm 2560x1440		nting features	Wall or desk moun meeting the VESA	FPMPMĬ® (10	extend ar 0mm mo	m or third-p unt)	party accessories	
Aspect ratio Pixel pitch (mm) Dot/Pixel per Inch	None 16:9 0.2331mm 109 dpi	Aujus	stable stand	Tilt: 35° back, - lift: 4.3" (110m swivel: +/-45°; Pivot: clockwise -	ım);				
Brightness Contrast ratio Pixel response time	350 nits or cd/m² (typical) 1000:1 (typical) 14ms (default), over drive to 4ms, 6ms		er supply er consumption	170 watts adapter, 37 watts typical, 57			watts stand	by / suspend	
Color gamut Anti-glare	99% sÀGB Yes (25%)	Limit	ed warranty	3-years , Product E Service (EMEA)	Exchange Serv	vice (US a	and EMEA)	or Customer Carry-In	
	R178° (+/- 89°) horizontal, 178° (+/- 89°) vertical		A-compliant	VESA DDC/CI, VE	SA DPMS-cor	npliant			
Preset resolutions	640x350 @ 70Hz 640x480 @ 60Hz, 66Hz, 72Hz, 75Hz 720x400 @ 70Hz 800x600 @ 60Hz 72Hz, 75Hz	Emis	nomics sion standards ronmental	ISO 9241-307, TU FCC Class B TCO 8.0, TCO Edd	ge 2.0, WEEE,	RoHS, E	NERGY ST	AR® 7.0,	
	1152x864 @75Hz 1280x768 @ 60Hz 1280x800 @ 60Hz 1280x1024 @ 60Hz, 72Hz, 75Hz		lows certifications		EPEAT™ Bronze rating, ULE Gold, TUV, VOC Windows 7 and Windows 10 certified				
			Ship group TIO 27 (Monitor), detachable stand, power adapter, power cord, reand driver CD						
			Accessories For compatible accessories, please go to http://smartfind.lenovo.com						
	1366x768 @ 60Hz 1440x900 @ 60Hz, 75Hz 1600x1200 @ 60Hz, 70Hz, 75Hz			ThinkContro Tiny	in One 27 Co	mnatible	Matrix		
	1680x1050 @ 60Hz	M	lodel	ThinkCentre Tiny-in-One 27 Compatible Matrix P320 / P330 / M920(x) / M720 / M93/p Tiny, Chromebox					
	1920x1080 @ 60Hz 2560x1440 @ 60Hz			M910(x) / M710 / M9	· /		3 Tiny		
Presets / user settings	Presets: 27; user settings: 25] _		M600 / M715 / M8	3 / M53 Tiny				
On screen display Control features	On screen display with digital user controls (8 languages) Ftont: Exit button, Left / Mode-switching button (TIO / monitor mode), Right / Brightness button, Enter / Menu button, Power button	Ti	urn on TIO and iny together via It + P on USB KB	All mode	els	All r	models	Not support	
Tiny-in-One Power On	Bottom: Volume up button, Volume down button Pressing Alt + P on keyboard or pressing Power button positioned on TIO can turn on both TIO and Tiny (only some support, see Compatible Matrix)	Ti	urn on TIO and iny together via	All mode	els	TIO	models	All models	
Side ports (TIO)	Two USB 3.1 Gen1 (downgrade to USB 2.0 when installing M73 or M53 or connecting USB 2.0 via USB upstream port), one headphone / microphone	TI	O Power Button						
	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 (Tiny) Rear ports	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								
3-in-1 Cable	Undetachable 3-in-1 cable, connecting to the power connecter, one USB, and one DisplayPort of the installed Tiny (optional)								
Camera	RGBIR camera with dual microphone, supports Window Hello and Facial Recognition, Think Shutter for Privacy Security, LED indicator								
Internal Speaker	2 watt x2								
Security	Security keyhole for attachment of optional cable lock (Kensington® lock compatible), locks optional Tiny with TIO together, more security features offered by Tiny installed (optional)								
								Lenovo, Feb 2019	

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

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

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

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

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

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

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U.S. EMEA

Summary of Changes

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

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









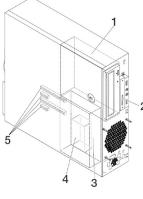




ThinkStation	P320	SFF	Platform	Specifications
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Components	Specification	•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.0.00			
Chipset	Intel C236 Chipset						
Intel AMT	Intel Active Manag	ement	Technolo	gy 11 on her mode	Xeon models, ls		
	One Intel "Kabylak "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 connectors (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 2.5" SATA SSD (6Gbs M.2 NVMe SSD, via P adapter) 2 Cle 2	56GB Opal	/512GB/512 /512GB Opa	d/2TB hybrid GB Opal/1TB Opal/2TB opal al/1TB Opal, via PCIe 3.0 x4 adapter, ne Memory, PCIe 3.0 x2	up	
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	marit				

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	 Raven black color; metal case 4.02"W x 15.53"D x 13.31"H 102mm W x 394.5mm D x 338mm H 17.2 lb (7.9kg) max configuration 12.9-liter
Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ ENERGY STAR 6.1 qualified
Limited warranty	1 or 3-year limited onsite service with 9x5/NBD. Some parts are Customer Replaceable Units.
ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>



Drive Bays and PCIe Slots

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





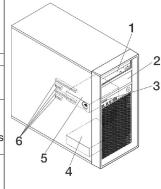






ThinkStation P32	20 Tower Platf	orm	Specif	fication	าร			
Components	Specification							
Chipset	Intel C236 Chipset							
Intel AMT	Intel Active Manage Intel Standard Man							
	One Intel "Kaby Lake" or "Skylake" processor as listed: "Kaby Lake"							
Processor	Xeon E3-1280 v6 Xeon E3-1275 v6 Xeon 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 i5-7500 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 ;/3.5GHz/8 ;/3.3GHz/8 ;/3.3GHz/8 ;/3.6GHz/8 ;/3.5GHz/6 ;/3.5GHz/6 ;/3.6GHz/6 ;/3.6GHz/6 ;/3.6GHz/6 ;/3.6GHz/6 ;/3.6GHz/6 ;/3.6GHz/6 ;/3.6GHz/6 ;/4.6Hz/6 ;/4.6Hz/4	MB/72W/D MB/73W/D MB/73W/D MB/73W/D MB/72W/D MB/72W/DD MB/91W/D MB/65W/D MB/65W/D MB/65W/D MB/65W/D MB/65W/D MB/65W/D MB/51W/DD	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 DR4-2400 DR4-2400			
	"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 4C	i/3.5GHz/8 i/3.4GHz/8 i/3.3GHz/8 i/3.4GHz/8 i/3.4GHz/8 i/3.2GHz/6 i/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					y controller in processor)			
Memory type/capacity					R4-2400. UDIMM. "Skylal i7 and i5 processors can			
Intel HD Graphics in processor	in Xeon E3-12x5 ve processors. or Intel	6 proce HD 6 ics to	essors, o 30 in Cor	r Intel HD e i7, i5, or	75 processors, or Intel HD 530 in Core i7, i5, or i3 6 r i3 7000 processors. Wor ay, enables three display o	000 ks along		
	Two PCI Express 3 Up to two Quadro I Or up to two Quads Supports the follow	.0 x16 P1000 ro P20 ring N	on 250 w 00, or up /IDIA gra	vatts mode to one Qu phics ada	els. uadro P4000 on 400 watt pters:	s models.		
	Adapter	Cores		Power	Connector			
	NVS 310 NVS 315	48	1GB 1GB	19.5W 19.5W	2xDP 2xDVI-I SL/2xDP	-		
Discrete graphics	NVS 510	192	2GB	33.4W	4xmini DP	-		
	NVS 810	1024	4GB	68W	8xmini DP	1		
	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,		is one		
Drive Bays		tical pl	us 4 x 3.5	5" disk dri	ve bays plus two M.2 NVI	Me SSD		
Supporting disk drives	3.5" SATA HDD (7.2K 6 2.5" SATA SSD (6Gbs) M.2 NVMe SSD, via PO adapter	2 Cle 2	56GB Opal 56GB Opal	/512GB/512 /512GB Opa	d/2TB hybrid PGB 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	' HDD:	s) plus 2T	B (2 x 1T	B) M.2 NVMe SSD			
Media reader	\				ider on selected models			
IVICUIA IEAUEI	Janie i Calu leadel.	Optioi	iai 23-111-	i caiu iea	ider on selected models			

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	 Raven black color; metal case 6.89"W x 16.77"D x 14.8"H 175mm W x 426mm D x 376mm H 28.66 lb (13kg) max configuration 25-liter
Environmental certifications	GREENGUARD certified/RoHS-compliant/EPEAT Gold rating/ ENERGY STAR 6.1 qualified
Limited warranty	1 or 3-year limited onsite service with 9x5/NBD. Some parts are Customer Replaceable Units.
ISV certifications	Please visit <u>www.thinkworkstations.com/isv-certifications/</u>



Drive Bays and PCIe Slots

Bay 1 and 5.25", support one of the following: HH optical/flex module/9mm optical 3.5" HDD bay/Front Access Storag	al+3.5" HDD bay/ ge Enclosure (FASE)						
	llowing: 9mm ontical/						
29-in-1 reader/front IEEE 1394/front eSATA.	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.							
Bay 3 Optional 9-in-1 single slot reader							
Bay 4 Standard 3.5" HDD bay							
Bay 5 Standard 3.5" HDD bay							
Four PCIe slots (top-down):							
Slot 1: Half length, full height, PCIe							
Slot 2: Half length, full height, PCIe	3.0 x1						
Slot 3: Half length, full height, PCIe	3.0 x16 (x4 elec)						
6 -Slots Slot 4: Half length, full height, PCIe	3.0 x1 `						
Note: 1. Both discrete graphics adapter and M.2 NV	Me SSD should be installed						
on slot 1 or slot 3, the maximum quantity of c	discrete graphics adapter						
2. When two discrete graphics adapters are us	sed, no other PCIe card can						









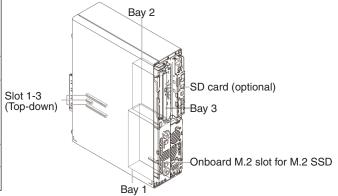


ThinkStation P330 SFF Platform Specifications

Components	Specification									
Machine Type	MT 30C7 for Trail For configuration	nsaction	onal model an	d MT 30	C8 for Relations	hip mod	el.			
Machine Type	http://psref.lenov	o com	/Product/Thin	kStation	/ThinkStation P	71511. 330 SFI	=			
Form factor	8.4L mini-tower	0.00111	71 10000 111111	notation.	"TITITIO COLOTI_T	000_0				
Dimensions	Height: 343.5 mr	n (13.	5 in). Width: 9	2.5 mm	(3.6 in), Depth: 3	05.6 mr	n (12 in)			
Weight	Maximum config				(0.0) 0p 0					
	Up to one Intel X	eon E	-2100 family	orocess	or, up to 80W, up	to 6 cor	es at 3.7GHz,			
Processor	up to 3.8GHz wit Or up to one 8th 3.2GHz, up to 3. speed.	p to 3.8GHz with 4 cores, up to 12MB cache, DDR4-2666 memory speed. For up to one 8th Intel Core family processor, i7, i5, or i3, up to 65W, up to 6 cores at 2.2GHz, up to 3.7GHz with 4 cores, up to 12MB cache, up to DDR4-2666 memory peed. For up to one Intel Pentium G5400 via Special Bids, 58W, 2 cores at 3.7GHz, 4MB								
Chipset	Intel C246 Chips		anory speed							
Memory	4 DIMM sockets. memory types ca	DDR			and non-ECC a	re suppo	orted, but			
Memory capacity	Up to 64GB with				on-ECC					
Memory protection	ECC with ECC L					pport E0	CC UDIMM			
	Three PCIe 3.0 s									
	Slot 1 PCIe 3.0 x	(16. lo	w profile. links	s to CPI	J					
Expansion slots		Slot 1 PCIe 3.0 x16, low profile, links to CPU Slot 2 PCIe 3.0 x1, low profile, links to PCH								
	Slot 3 PCIe 3.0 x16 (negotiable link width x4), low profile, links to PCH									
Graphics - Processor graphics	Graphics 630 in Gold G5400. Works along with	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD Graphics 630 in Core i7, i5, or i3 processors, or Intel UHD Graphics 610 in Pentium Gold G5400. Works along with discrete graphics to support multi-display, enables three display connectors (2x DP, 1x HDMI. HDMI is optional) on rear								
	the following gra			rete gra	phics adapter (S	lot 1 and	d 3). Supports			
Graphics - Discrete		Cores		Power	Connectors	Max qty]			
graphics card	Quadro P400 Quadro P620	256 512	2GB GDDR5		3x miniDP 4x miniDP	2				
	Quadro P1000	640			4x miniDP	2				
Storage controllers	Integrated Intel S	SATA A	HCI/RAID co	ntroller	in chipset, 6Gbp	s SATA,	RAID 0/1.			
	Up to 3 bays with	n two	disk bays and	one slir	n optical bay:					
Internal storage	Bay 1 Primary 3	.5" SA	TA bay							
bay	Bay 2 2.5" SATA		,							
	Bay 3 9mm Slim	ODD	bay							
Disks	3.5" HDD suppor 2.5" SSD suppor	ts up	to 1TB each,	6Gbps 9	SATA					
M.2 slot for SSD	Up to 3x M.2 SS adapters. PCIe to Supports RAID Conboard M.2 slot Up to one Optan	2.5" SSD supports up to 1TB each, 6Gbps SATA Up to 3x M.2 SSD with one dedicated onboard M.2 slot plus two PCIe to M.2 adapters. PCIe to M.2 adapter uses slot 1 or 3. Supports RAID 0/1 with PCH, When used as RAID, M.2 SSD should be installed in onboard M.2 slot and slot 3. Up to one Optane memory per system; Optane memory must work with a HDD or SSD; Optane memory cannot supported on Pentium G5400 models								
M.2 SSD	M.2 SSD suppor	ts up	to 1TB each,	PCIe 3.0		l.				
M.2 slot for Wi-Fi and Bluetooth	One dedicated o 2.4GHz/5GHz (1	nboar 60MH	d M.2 slot for z channels),	optional 302.11a	Intel Wireless-A c, Bluetooth 5, u	C 9560, o to 1.73	2x2, Gbps			

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

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











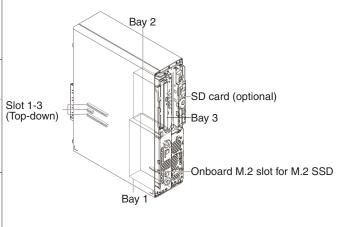


ThinkStation P330 SFF Gen 2 (30D1 and 30D2) Platform Specifications

minkStation			עטט)	ıaıı	iu 50	DZ) I	iatioi	iii Speci	IIICations
Components	Specification								
Form factor	8.4L mini-towe	er							
Dimensions	Height: 343.5	mm (13.	5 in). Wid	dth: 9	2.5 mm	(3.6 ir	n). Depth:	305.6 mm	(12 in)
Weight	Maximum con	figuratior	n: 13.23 l	b (6.0	Okg)				
Processor	Supports one of the following processor:								
Chipset	Intel C246 Ch		620 2C/2	11/4.0	JGHZ/4	IVIB/54	W/DDR4	-2400	
Memory Sockets	4 DIMM socket		hannels						
Memory Types	8GB/16GB DD			ECC o	or 4GB/	3GB/16	GB DDR4	1-2666 UDIN	/M non-ECC
Memory Capacity	64B with 4 x 16								
Memory Protection	ECC on model								
, , , , , , , , , , , , , , , , , , , ,	Three PCIe 3.								
Expansion slots	Slot 1 PCIe 3.0 x16, low profile, links to CPU								
	Slot 2 PCIe 3.0 x1, low profile, links to PCH Slot 3 PCIe 3.0 x16 (negotiable link width x4), low profile, links to PCH								
Processor graphics	Integrated Inte Graphics 630 Works along w display conne	el UHD G in Core i vith discr ctors (2 I	iraphics 5 or i3 pr ete grap DP stand	P630 roces hics t lard,	in -G s sors. o supp 1 DP o	ort mul	eon proc lti-display optional)	essors, or li , enables th)	ntel UHD ree rear
	Up to two PCI the following of	e 3.0 x16 raphics	S slots fo adapters	r disc :	rete gr	aphics	adapter ((Slot 1 and	3). Supports
Discrete graphics	Adapter	Cores			Power		nnectors	Max qty	
card	Quadro P400	256	2GB GE		30W		miniDP	2	
	Quadro P620 Quadro P1000	512 640	2GB GE		40W 47W		miniDP miniDP	2	
	Storage Contro		TOD GE	Type	 			k Type	RAID
Storage Controller	Onboard Intel		A RAID	Std		6Gb/s		or SSD	0/1
otorago controllor	Onboard Intel			Std		NVMe		Cle SSD	0/1
				PM					x Qty
	Disk Type 3.5" SATA HDI		face RF 6Gb/s 7.2			Offering 3/2TB/4			t Qiy
	2.5" SATA HDI		6Gb/s 7.2			GB FI			2
Storage Support	2.5" SATA SSE			\		3/512G			2
	Optane Memo M.2 PCIe SSD					32GB 3/512G			h HDD/SSD 3
	Up to 3 bays v			and					
						optil	Jai Day.		
Storago hoy		Primary 3							
Storage bay		2.5" SATA			ai)				
		mm Slin			0	01- :	140.1.		
	M.2 3x M.2 SSD (1 onboard, 2 via PCIe to M.2 adapter)								

	Components	Specification						
-	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						
\dashv	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 LISP 2.1 Con 1 Type A 2x LISP 2.1 Con 2 Type A 1x LISP 2.1 Con 1						
	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: 41 °F to 104 °F (10 °C to 35 °C) Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C) Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)						
	Altitude	Operating: -15.2 m (-50 ft) to 3048 m (10 000 ft). Storage: -15.2 m (-50 ft) to 10, 668 m (35 000 ft)						
	Humidity	Operating: 30%~90%, non-condensing Storage (with package): 20%~90%, non-condensing						
		RoHS-compliant. GREENGUARD. EPEAT Gold rating and ENERGY STAR 7 qualified						
	Power supply	Supports one 210W or 260W power supply. 210W is 100V - 240V, 85% PSU, Climate Savers Computing Bronze and 80 PLUS Bronze qualified. 260W is 100V - 240V, 92% PSU, Climate Savers Computing Platinum and 80 PLUS Platinum qualified						
	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/						
	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

-	-						
Components	Specification						
Machine Type	MT 30CF for Transactional model and MT 30CE for Relationship model. For configuration of all 30CF EMEA and US models, please visit: http://psref.lenovo.com/Product/ThinkStation/ThinkStation_P330_Tiny						
Form factor	1L. Optional VESA mount bracket kit, supports VESA 75mm and 100mm. Optional floor stand for vertical orientation. Optional tool-less chassis open. Optional dust filter						
Dimensions	Height: 179 mm (7.0 in). Width: 36.5 mm (1.437 in). Depth: 182.9 mm (7.2 in)						
Weight	Maximum configuration: 3.08 lb (1.4kg)						
Supported TIO monitors	Tiny-in-One 23 (MT: 10DQ). Tiny-in-One 22 (MT: 10LK). Tiny-in-One 24 (MT: 10LL). Tiny-in-One22 Gen3 (MT: 10R1). Tiny-in-One22 Gen3 Touch (MT: 10R0). Tiny-in-One24 Gen3 (MT: 10QY). Tiny-in-One24 Gen3 Touch (MT: 10QX).						
Processor	Up to one Intel Core family processor, i7, i5, or i3. Core i7 supports 65W or 35W, 6 cores, up to 3.2GHz, 12MB cache, DDR4-2666 memory speed. Core i5 supports 65W or 35W, 6 cores, up to 3.1GHz, 9MB cache, DDR4-2666 memory speed. Core i3 supports 65W, 62W, or 35W, 4 cores, up to 3.7GHz, 6MB or 8MB cache, DDR4-2400 memory speed.						
Chipset	Intel Q370 Chipset						
Memory	2 DIMM sockets. DDR4-2666. SoDIMM. Non-ECC						
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						
Graphics	65W or 62W processor models supports processor graphics only. 35W processor models come with processor graphics plus a discrete graphics adapter						
Graphics - Processor graphics	Integrated Intel UHD Graphics 630. Works along with discrete graphics to support multi-display						
	One of the following discrete graphics cards on 35W processor models:						
Graphics - Discrete graphics card	Adapter Cores Memory Power Connectors Quadro P620 512 2GB GDDR5 40W 4x miniDP Quadro P1000 640 4GB GDDR5 47W 4x miniDP						
Storage controllers	Integrated Intel SATA AHCI controller in chipset, 6Gbps SATA, one onboard SATA port for 2.5" HDD						
Internal storage bay	Up to one 2.5" HDD						
Disks	2.5" HDD supports up to 1TB, 6Gbps SATA, 7.2K or 5.4K						
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						
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						
Optane memory	Up to one 16GB Optane memory per system. Optane memory must work with a 2.5" HDD One dedicated M.2 2230 slot for optional Wi-Fi card, supports one of the following:						
M.2 slot for Wi-Fi and Bluetooth	Intel Wireless-AC 9560, 2x2, 2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps. Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to 867Mbps. Note: Wi-Fi card, or specific functions of Wi-Fi- card may not be supported in some countries						
Wi-Fi antenna	Optional Tiny 2.4GHz/5GHz SMA antenna kit						
Optical	Optional one 9.0mm optical drive via optical drive kit, DVD-ROM or DVD±RW. VESA mount is required						
Media reader	None. Using USB adapter						
Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake- on-LAN. Optional Intel i350-T4 for 4x GbE ports, using PCIe slot						
Security features	Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant. Chassis intrusion switch. Optional Kensington lock						

Intel vPro Technology Supports vPro on models with the following processors: Core i7-8700T, i7-8700, Core i5-8600T, Core i5-8600, Core i5-8500T, Core i5-85	S
management Intel Standard Manageability on other models 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 standard ports 1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic	
HD Audio Intel HD Audio interface with Realtek ALC233 Codec Front standard ports 1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic	
Front standard ports 1x USB 3.1 Gen 1 Type A (charging). 1x USB 3.1 Gen 1 Type-C. 1x Mic	-in. 1x
	-in. 1x
Combo jack	
Rear standard ports 2x USB 3.1 Gen 2 Type A. 2x USB 3.1 Gen 1 Type-A. 1x RJ-45. 1x DP. 1x HDMI	
Up to two optional rear ports via punch out cable. Port 1 supports one of the following: 1x USB 3.1 Gen 1 Type-C, also supports DP function. 1x COM. 1x VGA. 1x DP. 1x HDMI. Port 2 supports one COM	
Optional rear ports - via PCle adapter Via PCle adapter Via PCle adapter Via PCle adapter Via PCle adapter Via PCle adapter Via PCle adapter Via PCle adapter Via PCle Adapter Via PCle Adapter Via PCle Adapter Via PCle Adapter Via PCle Adapter Via PCle Adapter Via PCle Adapter Via PCle Via Via PCle Via Via Via Via Via Via Via Via Via Via	
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 RoHS-compliant. GREENGUARD. EPEAT Gold rating and ENERGY ST qualified	AR 7
Power supply Supports one 135W power adaper, 100V - 240V, 88% PSU	
ISV certifications Please visit <u>www.thinkworkstations.com/isv-certifications/</u>	











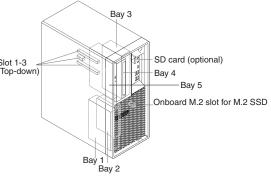


ThinkStation P330 Tower Platform Specifications

Components	Specification						C	
Machine Type	MT 30C5 for Transactional model and MT 30C6 for Relationship model. For configuration of all 30C5 EMEA and US models, please visit: http://psref.lenovo.com/Product/ThinkStation/ThinkStation_P330_Tower						M	
Form factor	18L Tower							
Dimensions	Height: 376 mm (14.	8 in).	Width: 165 mn	n (6.5	in). Depth: 328 mm (12.9 in)			
Weight	Maximum configuration: 23.4 lb (10.6kg)							
Processor	Up to one Intel Xeon E family processor, up to 95W, up to 6 cores at 3.8GHz, up to 12MB cache, up to DDR4-2666 memory speed. Or up to one 8th Intel Core family processor, i7, i5, or i3, up to 95W, up to 6 cores at 3.7GHz, up to 12MB cache, up to DDR4-2666 memory speed. Or up to one Intel Pentium Gold G5400 via Special Bids, 54W, 2 cores at 3.7GHz, 4MB cache, DDR4-2400 memory speed							
Chipset	Intel C246 Chipset		<u> </u>				⊩	
Memory	4 DIMM sockets. DD memory types cannot	R4-26 ot be i	66. UDIMM. E ntermixed	CC ar	nd non-ECC are supported, I	but	S	
Memory capacity	Up to 64GB with 4x	16GB	, both ECC an	d non-	ECC		lln	
Memory protection	ECC with ECC UDIN			rocess	sors cannot support ECC UE	MMIC	In	
Companyaion alaka	Slot 1 PCle 3.0 x16,	full he	eight, half leng	th, link	s to CPU		В	
Expansion slots	Slot 2 PCle 3.0 x1, f	ull hei	ght, full length	, links	to PCH		Н	
					full height, half length, links t			
Graphics - Processor graphics	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD Graphics 630 in Core i7, i5, or i3 processors, or Intel UHD Graphics 610 in Pentiun Gold G5400. Works along with discrete graphics to support multi-display, enables three display connectors (2x DP, 1x HDMI. HDMI is optional) on rear Up to two PCIe 3.0 x16 slots for discrete graphics card (Slot 1 and 3). Supports the						Fr R O	
	following graphics ad		s:	Power	Connectors	Max qty	O	
	NVS 810	1024	4GB DDR3	68W	8x miniDP	1	H	
	Quadro P400	256	2GB GDDR5	30W	3x miniDP	2	Te	
	Quadro P620 Quadro P1000	512 640	2GB GDDR5 4GB GDDR5		4x miniDP 4x miniDP	2 2		
Cranbias Diserets	Quadro P2000	1024			4x DP	2	A	
Graphics - Discrete graphics card	Quadro P4000	1792			4x DP	1	F	
grapinoo oara	Geforce GTX 1060	1280			DVI-D DL, HDMI, 3x DP	1	lн	
	Geforce GTX 1070 Geforce GTX 1080	1920	8GB GDDR5 8GB GDDR5X		DVI-D DL, HDMI, 3x DP DVI-D DL, HDMI, 3x DP	1 1	E	
	Radeon Pro WX 3100	512	4GB GDDR5	50W	DP, 2x miniDP	2	Ce	
	Radeon Pro WX 4100			50W	4x miniDP	2		
	Notes: 1. Quadro P4000, 2x Quadro P2000, Geforce GTX1060/1070/1080 needs 400W PSU. 2. Geforce GTX 1060/1070/1080 are dual-slot width. 3. Geforce GTX 1060/1070/1080 and Radeon Pro WX 3100/4100 are SBO.							
Storage controllers	Four onboard SATA	ports	for max 4 SAT	A HDD			No 1. 1 2. 1	
	Up to five bays with four disk bays plus one slim optical bay, supports up to 3x 3.5" HDD plus 1x 2.5" SSD, or 4x 2.5" SSD							
	Bay 1 Primary disk	bay, 3	.5" or 2.5"					
	Bay 2 2.5" SATA bay, cannot be available when 2nd Quadro P2000 is used							
	Bay 3 Secondary disk bay, 3.5" or 2.5"							
Internal storage	Bay 4 5 25" Flex hay supports one of the following:							
bay					Thunderbolt/IEEE1394		(To	
	using SATA	4 con	nector as eSA	TA mo		closure,		
			or 2.5",via 5.2					
				vI.2 en	closure, also occupies slot 1	or 3		
	Bay 5 9mm Slim OI							
Disks	3.5" HDD supports up to 4TB each, 6Gbps SATA, 7.2K 2.5" SSD supports up to 1TB each, 6Gbps SATA							

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

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

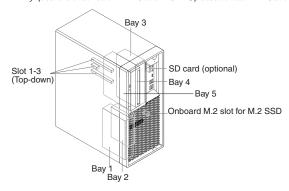
Note: 2x Quadro P2000, Quadro P5000, or Quadro RTX 4000 needs 400W PSU

Components	Specification	Components	Specification					
Form factor	18L Tower		Storage Controller Type Interface Disk Type RAID					
Dimensions	Height: 376 mm (14.8 in). Width: 165 mm (6.5 in). Depth: 328 mm (12.9 in)	Storage Controller						
Weight	Maximum configuration: 28.22 lb (12.8kg)	-	Onboard Intel RST PCIe RAID Std PCIe NVMe M.2 PCIe SSD 0/1					
VVOIGITE	Supports one of the following processors:	-	Disk Type Interface RPM Offering Max Qty					
			3.5" SATA HDD SATA 6Gb/s 7.2K 1TB/2TB/4TB 3					
	Xeon E-2288G 8C/16T/3.7GHz/16MB/95W/DDR4-2666 400W PSU needed		2.5" SATA HDD SATA 6Gb/s 7.2K 500GB FIPS 4					
	Xeon E-2286G 6C/12T/4.0GHz/12MB/95W/DDR4-2666 400W PSU needed Xeon E-2278G 8C/16T/3.4GHz/16MB/80W/DDR4-2666 400W PSU needed	Storage Support	2.5" SATA SSD SATA 6Gb/s 256GB/512GB/1TB 4					
	Xeon E-2276G 6C/12T/3.8GHz/12MB/80W/DDR4-2666		Optane Memory PCIe NVMe 32GB 1,					
	Xeon E-2274G 4C/8T/4.0GHz/8MB/83W/DDR4-2666		used with HDD/SSD					
	Xeon E-2246G 6C/12T/3.6GHz/12MB/80W/DDR4-2666		M.2 PCle SSD PCle NVMe 256GB/512GB/1TB 3					
	Xeon E-2244G 4C/8T/3.8GHz/8MB/71W/DDR4-2666		Up to five bays with four disk bays plus one slim optical bay, supports up to 3x					
	Xeon E-2236 6C/12T/3.4GHz/12MB/80W/DDR4-2666		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		Bay 1 Primary disk bay, 3.5" or 2.5"					
	Xeon E-2226G 6C/6T/3.4GHz/12MB/80W/DDR4-2666		Bay 2 2.5" SATA bay, cannot be available when 2nd Quadro P2000 is used					
	Xeon E-2224G 4C/4T/3.5GHz/8MB/71W/DDR4-2666		Bay 3 Secondary disk bay, 3.5" or 2.5"					
	Xeon E-2224 4C/4T/3.4GHz/8MB/71W/DDR4-2666		Bay 4 5.25" Flex bay, supports one of the following:					
	Xeon E-2186G 6C/12T/3.8GHz/12MB/95W/DDR4-2666 400W PSU needed	Storage Bays	Flex module for optional front eSATA/Thunderbolt/IEEE1394					
Processor	Xeon E-2174G 4C/8T/3.8GHz/8MB/71W/DDR4-2666 Pentium Gold G5620 2C/4T/4.0GHz/4MB/54W/DDR4-2400		3rd disk bay, 3.5" or 2.5", removable, via Front Access Storage					
	Core i9-9900K 8C/16T/3.6GHz/16MB/95W/DDR4-2666 400W PSU needed		Enclosure, using SATA 4 connector as eSATA mode					
	Core i9-9900 8C/16T/3.1GHz/16MB/65W/DDR4-2666		• 3rd disk bay, 3.5" or 2.5", via 5.25" to 3.5" HDD Kit					
	Core i7-9700K 8C/8T/3.6GHz/12MB/95W/DDR4-2666 400W PSU needed	Media reader	Bay 5 9mm Slim ODD bay					
	Core i7-9700 8C/8T/3.0GHz/12MB/65W/DDR4-2666		M.2 3x M.2 SSD (1 onboard, 2 via PCle to M.2 adapter)					
	Core i7-8700 6C/12T/3.2GHz/12MB/65W/DDR4-2666							
	Core i5-9600K 6C/6T/3.7GHz/9MB/95W/DDR4-2666 400W PSU needed		Optional SD card reader on most models					
	Core i5-9600 6C/6T/3.1GHz/9MB/65W/DDR4-2666	Network interfaces	One onboard GbE port via integrated gigabit ethernet Intel i219LM, supports Wake-on-LAN. Optional PCIe ethernet adapters are available					
	Core i5-9500 6C/6T/3.0GHz/9MB/65W/DDR4-2666		One dedicated appears M.O. slot for antional Intel Wireless AC 0560, 0v0					
	Core i5-9400 6C/6T/2.9GHz/9MB/65W/DDR4-2666	WLAN + Bluetooth	2.4GHz/5GHz (160MHz channels), 802.11ac, Bluetooth 5, up to 1.73Gbps					
	Core i5-8500 6C/6T/3.0GHz/9MB/65W/DDR4-2666 Core i3-9300 4C/4T/3.7GHz/8MB/62W/DDR4-2400		Power-on and admin password. Trusted Platform Module, TCG 2.0 compliant.					
	Core i3-9300 4C/4T/3.7GHz/8MB/62W/DDR4-2400 Core i3-9100 4C/4T/3.6GHz/6MB/65W/DDR4-2400	Security features						
	Core i3-8300 4C/4T/3.7GHz/8MB/62W/DDR4-2400							
	Core i3-8100 4C/4T/3.6GHz/6MB/65W/DDR4-2400	Intel vPro	Supports Intel vPro on Xeon models.					
Chipset	Intel C246 Chipset	IIIILEI VETO	vPro also requires Wireless-AC 9560 if Wi-Fi is needed					
Memory Sockets	4 DIMM sockets with 2 channels	Intel AMT	Intel Active Management Technology 12 on Xeon models,					
Memory Types	8GB/16GB DDR4-2666 UDIMM ECC or 4GB/8GB/16GB DDR4-2666 UDIMM non-ECC	- IIIICI AWII	Intel Standard Manageability on other models					
Memory Capacity	64B with 4 x 16GB, both UDIMM ECC or UDIMM non-ECC	Base warranty	US models comes with 3-year limited onsite service with 9x5/NBD.					
Memory Protection	ECC on models with UDIMM ECC memeory	· · · · · · · · · · · · · · · · · · ·	1 or 3-year limited onsite service with 9x5/NBD in EMEA or other GEOs					
Memory i Totection	Three PCIe 3.0 slots as following:	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					
Expansion slots	Slot 1 PCIe 3.0 x16, full height, half length, links to CPU	Tront porto	Type-C. 1x Mic-in. 1x Combo jack					
Expansion sists	Slot 2 PCIe 3.0 x1, full height, full length, links to PCH	Bear ports	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 2x DP.					
	Slot 3 PCIe 3.0 x16 (negotiable link width x4), full height, half length, links to PCH	Rear ports	1x Audio line-out Notes: DP needs Core, Pentium, or -G suffix Xeon processor					
	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD	Optional front	· · · · · · · · · · · · · · · · · · ·					
Processor graphics	Cranbias 600 in Cara i7 iF i0 or Dantium processors	ports (on flex	2x Thunderbolt (USB Type-C), one of two ports supports video-out. 1x eSATA. 1x IEEE1394					
i rocessor grapinos	Works along with discrete graphics to support multi-display, enables three rear	module)						
	display connectors (2 DP standard, 1 DP or HDMI optional)		Supports the following via cable:					
	Up to two PCle 3.0 x16 slots for discrete graphics card (Slot 1 and 3). Supports the	Optional rear	1x COM. 1x Parallel. 2x PS/2. 1x DP or 1x HDMI. 2x USB 2.0					
	following graphics adapters:	ports	Supports the following via PCIe adapter: 4x COM. 2x USB 3.1 Type-C. 2x USB 3.0. 1x Thunderbolt.					
	Graphics Memory Power Connector Max Qty		Notes: DP or HDMI needs Core, Pentium, or -G suffix Xeon processor					
	Quadro P400 2GB GDDR5 30W 3x miniDP 2		Operating: 41 °F to 104 °F (10 °C to 35 °C)					
Discrete Graphics	Quadro P620 2GB GDDR5 40W 4x miniDP 2	Temperature	Non operating (no package): 14 °F to 140 °F (-10 °C to 60 °C)					
Offering	Quadro P1000 4GB GDDR5 50W 4x miniDP 2	<u> </u>	Non operating (with package): -40 °F to 140 °F (-40 °C to 60 °C)					
	Quadro P2000 5GB GDDR5 75W 4x DP 2 Quadro P2200 5GB GDDR5X 75W 4x DP 2		· · · · · · · · · · · · · · · · · · ·					
	Quadro P2200 5GB GDDR5X 75W 4x DP 2 Quadro P5000 16GB GDDR5X 180W DVI-D DL + 4x DP 1							
	Quadro RTX 4000 8GB GDDR6 160W 3x DP, 1x VirtualLink 1							
	The second of th							

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 Gold 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

	1 020 1 1001011	. .	JOIIII 00							
Form factor								ᆀ.		
Dimensions	165mm/6.5" W x 460mm/18.1" D x 440mm/17.3" H (with feet)							- l		
Weight	Maximum configuration: 52.91 lb (24kg)								-	
	Up to one 140W Intel Xeon W family processor: • Up to 18 cores at 2.3 GHz									
Processor Family	 Up to 4.0 GHz with 4 cores 									F
,	 Up to 24.75 MB c 									┈
Up to DDR4-2666 memory speed										_ r
Processor Sockets	1x FCLGA2066									_ r
Chipset	Intel C422 Chipset									_ i
Memory Sockets	8 DIMM sockets wit		nnels							_ ī
Memory Types	DDR4-2666 RDIMN									_ E
Memory Capacity	256GB with 8 x 320	B RDIN	/IMs							_ 9
Memory Protection	ECC									4
					ull length,					ᆙ
								ıble-width		Ш
Expansion slots					alf length					
						n, 75W,	dοι	ıble-width		-
			eight, fu							
	Slot 6 (PCH) PC	Cle 3.0	x4, full h	eight, h	alf length	ı, 25W, ı	ope	n ended		_ F
	Graphics	Me	mory	Power		nector		SLI / NVlink	Max Qty	F
	NVS 810		DDR3	68W		ini DP			2	F
	Quadro P400		GDDR5	30W		<u>iiniDP</u>	_		2	II.
	Quadro P600 Quadro P620		<u>GDDR5</u> GDDR5	45W 40W		<u>iiniDP</u> iiniDP			2	
	Quadro P1000		GDDR5	50W		iniDP	\dashv		2	
	Quadro P2000		GDDR5	75W		(DP	\dashv		2	
Discrete Graphics	Quadro P4000		GDDR5	120W		DP			2	
Offering	Quadro P5000	16GB (GDDR5X	180W	DVI-D [DL+4xDF)	SLI	2	119
	Quadro P6000		GDDR5X			DL+4xDF			1	
	Quadro RTX 4000		GDDR6		3xDP, 1x				2	
	Quadro RTX 5000 16GB GDDR6 265W 4xDP, 1xVirtualLink							1		
	Quadro RTX 6000 Quadro RTX 8000							1	┈	
	Quadro GP100	16GB HBM2 235W 1xDVI-D DL, 4xDP					NVLink	2		
	Quadro GV100						T V E II II	1		
	Storage Controller	Type	I	nterface	<u>, </u>	RAID)	Cá	ache	= E
	Onboard Intel RST			ATA 6Gb		0/1/10			20110	7 5
	9440-8i PCle	Opt :	SAS 12G	ib/s, SA	TA 6Gb/s	0/1/10	/5			
Storage Controller	9460-16i PCle				TA 6Gb/s			4GB DDR	<u>4, SuperCap</u>	- L
	NVMe Basic	Opt		Cle NVN		0/1/10				_ 5
	NVMe Premium NVMe for Intel SSD	Opt		<u>Cle NVM</u> Cle NVM		0/1/10				- 9
		•		JIE INVIV		0/1/10	5			ᆲᄖ
		<u>terface</u>		4.T.D./	Offering	OTD		Max		_ 1
	3.5" SATA HDD SA 2.5" SATA HDD SA				2TB/4TB/ B/500GB			6		$-\parallel_2^1$
Storage Support	2.5" SATA SSD SA				512GB/1			6		- 3
- consign copposit	M.2 PCIe SSD PC				512GB/1			9		1
		le NVM			480GB		2 (1 when quad	d M.2 adapte	r
	I CIE AIC 33D I C	IC INVIVI			40000			use	d)	_
	Bay Type			Maxir	num Drive	es Qty				
	M.2 slot 9x M.2 S	SD (2 or	nboard, 7	via PCI	le to M.2 a	adapter)				
	2 flex bay):					
	2x half-height optical drives 3x 5 25" 0.0mm aptical drives									
	 2x 5.25" 9.0mm optical drives 1x 5.25" 9.0mm optical drive + 2x 3.5"/2.5" SATA SSD/HDD 									
Storage Bays	Flex Bay 1x 3.5"/2.5" SATA SSD/HDD with Front Access Storage Enclosure									
	, a IX liex		for the fo	llowing	options:					
	Iray 1:	9.0mm	optical	raadar	2v Thund	arhalt a	r /1.	diait disance	tic display	
	Tray 2: 15-in-1 USB 3.0 reader, 2x Thunderbolt, or 4-digit diagnostic display Port 1 and 2: Front USB 3.0 Type-C or eSATA							suc display		
	2x M.2 SSD with 2x Front Removable Drive Enclosures									
Disk bay Up to 4x 3.5" or 2.5" disks with 4 disk						(2 bays	star	idard, 2 bays	s optional)	
										_

Max Storage	Supports up to 9x M.2 SSD + 6x 3.5" HDD/6x 2.5" SATA disks/4x 2.5" SAS HDD + 1x PCIe AIC SSD. All HDD: 36TB using 6x 3.5" HDD All SSD: 30.48TB using 6x 2.5" SATA SSD, 9x M.2 SSD, and 1x PCIe AIC SSD						
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 mod flex module	lels. Optional UHS-II 15-in-1 USB 3.0 reader on					
Network interfaces	ethernet or wireless adapters are avai						
WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, 867Mbps	2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to					
Security features		ed Platform Module, TCG 2.0 compliant, switch to 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 Technology						
Front panel warning LED. ThinkStation Diagnostics for Windows. Photo-audic with Lenovo PC Diag-nostics for Android and iOS. Optional front 4-digit diagraph 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, 1x RJ-45, 3x analog audio ports (line-in, line-out, mic-in 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						
	Temperature - operating	50 °F to 95 °F (10 °C to 35 °C)					
		14 °F to 140 °F (-10 °C to 60 °C)					
Environmental	Temperature - storage (with package)						
specification	Altitude - operating	(Unpressurized): -50ft-10000ft (-15.2m-3048m)					
	Humidity - operating	10%~80%, non-condensing					
111	Humidity - storage (with package)	10%~90%, non-condensing					
Environmental Certifications	EAT Gold rating. ENERGY STAR 6.1 qualified on S						
ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/						
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- 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 P520c Platform Specifications

Form factor	25L Tower							
Dimensions	175mm/6.89" W x 426mm/16.77" D x 376mm/14.8" H (with feet)							
Weight	Maximum configuration: 31 97 lb (14 5kg)							
Processor Family	Up to one 140W Intel Xeon W family processor: Up to 18 cores at 2.3 GHz Up to 4.0 GHz with 4 cores							
	Up to 24.75 MB cacheUp to DDR4-2666 memory speed							_
Processor Sockets	1x FCLGA2066							_
Chipset	Intel C422 Chipset							
Memory Sockets	4 DIMM sockets wit							
Memory Types	DDR4-2666 RDIMN							_
Memory Capacity	128GB with 4 x 320	B RDIMMs						_
Memory Protection	ECC							- It
Expansion slots	Slot 2 (CPU) PO	Cle 3.0 x16, f Cle 3.0 x8, fu Cle 3.0 x16, f	ıll height, i	full length,	25W, op	en ended		
		Cle 3.0 x4, fu				oen ended		
	Graphics	Memory			ector	SLI / NVlink	Max Qty	
	NVS 810	4GB DDR			ni DP	SLI / INVIIIIK	1 1	
	Quadro P400	2GB GDDF			niDP		2	
	Quadro P600	2GB GDDF		_	niDP		2	
Discrete Graphics	Quadro P620	2GB GDDF			iniDP		2	
Offering	Quadro P1000	4GB GDDF			niDP		2	
	Quadro P2000	5GB GDDF			DP		2	
	Quadro P4000	8GB GDDF			DP		2	
	Quadro P5000	16GB GDDR	15X 180W	DVI-D D	L+4xDP		1	
	Quadro RTX 4000	8GB GDDF	160W	3xDP, 1x\	/irtualLink	(1	
	Storage Controller Type Interface RAID Cach							
	Onboard Intel RST		SATA 6G	b/s	0/1/10/5	;		ᅰ
Storage Controller	9440-8i PCle	Opt SAS	12Gb/s, SA	ATA 6Gb/s	0/1/10/5	i		
	NVMe Basic	Opt	PCIe NV	Ме	0/1/10			
	NVMe for Intel SSE	Opt	PCIe NV	Ме	0/1/10/5	5		
	Disk Type II	nterface RP	M	Offering		May	Qty	-
	3.5" SATA HDD SA			3/2TB/4TB/	6TB		4	-11
Storage Support	2.5" SATA HDD SA	TA 6Gb/s 7.2	K 5000	B/500GB			4	
	2.5" SATA SSD SA			3/512GB/17		4	4	
	M.2 PCIe SSD PC	Cle NVMe	256GE	3/512GB/17	ГВ/2ТВ	Į.	5	
	Bay Type Maximum Drives Qty M.2 slot 5x M.2 SSD (2 onboard, 3 via PCle to M.2 adapter)							
		2 flex bays. Supports the following:						
		-height optica		5				
		5" 9.0mm opti						
Ctorogo Boyo		5" 9.0mm opti						
Storage Bays		1/2.5" SATA S module for th			ccess Sto	rage ⊑nciosu	re	
		9.0mm optica		options:				
		15-in-1 USB		2x Thund	erbolt, or	4-digit diagno	stic display	
						. Light diagric	oo diopidy	
	Port 1 and 2: Front USB 3.0 Type-C or eSATA 2x M.2 SSD with 2x Front Removable Drive Enclosures							
	Disk bay Up to 2x 3.5"/2.5" disks with 2 disk bays							

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-	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 SSD and 5x M.2 SSD						
T	Power supply	One fixed 500W, autosensing, 92%, 8						
	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 (Intel i219LM), supports Wake-on-LAN. Optional PCIe ethernet or wireless adapters are available						
-	WLAN + Bluetooth	Optional Intel Wireless-AC 8265, 2x2, 867Mbps	2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to					
	Security features		d Platform Module, TCG 2.0 compliant, switch to panel lock, Kensington lock, and pad lock					
4	Intel vPro	Intel vPro technology supported. vPro	requires Wireless-AC 8265 if Wi-Fi is needed					
4	Intel AMT	Intel Active Management Technology	11					
+	Diagnostic	ThinkStation Diagnostics for Windows module	Optional front 4-digit diagnostic display on flex					
	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), hea	adphone (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), PS/2						
	Optional ports	Internal: 1 1x internal USB 3.0 port	3 3.1 gen 1 ter, USB 3.1 gen 2. One 15W, one 5W					
1		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)					
	Environmental	Temperature - storage (with package)						
ī	specification	Altitude - operating	(Unpressurized): -50ft-10000ft (-15.2m-3048m)					
1		Humidity - operating	10%~80%, non-condensing					
1		Humidity - storage (with package)	10%~90%, non-condensing					
	Environmental Certifications	RoHS-compliant. GREENGUARD. EP model 30BX0008US and 30BX0009U	EAT Gold rating. ENERGY STAR 6.1 qualified on S					
	ISV certifications	Please visit www.thinkworkstations.com/isv-certifications/						
- 1								

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













Expansion slots

Slot 1 (CPU2) PCle 3.0 x16, full height, full length, 75W
Slot 2 (CPU1) PCle 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) PCle 3.0 x16, full height, full length, 75W, double-width

Slot 5 PCl, full height, full length, 25W
Slot 6 (PCH) PCle 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

	F120 Flationi	· Opt		4110110					
Form factor	36L Tower								
Dimensions	175mm/6.89" W x 48	35mm/1	19.1" D x	(446mm/	′17.6" H (with fee	t)		
Weight	Maximum configurat	ion: 52.	.25 lb (23	3.7kg)					
Processor Family	Up to two 150 W Ge Gold, or Platinum: Up to 24 cores at Up to 3.6 GHz wit Up to 33 MB cach Up to DDR4-2933	2.1 GH h 4 cor	z es		Scalable	family p	roce	essors, Bronz	e, Silver,
Processor Sockets	2x FCLGA3647	IIIeIIIO	ry speed	<i>1</i>					
Chipset	Intel C621 Chipset								
Memory Sockets	12 DIMM sockets wi	th 10 al	hannala	e DIMM	ooolkoto i	uith 6 ob	000	ala nar nraas	2004
			nanneis.	6 DIIVIIVI	Sockets v	VILLI O CI	lanın	eis per proce	85501
Memory Types	DDR4-2666 RDIMM		M) 00	40D /DD	D4 0000		`		
Memory Capacity	768GB (DDR4-2933	RDIIVII	vi) or 38	4GB (DD	H4-2666	RDIMIN)		
Memory Protection	ECC								
Expansion slots	Slot 2 (CPU1) PC Slot 3 (CPU1) PC Slot 4 (CPU1) PC Slot 5 PC	le 3.0 x le 3.0 x le 3.0 x l, full he	:16, full h :8, full he :16, full h eight, ful	neight, ful neight, full neight, full neight, full I length, 2 eight, halt	I length, length, 2 I length, 25W	75W, do 5W, ope 75W, do	n er uble	nded -width	
	Graphics	Me	emory	Power	Cor	nector		SLI / NVlink	Max Qty
	NVS 810		3 DDR3	68W		nini DP		OLI / I V III III	2
	Quadro P400		GDDR5			niniDP			3
	Quadro P600		GDDR5			niniDP			3
	Quadro P620	2GB	GDDR5	40W	4xr	niniDP			3
	Quadro P1000	4GB	GDDR5	50W	4xr	niniDP			3
	Quadro P2000	5GB	GDDR5	75W	4	xDP			3
Discrete Graphics	Quadro P4000	8GB	GDDR5	120W	4	xDP			2
Offering	Quadro P5000	16GB	GDDR5	X 180W	DVI-D	DL+4xD	P	SLI	2
	Quadro P6000	24GB	GDDR5	X 250W	DVI-D	DL+4xD	P		1
	Quadro RTX 4000	8GB	GDDR6	160W	3xDP, 1x	\[VirtualL \]	ink		2
	Quadro RTX 5000			6 265W					1
	Quadro RTX 6000			6 295W					1
	Quadro RTX 8000			6 295W					1
	Quadro GP100		B HBM2		1xDVI-D		DP		1
	Quadro GV100	32G	B HBM2	250W	4	xDP			1
	Storage Controller	Type		Interface		RAID)	Ca	che
	Onboard Intel RSTe		S	ATA 6Gb	's	0/1/10	/5		
	9440-8i PCIe			Gb/s, SAT		0/1/10			
Storage Controller	9460-16i PCle	Opt :	SAS 120	Gb/s, SAT	A 6Gb/s	0/1/10/	5/6	4GB DDR4	, SuperCap
	NVMe Basic	Opt		Cle NVM		0/1/1			
	NVMe Premium	Opt		Cle NVM		0/1/10			
	NVMe for Intel SSD	Opt	P	Cle NVM	е	0/1/10	/5		
	Disk Type In	terface	RPM	(Offering			Max C Blind connect used	ión + 9460)
	3.5" SATA HDD SAT				TB/4TB/		6 (4	Also support x 2.5" SATA S	s additional SSD/HDD)
Storage Support	2.5" SATA HDD SAT				3/500GB			10	
			/s 10K		GB/600G			8	
	2.5" SATA SSD SAT			256GB/5	12GB/1T	B/2TB		10	
	2.5" PCIe SSD PC			OECOD'S	1.5TB	D/OTD		2	
	M.2 PCIe SSD PC				<u>12GB/1T</u> 480GB	D/ZIB		9	
	I OIE AIO SSD IFO	IN A IA			-00GB				

	Bay Type M	laximum Drives Qty						
	M.2 slot 9x M.2 SSD (2 onboard, 7 via							
	2 flex bays. Supports the following:							
	2x half-height optical drives							
	2x 5.25" 9.0mm optical drives							
	• 1x 5.25" 9.0mm optical drive + 1x 3.5"/2.5" SATA SSD/HDD							
		D with Front Access Storage Enclosure						
	ix liex module for the follow	ving options:						
Storage Bays	Tray 1: 9.0mm optical							
otorago Dayo	Tray 2: 15-in-1 USB 3.0 rea	ader or 2x Thunderbolt						
	Port 1 and 2: Front USB 3.0 Type-C or eSATA							
	 2x M.2 SSD with 2x Front Removable Drive Enclosures 4 disk bays (2 bays standard, 2 bays optional). Supports one of the following 							
	configurations:	2 bays optional). Supports one of the following						
	AV 2 E" CATA LIDD							
	• 4x 3.5" SATA HDD + 4x 2.5	SATA SSD/HDD (Blind connection needed)						
	8X 2.5 SAIA 55D/HDD 0F8	3X 2.5 SAS HDD (Billia connection needed)						
	• 2x 2.5" PCle SSD + 2x 3.5"	2.5" disks (Blind connection needed)						
		DD/10x 2.5" SSD/10x 2.5" HDD + 2x PCIe AIC						
Max Storage	SSD.							
	All HDD: 36TB using 6x 3.5" HDD	CCD Ov M O CCD and Ov DCIa AIC CCD						
		SSD, 9x M.2 SSD, and 2x PCle AIC SSD						
Power cumply	Supports one of the following: • One fixed 690W, autosensing, 92%, 8	0 DLUS Platinum qualified						
Power supply	 One fixed 690W, autosensing, 92%, 8 One fixed 900W, autosensing, 92%, 8 							
l		ls. Optional UHS-II 15-in-1 USB 3.0 reader on						
Media reader	flex module	io. Optional of to 11 to 111 to 000 o.o reader of						
Network	Integrated two-port gigabit ethernet (Intel i219LM and i210AT), supports Wake-on-LAN							
interfaces	on both two ports. Optional PCIe ethern	net are available						
WLAN +	Optional Intel Wireless-AC 8265, 2x2, 2	.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to						
Bluetooth	867Mbps							
		Platform Module, TCG 2.0 compliant, switch to						
Security features		switch. Optional access panel lock, Kensington						
Intel vDva	lock, and pad lock	anviron Wireless AC 0005 if Wi Fi is readed						
Intel vPro		equires Wireless-AC 8265 if Wi-Fi is needed						
Intel AMT	Intel Active Management Technology 1							
Diognostic		Diagnostics for Windows. Photo-audio trans-						
Diagnostic	display on flex module	droid and iOS. Optional front 4-digit diagnostic						
Base warranty	1 or 3-year limited onsite service with 9	v5/NRD						
HD Audio	,	X3/NDD						
L	Realtek ALC662 codec	a) 1y samba sudia/miaranhana isak /2 Emm)						
Front ports		g), 1x combo audio/microphone jack (3.5mm)						
Rear ports	2X USB 2.0, 4X USB 3.0, 2X HJ-45, 3X 8 PS/2	analog audio ports (line-in, line-out, mic-in), 2x						
	Supports the following optional ports:							
	Front:							
		n flex module, one of two ports						
	 2x Thunderbolt ports (USB Type-C) on flex module, one of two ports supports video-out 							
	• 1x eSATA on flex module							
Optional ports	• 1x USB Type-C on flex module, USB	3.1 gen 1						
	Rear:							
	 1x COM port 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W 							
	Internal:	er, OSB 3.1 gen 2. One 15vv, one 5vv						
	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 (with package)	-40 °F to 140 °F (-40 °C to 60 °C)						
Environmental	Altitude - operating (Unpressurized): 0-10000ft (0-3048m							
specification	Humidity - operating	10%~80%, non-condensing						
	Humidity - storage (with package)							
	mumuny - storage (with package)	10%~90%, non-condensing						
Environmental	RoHS-compliant, GREENGUARD, EPE	AT Gold rating. ENERGY STAR 6.1 qualified on						
Certifications	model 30BA0007US and 30BA0008US	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2						
ISV certifications	Please visit www.thinkworkstations.com	n/isv-certifications/						
Note:								

- 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

Form factor	EEL Tower								
Dimensions	55L Tower 200mm/7.87" W x 6	200mm/0/	1 4" D s	, 116mr	∞/17 FC" LI (v	with foo	+\		
					11/17.30 H (V	vitii iee	l)		
Weight		Maximum configuration: 71.3 lb (32.3kg)							
	Up to two 205 W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, Gold, or Platinum:								
	 Up to 28 cores a 	t 2 5 GHz							
Processor Family	 Up to 3.6 GHz w 								
	 Up to 38.5 MB ca 		_						
	 Up to DDR4-293 		/ speed	b					
Processor Sockets	2x FCLGA3647								
Chipset	Intel C621 Chipset								
Memory Sockets	16 DIMM sockets w	vith 12 cha	annels.	8 DIMN	√ sockets wit	h 6 cha	nnels p	er pro	cessor
Memory Types	DDR4-2666 RDIMN	И, DDR4-	2666 L	RDIMM	l, or DDR4-29	933 RD	IMM		
Memory Capacity	1TB (DDR4-2666 L	RDIMM o	r DDR	4-2933	RDIMM) or 5	12GB	DDR4-	2666 F	RDIMM)
Memory Protection	ECC								
	Slot 1 (CPU1) PO	Cle 3.0 x1	6, full l	neight, f	ull length, 75	W, dou	ble-widt	th	
	Slot 2 (CPU1) PO	Cle 3.0 x4	, full he	eight, fu	II length, 25V	V, open	ended	u.	
	Slot 3 (CPU1) PO Slot 4 (CPU1) PO	7 0 3.0 X I	b, full l	neignt, f	uli length, 75	VV, dou V open	pie-widi	ın	
Expansion slots	Slot 5 (PCH) PC	Cle 3.0 x4	, full h	eight, ha	alf length, 25	W. open	n ended		
	Slot 5 (PCH) PC Slot 6 (CPU2) PC Slot 7 (CPU2) PC	Cle 3.0 x1	6, full l	neight, h	ull length, 75 Il length, 25V alf length, 25V nalf length, 75 ull length, 75	5W			
	Slot 7 (CPU2) PO	Cle 3.0 x1	6, full l	neight, f	ull length, 75	W, dou	ble-widt	th	
					ull length, 75		CLI/I	1\/I:mlc	May Ohy
	Graphics NVS 810	Mem 4GB D		Power 68W	Connec 8xmini		SLI / I	VIIIIK	Max Qty 2
	Quadro P400	2GB GI		30W	3xminil				5
	Quadro P600	2GB GI		45W	4xminil				4
	Quadro P620	2GB GI		40W	4xminil				4
	Quadro P1000	4GB GI		50W	4xminil				4
	Quadro P2000	5GB GI	DDR5	75W	4xDF)			4
Discrete Graphics	Quadro P4000	8GB GI	DDR5	120W	4xDF)			4
Offering	Quadro P5000	16GB GE						LI	3
	Quadro P6000	24GB GE						LI	3
	Quadro RTX 4000				3xDP, 1xVir				3
	Quadro RTX 5000				4xDP, 1xVir			_ink	3
	Quadro RTX 6000				4xDP, 1xVir			_ink	2
	Quadro RTX 8000				4xDP, 1xVir			_ink	2
	Quadro GP100	16GB F			1xDVI-D DL			_ink	3
	Quadro GV100	32GB F	,	250W				_ink	
	Storage Controller Onboard Intel RST			Inter		0/1/1			Cache
	9440-8i PCle		SVS.	SATA 6	SATA 6Gb/s				
								4G	B DDR4.
Storage Controller	9460-16i PCIe	Opt	SAS	12Gb/s,	SATA 6Gb/s	0/1/10)/5/6		uperCap
	NVMe Basic	Opt		PCIe N	VVMe	0/1/	10		
	NVMe Premium	Opt		PCle N		0/1/1			
	NVMe for Intel SSI	Opt Opt		PCIe N	VVMe	0/1/1	0/5		
	Disk Type I	nterface	RPM		Offering			Max	« Qtv
									used)
	3.5" SATA HDD SA	TA 6Gh/s	7 2K	1TF	B/2TB/4TB/61	r _B			orts additional
							4x 2.5		A SSD/HDD)
Storage Support	2.5" SATA HDD SA				BB/500GB FI	_			10
	2.5" SAS HDD SA 2.5" SATA SSD SA				00GB/600GB				8 0
	2.5" PCIe SSD PC			20001	<u>8/512GB/1TB</u> 1.5TB	/ZID			4
	M.2 PCIe SSD PC			256GF	3/512GB/1TB	/2TR			9
	PCIe AIC SSD PC				480GB	,			2
	. 5:575 555 1 6				.000.0				

	Day Time	avinavna Driva Otv					
		aximum Drives Qty					
	M.2 slot 9x M.2 SSD (2 onboard, 7 via PCle to M.2 adapter) 2x 3.5" or 2.5" disks. Supports the following:						
	 3x half-height optical drives 	stile following.					
	• 2x 5.25" 9.0mm optical drive						
		e + 1x 3.5"/2.5" SATA SSD/HDD					
		O with Front Access Storage Enclosure					
	TX HEX ITIOUUIE IOI LITE IOIIOW	ving options:					
Storage Bays	Tray 1: 9.0mm optical						
	Tray 2: 15-in-1 USB 3.0 read						
	Port 1 and 2: Front USB 3.0 Type-C or eSATA 3x M 2 SSD with 3x Front Removable Drive Enclosures						
	3x M.2 SSD with 3x Front Removable Drive Enclosures 8 disk drives with 4 bays (2 bays standard, 2 bays optional). Supports one of						
	the following configurations:	ye cianaana, <u>z baye epitena.</u>). Capponto cino ci					
	Disk bay • 4x 3.5" SATA HDD						
	• 4x 3.5" SATA HDD + 4x 2.5"						
	• 8x 2.5" SATA SSD/HDD or 8:						
		DD/10x 2.5" SSD/10x 2.5" HDD + 2x PCle AIC					
Max Storage	SSD.						
	All HDD: 36TB using 6x 3.5" HDD	SSD, 9x M.2 SSD, and 2x PCIe AIC SSD					
Power supply	One fixed 1400 watts, autosensing, 92% PSU, 80 PLUS Platinum qualified. Countries with input voltage under 115V, output power limited to 1125 watts						
		s. Optional UHS-II 15-in-1 USB 3.0 reader on					
Media reader	flex module	3. Optional of 10-11 10-11-1 00b 5.0 feader of					
Network	Integrated two-port gigabit ethernet (Intel i219LM and i210AT), supports Wake-on-LAN						
interfaces	on both two ports. Optional PCle ethernet are available						
WLAN +	Optional Intel Wireless-AC 8265, 2x2, 2.4GHz/5GHz, 802.11ac, Bluetooth 4.2, up to						
Bluetooth	867Mbps	, , , , , , , , , , , , , , , , , , , ,					
	Power-on and admin password. Trusted	Platform Module, TCG 2.0 compliant, switch to					
Security features	1.2 via UEFI setting. Chassis intrusion switch. Optional access panel lock, Kensington						
latal v.D.a	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 Technology 11						
Diagnostic		tion Diagnostics for Windows. Photo-audio					
	transfer with Lenovo PC Diagnostics for						
Base warranty	1 or 3-year limited onsite service with 9x	S/NDD					
HD Audio	Realtek ALC662 codec	\ 1\\\ combo cudic/microbboo ical/ (0 Free)					
Front ports), 1x combo audio/microphone jack (3.5mm)					
Rear ports	PS/2	nalog audio ports (line-in, line-out, mic-in), 2x					
	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 USB Type-C on flex module, USB 3	3.1 gen 1					
	Rear:						
	 1x COM port 2x USB Type-C ports via PCle adapter, USB 3.1 gen 2. One 15W, one 5W 						
	i, oob o.1 gen z. one 1000, one ove						
	 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)					
Environmental	Temperature - storage (with package)	-40 °F to 140 °F (-40 °C to 60 °C)					
specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)					
opcomoation	Humidity - operating	10%~80%, non-condensing					
	Humidity - storage (with package)	10%~90%, non-condensing					
Environmental Certifications	RoHS-compliant. GREENGUARD. EPEAT Gold rating. ENERGY STAR 6.1 qualified on model 30BC0008US and 30BC0009US						
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

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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.

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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.

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

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

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

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

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

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

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Summary of Changes

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

April 3, 2019 - Version 540

▶ Add 2nd Xeon Scalable processor, add DDR4-2933 memory, add Intel Optane DC Persistent Memory

September 12, 2018 - Version 530

Add ThinkSystem SR670

May 9, 2018 - Version 524

- ► Withdraw ThinkSystem SR650/SR630/SR550/SR530/SR850/ST550 LFOs to April 2018
- ▶ Update ThinkSystem SR650/SR630/SR590/SR530 LA LFOs to April 2018

Apri 18, 2018 - Version 523

▶ Update ThinkSystem SR650/630/550/530 LFOs to April 2018

November 29, 2017 - Version 516

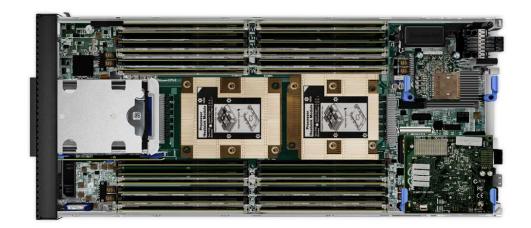
- ► Add new ThinkSystem SR860/SR590/SR570
- ► Add 128GB 3DS RDIMM, 480GB M.2 SSD, VMware ESXi 6.5U1, Red Hat Enterprise Linux 7.4 supports on compatible ThinkSystem servers

November 8, 2017 - Version 515

► Add ThinkSystem SN850/SN550/SD530 and ThinkSystem D2 Enclosure

July 12, 2017 - Version 509

▶ Initial version, includes ThinkSytem rack servers SR650/SR630/SR550/SR530, tower server ST550, and mission-critical servers SR850 and SR950.





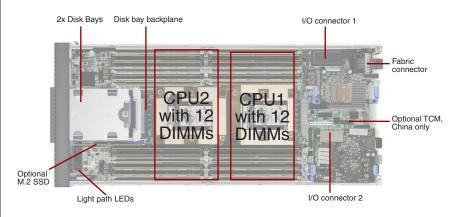




ThinkSystem SN550 Platform Specifications

7			- 1							
Components	Specifica									
Form factor		-width Flex						(40.41	`	
Dimensions		•			`	ı). Dep	oth: 493 mm	(19.4 ın)	
Chassis support		Flex System Enterprise Chassis with CMM2 Maximum configuration: 15.6 lb (7.1 kg)								
Weight							oro Dronzo	Cilver	Cold or	
Processor	Platinum.	Up to two 165W Intel Xeon Scalable family processors, Bronze, Silver, Gold, or Platinum. Up to 28 cores at 2.1GHz, up to 3.6GHz with 4 cores. Up to two UPI (Ultra Path Interconnect) links at maximum 10.4GT/s each								
Chipset	Intel C624 Platform Controller Hub									
Memory	Up to 24 DIMM sockets. Each processor supports up to 12 DIMM sockets with 6 channels. DDR4-2666. RDIMMs, LRDIMMs, and 3DS RDIMMs are supported, but memory types cannot be intermixed. 3DS RDIMM is planned to available later									
Memory capacity	Up to 768GB with 24 x 32GB RDIMMs and two processors. Or up to 1.5TB with 24 x 64GB LRDIMMs and two processors. Or up to 3TB with 24 x 128GB 3DS RDIMMs and two -M suffix processorsM suffix processor supports 1.5TB memory per socket, non -M suffix processor supports 768GB memory per socket ECC, SDDC (for x4-based memory DIMMs), ADDDC (for x4-based memory									
Memory protection						у				
	Supports	the following	ng RAID/	HBA adap	ters:					
	Adapter	Interface	Drive type	RAID levels	JBOD	Cache	Cache protection	FastPath		
Storage controllers	Onboard Intel RSTe 530-4i	6Gbps SATA	SATA/SAS	0/1 0/1	Yes	None None	None	No Yes		
	930-4i	12Gbps SAS			Yes		Flash backup	Yes		
Disk drive bays	backplan Optional	es, the two one or two	-swap disk bays. Depending on server configuration and installed the two bays can supports SATA, SATA/SAS, or SATA/NVMe disks. e or two internal M.2 SSD for boot, dual M.2 SSD supports mirroring							
	2.5" NVMe SSD 800GB/960GB/1.6TB/1.92TB/3.84TB 2.5" HDD, SATA6Gbps, 7,2K 1TB/2TB 2.5" HDD, SAS12Gbps, 7,2K 1TB/2TB 2.5" HDD, SAS12Gbps, 15K 300GB/600GB/900GB					4TB				
Internal storage				300GE 240GE	/600GB /480GB/	960GB/	1.2TB/1.8TB/2. 1.92TB/3.84TB 8.84TB/7.68TB/1			
	M.2 SATA S	SD		32GB/	28GB/4	80GB				
Network interfaces	to routes		GbE por	ts to Flex	system	n chas	fabric conn sis midplan			
Security features	Power-on		n passwo	rd. Trusted			odule, TCG	1.2 and	2.0	
Operating systems supported	SUSE Lir	nux Enterpi	rise Serv	er 11 and	12 x64	I, VMv	t Enterprise vare vSpher	e 6.0 an	d 6.5	
Systems management	troller (BI) server re	MC), Predic	ctive Failu te preser	ire Analys ice. Suppo	is, ligh	t path	baseboard diagnostics o XClarity A	s panel, a	automati	ic
GPU support	None									
Base warranty		: 3-year lim								
Power supply	chassis. T	There are n	o server	options re	gardin	g pow	r supplies the rer supplies.	at are in	ıstalled i	n the
Video		d Matrox G								
Front ports	ports (cal	ole standar	d with ch				provides lo tional).	cal KVM	and se	rial
Environmental specification	Temperature	ASHRAE A e - operating e - non operating e - non operating erating	ng (no packa		-	6°C to 49	to 40°C (41°F to to 35°C (50°F 5°C (41°F to 11 60°C (-40°F to surized): 0-1000	3°F) 140°F)	(m)	
	Humidity - o	perating, non-otorage (with pa		n-condensing	Ä		85%. A2:8%~80		,	

Expansion slots
Supports two PCIe 3.0 x16 I/O expansion connectors for attaching I/O adapter cards, each connector uses high-density, 216-pin PCIe connection. Please see I/O adapters below:



	•
7M27A03915	Lenovo SATA HDD/SSD Backplane for SN550
7M27A03916	Lenovo NVMe/SATA Backplane for SN550
7M27A03917	Lenovo RAID 930-4i-2GB 2 Drive Adapter Kit for SN550
7M27A03918	Lenovo RAID 530-4i 2 Drive Adapter Kit for SN550
7X77A01301	Lenovo 8GB TruDDR4 2666 MHz (1Rx8 1.2V) RDIMM
7X77A01302	Lenovo 16GB TruDDR4 2666 MHz (1Rx4 1.2V) RDIMM
7X77A01303	Lenovo 16GB TruDDR4 2666 MHz (2Rx8 1.2V) RDIMM
7X77A01304	Lenovo 32GB TruDDR4 2666 MHz (2Rx4 1.2V) RDIMM
7X77A01305	Lenovo 64GB TruDDR4 2666 MHz (4Rx4 1.2V) LRDIMM
00AG540	Flex System CN4052S 2-port 10Gb Virtual Fabric Adapter
00AG590	Flex System CN4054S 4-port 10Gb Virtual Fabric Adapter
01CV780	Flex System CN4052S 2-port 10Gb Virtual Fabric Adapter Advanced
01CV790	Flex System CN4054S 4-port 10Gb Virtual Fabric Adapter Advanced
7ZT7A00502	Lenovo Mellanox ConnectX-3 Mezz 40Gb 2-Port Ethernet Adapter
7ZT7A00520	Lenovo QLogic QML2692 Mezz 16Gb 2-Port Fibre Channel Adapter
7ZT7A00521	Lenovo Emulex LPm16002B-L Mezz 16Gb 2-Port Fibre Channel Adapter
7ZT7A00522	Lenovo Emulex LPm16004B-L Mezz 16Gb 4-Port Fibre Channel Adapter
7ZT7A00508	Lenovo Mellanox ConnectX-3 Mezz FDR 2-Port InfiniBand Adapter
7Y37A01092	Lenovo M.2 Enablement Kit
7Y37A01093	Lenovo M.2 with Mirroring Enablement Kit
7N47A00129	Lenovo M.2 32GB SATA 6Gbps Non-Hot-Swap SSD
7N47A00130	Lenovo M.2 128GB SATA 6Gbps Non-Hot-Swap SSD
	•







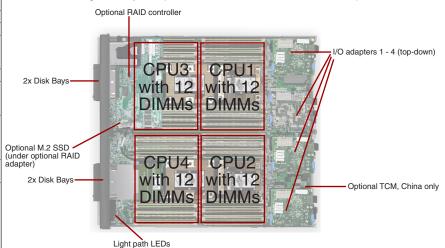




ThinkSystem SN850 Platform Specifications

0	Cussidias	4!								
Components	Specifica		'uotom oo		ıta nada					
Form factor		idth Flex S					D 1	. 400	40.45	- \
Dimensions		,			,		. Dept	h: 493 mm (19.4 ir	ר)
Chassis support		ex System Enterprise Chassis with CMM2								
Weight		eximum configuration: 27 lb (12.3 kg) apports up to four 165W Intel Xeon Scalable family processors, Gold or Platinum.								
Processor								Up to three		
		ect) links a							(
Chipset		4 Platform								
Memory	channels.	Up to 48 DIMM sockets. Each processor supports up to 12 DIMM sockets with 6 channels. DDR4-2666. RDIMMs, LRDIMMs, and 3DS RDIMMs are supported, but memory types cannot be intermixed. 3DS RDIMM is planned to available later								
Memory capacity	Up to 1.5 64GB LR and four -	Jp to 1.5TB with 48 x 32GB RDIMMs and four processors. Or up to 3TB with 48 x 34GB LRDIMMs and four processors. Or up to 6TB with 48 x 128GB 3DS RDIMMs and four -M suffix processorsM suffix processor supports 1.5TB memory per socket, non -M suffix processor supports 768GB memory per socket								
Memory protection	DIMMs),	memory m	irroring, a	and I	memory :	sparin		(for x4-base	ed mer	mory
	Supports	the followi	ng RAID/	'HBA	adapter	s:				
	Adapter	Interface	Drive type	RAID	levels	JBOD	Cache	Cache protection	FastPa	th
Storage controllers	Onboard	6Gbps SATA	SATA	0/1/1	0/5	Yes	None	i e	No	
	Intel RSTe 530-4i	12Gbps SAS				Yes	None		Yes	-
	930-4i	12Gbps SAS	SATA/SAS	0/1/1	0/5/6	Yes		Flash backup	Yes	
	Four 2.5"	hot-swap	disk bays	. De	pending o	on sei	ver co	onfiguration	and in	stalled
Disk drive bays	Four 2.5" hot-swap disk bays. Depending on server configuration and installed backplanes, the four bays can supports SATA, SATA/SAS, or SATA/NVMe disk Optional one or two internal M.2 SSD for boot, dual M.2 SSD supports mirror					le disks.				
			internal	M.2 S					ports i	mirroring
				800GB/960GB/1.6TB/1.92TB/3.84TB 1TB/2TB						
		AS12Gbps, 7,			1TB/2TB					
		AS12Gbps, 1	2Gbps, 15K 300GB/600GB/900GB						-	
Internal storage	2.5" HDD, SAS12Gbps, 10K)GB/1.2	TB/1.8TB/2.4TE	3	
	2.5" HDD, SAS12Gbps, 10K, SED 300GB/600GB 2.5" SSD, SATA6Gbps 240GB/480GB/960GB/1.92TB/3.84TE			OTR/2 QATR						
	2.5" SSD, S				400GB/1.6			210/3.0410		
	M.2 SATA S				32GB/1280					
								bric connec		
Network interfaces							hassis	midplane.	Option	al adapters
		orted, up to					a Mad	ule, TCG 1.	2 and	2.0
Security features		. Optional				alioiii	ii iviou	ule, ICG I.	Z aliu	2.0
Operating systems	Microsoft	Windows	Server 20)16,	2012 R2,	Red	Hat E	nterprise Lii	nux 6 a	and 7 x64,
supported								e vSphere		
Systems								aseboard magnostics pa		
management								Clarity Adn		
	Lenovo X	Clarity En	ergy Man	ager						
GPU support	None									
Base warranty		: 3-year lim								
Power supply	Power to	the blade s	server is	deriv	ed from t	he po	wer s	upplies that	are in	stalled in the
		here are na Matrox G					Jowei	supplies.		
Front ports	One USB	3.0, one c	onsole b	reak	out cable	port 1	that pr	rovides loca	I KVM	and serial
	ports (cable standard with chassis, more cables optional). Supports ASHRAE A3.									
						A3:	5°C to 4	0°C (41°F to 10)4°F)	
Environmental	Temperature	- operating - non operati	na (no pack	aue)		A2:	10°C to	35°C (50°F to 9	95°F)	
specification		- non operati						°C (-40°F to 140		
	Altitude - op	erating .	· ·			(Unj	oressuri	zed): 0-10000ft		m)
		perating, non- torage (with pa		n-cond	lensing		3%~85% -90%	s. A2:8%~80%		
		<u> </u>	- //							

Expansion slots
Supports four PCIe 3.0 x16 I/O expansion connectors for attaching I/O adapter cards, each connector uses high-density, 216-pin PCIe connection. Please see I/O adapters below:



	•
7M17A03930	Lenovo SATA HDD/SSD kit for SN850
7M17A03931	Lenovo NVMe/SATA Enablement Kit for SN850
7M17A03932	Lenovo RAID 530-4i 4 Drive Adapter Kit for SN850
7M17A03933	Lenovo RAID 930-4i-2GB 4 Drive Adapter Kit for SN850
7X77A01301	Lenovo 8GB TruDDR4 2666 MHz (1Rx8 1.2V) RDIMM
7X77A01302	Lenovo 16GB TruDDR4 2666 MHz (1Rx4 1.2V) RDIMM
7X77A01303	Lenovo 16GB TruDDR4 2666 MHz (2Rx8 1.2V) RDIMM
7X77A01304	Lenovo 32GB TruDDR4 2666 MHz (2Rx4 1.2V) RDIMM
7X77A01305	Lenovo 64GB TruDDR4 2666 MHz (4Rx4 1.2V) LRDIMM
00AG540	Flex System CN4052S 2-port 10Gb Virtual Fabric Adapter
00AG590	Flex System CN4054S 4-port 10Gb Virtual Fabric Adapter
01CV780	Flex System CN4052S 2-port 10Gb Virtual Fabric Adapter Advanced
01CV790	Flex System CN4054S 4-port 10Gb Virtual Fabric Adapter Advanced
7ZT7A00502	Lenovo Mellanox ConnectX-3 Mezz 40Gb 2-Port Ethernet Adapter
7ZT7A00520	Lenovo QLogic QML2692 Mezz 16Gb 2-Port Fibre Channel Adapter
7ZT7A00521	Lenovo Emulex LPm16002B-L Mezz 16Gb 2-Port Fibre Channel Adapter
7ZT7A00522	Lenovo Emulex LPm16004B-L Mezz 16Gb 4-Port Fibre Channel Adapter
7ZT7A00508	Lenovo Mellanox ConnectX-3 Mezz FDR 2-Port InfiniBand Adapter
7Y37A01092	Lenovo M.2 Enablement Kit
7Y37A01093	Lenovo M.2 with Mirroring Enablement Kit
7N47A00129	Lenovo M.2 32GB SATA 6Gbps Non-Hot-Swap SSD
7N47A00130	Lenovo M.2 128GB SATA 6Gbps Non-Hot-Swap SSD







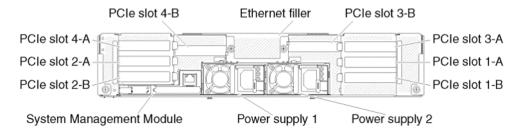
ThinkSystem D2 Enclosure Platform Specifications

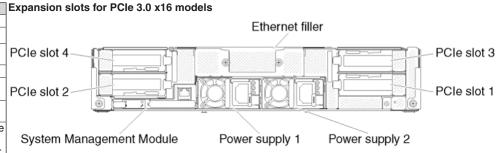
Components	Specification	E
Form factor	2U rack]
Dimensions	Height: 87 mm (3.5 in). Width: 488 mm (19.3 in). Depth: 892 mm (35.1 in)	
Server support	Per enclosure: up to 4 servers per chassis Per 42U rack: up to 84 servers in 21 enclosures	P
Weight	Maximum configuration with four fully configured nodes): 121.2 lb (55 kg)]
Network interfaces	Optional 8x 10 GbE ports Ethernet I/O Module (EIOM), SFP+ or RJ-45, two ports per server from chipset	Р
Security features	Power-on and admin password. Trusted Platform Module, TCG 1.2 and 2.0 compliant. Optional TCM, China only	
Systems management	The hot-swappable System Management Module (SMM) is the management device for the enclosure. Provides integrated systems management functions and controls the power and cooling features of the enclosure. Provides remote browser and CLI-based user interfaces for remote access via the dedicated Gigabit Ethernet port. Remote access is to both the management functions of the enclosure as well as the XClarity Controller (XCC) in each server. SMM provides four LEDs: system error, identification, status, and system power. Each power supply has AC, DC and error LEDs	
Base warranty	MT 7X20: 3-year limited onsite service with 9x5/NBD]
Power supply	Up to two redundant hot-swap 1100W/1600W/2000W 80 PLUS Platinum qualified AC power supplies. 1600W and 2000W are 200V - 240V, 1100W is 100V - 240V	
Cooling	Five hot-swap system fans, accessible via removable panel in the top cover of the enclosure	

Shuttle



Expansion slots for PCle 3.0 x8 models









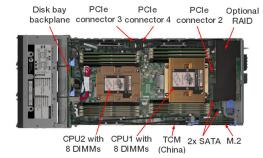


ThinkSystem SD530 Platform Specifications

-,					
Components	Specification				
Form factor	Half-wide, 1U compute node				
Dimensions	Height: 41 mm (1.7 in). Width: 222 mm (8.8 in). Depth: 562 mm (22.2 in)				
Chassis support	ThinkSystem D2 Enclosure. 2U. Up to 4 ThinkSystem SD530 servers per enclosure				
Weight	Maximum configuration: 16.6 lb (7.5 kg)				
Processor	Up to two 165W Intel Xeon Scalable family processors, Bronze, Silver, Gold, or Platinum. Up to 28 cores at 2.1GHz, up to 3.6GHz with 4 cores. Up to two UPI (Ultra Path Interconnect) links at maximum 10.4GT/s each				
Chipset	Intel C624 Platform Controller Hub				
Memory	Up to 12 or 16 DIMM sockets depending on the processor selected. Each processor supports up to 6 or 8 DIMM sockets. DDR4-2666. RDIMMs and LRDIMMs are supported, but memory types cannot be intermixed.				
Memory capacity	16 DIMMs models: RDIMMs: Up to 512GB with 16x 32GB RDIMMs and two processors LRDIMMs: Up to 1TB with 16x 64GB LRDIMMs and two processors 12 DIMMs models: RDIMMs: Up to 384GB with 12x 32GB RDIMMs and two processors LRDIMMs: Up to 768GB with 12x 64GB LRDIMMs and two processors				
Memory protection	ECC, Chipkill protection (for x4-based memory DIMMs), memory mirroring, and memory sparing Supports the following RAID adapters:				
	Cooks				
Storage controllers	Adapter Interface Drive type HAID levels JBOD Cache protection PastPath				
	Onboard Intel RSTe 6Gbps SATA SATA 0/1/10/5 Yes None None No 530-8i 12Gbps SAS SATA/SAS 0/1/10/5 Yes None None Yes				
Disk drive bays	Up to four 2.5" hot-swap disk bays, or up to six 2.5" hot-swap disk bays, or up to six 2.5" hot-swap disk bays with two AnyBay. SAS support requires 530-8i. Optional one or two internal M.2 SSD for boot, dual M.2 SSD supports mirroring				
Internal storage	2.5" NVMe SSD				
	2.5" SSD, SAS12Gbps 400GB/800GB/1.6TB/3.84TB/7.68TB/15.36TB M.2 SATA SSD 32GB/128GB				
Network interfaces	Two 10 GbE ports, SFP+ or RJ-45, routed through the Ethernet I/O Module at the rear of the D2 Enclosure. Networking ports are based on Intel Ethernet Connection X722 in chipset				
Security features	Power-on and admin password. Trusted Platform Module, TCG 1.2 and 2.0				
Operating systems supported	compliant. Optional TCM, China only Microsoft Windows Server 2016, 2012 R2, Red Hat Enterprise Linux 6 and 7 x64, SUSE Linux Enterprise Server 11 and 12 x64, VMware ESXi 6.0 and 6.5				
Systems management	Operator panel with system error LED and ID and power controls. XClarity Controller embedded management, XClarity Administrator centralized infrastructure delivery, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management. Optional XClarity Controller Advanced to enable remote control functions. System Management Module (SMM) in the D2 Enclosure provides additional systemsmanagement functions				
GPU support	None				
Base warranty	MT 7X21: 3-year limited onsite service with 9x5/NBD				
Power supply	Supplied by D2 Enclosure				
Video	Integrated Matrox G200 in XClarity Controller				
Front ports	Optional KVM breakout module for one USB 3.0 and one console breakout cable port for local KVM and serial ports. KVM breakout module will ocuppy one disk bay on 6x 2.5" disk bay model				

	Components	Specification						
		Supports ASHRAE A4 with limitations.						
е		Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)					
		Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)					
	Environmental	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)					
	specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m) A4: 8%~90%. A3:8%~85%. A2:20%~80%					
a	'	Humidity - operating, non-condensing						
		Humidity - storage (with package), non-condensing	8%~90%					
		Models should meet the following requirements to supp	ort A3 and A4:					
or		NVMe drives not installed M.2 drives not installed						

Expansion slots
Supports one PCle 3.0 x16 low-profile slot, or two PCle 3.0 x8 low-profile slots.
Slots are housed in I/O shuttle in rear of the D2 Enclosure



Backplane and memory DIMM sockets supports by processor

Maxium DIMM Sockets	12 [DIMMs	16 DI	MMs
Backplane	2x2	2x3	2x2	2x3
Xeon Bronze 3104	Yes	Yes	Yes	No
Xeon Bronze 3106	Yes	Yes	Yes	No
Xeon Silver 4108	Yes	Yes	Yes	No
Xeon Silver 4109T	Yes	No	No	No
Xeon Silver 4110	Yes	Yes	Yes	No
Xeon Silver 4112	Yes	Yes	Yes	No
Xeon Silver 4114	Yes	Yes	Yes	No
Xeon Silver 4116	Yes	Yes	Yes	No
Xeon Gold 5115	Yes	Yes	Yes	No
Xeon Gold 5118	Yes	Yes	Yes	No
Xeon Gold 5120	Yes	Yes	Yes	No
Xeon Gold 5120T	Yes	No	No	No
Xeon Gold 5122	Yes	No	No	No
Xeon Gold 6126	Yes	Yes	No	No
Xeon Gold 6130	Yes	Yes	Yes	No
Xeon Gold 6130T	Yes	No	No	No
Xeon Gold 6134	Yes	No	No	No
Xeon Gold 6136	Yes	No	No	No
Xeon Gold 6138	Yes	Yes	No	No
Xeon Gold 6138T	Yes	No	No	No
Xeon Gold 6140	Yes	Yes	No	No
Xeon Gold 6142	Yes	No	No	No
Xeon Gold 6148	Yes	No	No	No
Xeon Gold 6150	Yes	No	No	No
Xeon Gold 6152	Yes	Yes	No	No
Xeon Platinum 8153	Yes	Yes	Yes	No
Xeon Platinum 8156	Yes	No	No	No
Xeon Platinum 8158	Yes	No	No	No
Xeon Platinum 8160	Yes	No	No	No
Xeon Platinum 8164	Yes	No	No	No
Xeon Platinum 8170	Yes	No	No	No
Xeon Platinum 8176	Yes	No	No	No









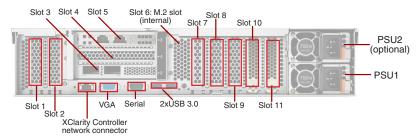




ThinkSystem SR850 Platform Specifications

Components	Specification									
Form factor	2U rack									
Dimensions	Height: 86.5 mm (3.4 in). Width: 482 mm (19.0 in) with rack latches. Depth: 763.7 mm (30.1 in) without security bezel									
Weight	Maximum configuration: 59.52 lb (27 kg)									
Processor	Platinum. 2 process memory expansion	Supports up to four 205W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Gold or Platinum. 2 processor sockets on system board, 2 processor sockets on optional processor and memory expansion tray. Up to 28 cores at 2.7GHz, up to 3.8GHz with 4 cores. Four processors are connected in ring topology with two 10.4GT/s UPI (Ultra Path Interconnect)								
Chipset	Intel C624 Platform									
	Up to 48 DIMM sock processor and mem channels. Supports Memory Type	ory expans			ocess		oorts up to 12			
	Intel Optane DC Pe	rsistent Me	mory	DDR4-	2666	128GB	/256GB/5120	GB		
	RDIMM			DDR4-	2933	8GB/16	GB/32GB/6	4GB		
Memory offering	LRDIMM			DDR4-						
	3DS RDIMM			DDR4-						
	Performance+ RDIN						32GB/64GB			
	Performance+ 3DS	RDIMM		DDR4-						
	RDIMM						GB/32GB			
	LRDIMM			DDR4-						
	3DS RDIMM			DDR4-	_					
Memory capacity	 6TB with 48x 12TB with 24x 15TB with 24x and four L SK 	512GB DC 512GB DC U processo	Persis Persis rs	tent Men tent Men	nory (r	memor	y mode) and	four L SI		
Memory protection	ECC, memory mirro									
	Supports the followi	ng RAID/H	sa adap	oters:						
	Feature Interface 530-8i 12Gbps SA	Drive type			JBOD Yes	Cache	protection	FastPath Yes	Max qty 2	
		S SATA/SAS			Yes		None	No	2	
		S SATA/SAS	0/1/10/	5/50/6/60	Yes		Flash backup		2	
Storage controllers	930-16i 12Gbps SA	S SATA/SAS	0/1/10/5		Yes		Flash backup		1	
	430-8i 12Gbps SA	S SATA/SAS	-		Yes	None		-	2	
	430-16i 12Gbps SA	S SATA/SAS	0/1/10/	E/EN/E/EN	Yes	None		- Voc	1	
		S SATA/SAS S SATA/SAS		0/0/0/00	Yes Yes	None	Flash backup	Yes	8	
	430-16e 12Gbps SA				Yes	None		-	8	
	Note: 730-8i is available					1110110	1.10.10			
	Supports 8 front 2.5			we with r	navim	um 4 A	nyBay or 16	front 2 5	" CATA /	616
Disk drive bays	HS bays with maxim Optional one or two	num 8 AnyB	ay	•			•		SAIA	OAO
	2.5" HDD, SAS12Gbps			TB/2TB	uuai iv	1.2 001	o supports ii	iiiToriiig		
	2.5" HDD, SAS12Gbps				3B SEI	D/600GF	3/600GB SED/	900GB/1 2	TB/1 8TF	3
	2.5" HDD, SAS12Gbps			00GB/6000			5,000 GD GLD,	0000007112		
Internal storage	2.5" SSD, SAS12Gbps			00GB/8000			ЗТВ			
internal storage	2.5" SSD, SATA6Gbps			240GB/480GB						
	2.5" NVMe SSD, AnyB			800GB/960GB/1.6TB/1.92TB/3.84TB r 1.6TB/1.92TB/3.2TB/3.84TB						
	NVMe SSD, PCIe 3.0 >						В			
0-4:1	M.2 SATA SSD for boot 32GB/128GB/480GB No internal optical bay. Optional USB DVD±RW optical drive									
Optical									D 4	-
Network interfaces	One dedicated management port. One LOM slot for customized LOM with up to four RJ-45 or SFP+ ports, up to 10GbE. Wake-on-LAN and NC-SI are available on one port of LOM. Optional ML2 or PCle adapters are supported. ML2 adapter requires riser card with ML2 slot.					tional				
Security features	Power-on and admir via UEFI setting. Op	n password	Truste	d Platforr	n Moc	dule, TO	CG 1.2 comp	liant, upg		2.0
Operating systems supported	Microsoft Windows 5 Enterprise Server 12	2 SP2/11 S	P4. VM	ware vSp	here	(ESXi)	6.5/6.0 U3			
Systems management	XClarity Controller A XClarity Administrat diagnostic pull-out p	or. Lenovo	ptional Capacit	upgrade y Planne	s to E r. Ligh	nterpris	se is available Diagnostics	e. Energy with optic	/ Manag onal LCE	jer. O
GPU support	None									
Base warranty	MT 7X18: 1-year lim MT 7X19: 3-year lim									
	in a series of your life			TILLI OAG	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
	Up to two redundant		750\41/4	100\4//10	00147	ייום חס	IC Diotinion	au olifi o d	۸٫ ۲۵۰۰۰	٥.

Components	Specification						
Video	Integrated Matrox G200 in XClarity Controller	Integrated Matrox G200 in XClarity Controller					
Cooling	Six hot-swap fans, N + 1 redundancy						
Front ports	One XClarity Controller USB connector, one US optional VGA	SB 2.0 or USB 3.0 (model dependent), one					
Rear ports	One VGA, two USB 3.0, one serial, one XClarity	y Controller network connector					
	Supports ASHRAE A4 with limitations.						
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)					
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)					
Environmental	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)					
specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)					
Specification	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:20%~80%					
	Humidity - storage (with package), non-condensing	8%~90%					
Models should meet the following requirements to support A3 and A4: NVMe drives not installed PCIe flash adapter not installed M.2 SSD not installed							
Environmental certification	Energy Star Server 2.1 certified. More environm www.lenovo.com/social_responsibility/us/en/en/						

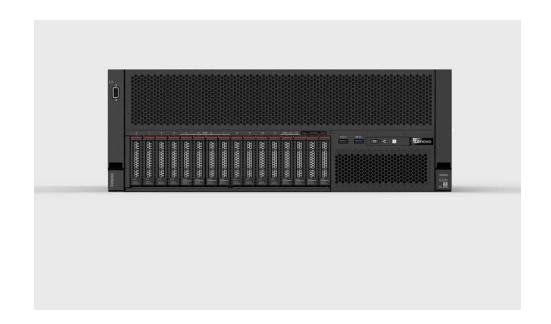


Note: All riser cards, expansion cards, and LOM adapters are optional. Slots are labelled as 1, 2, 3, 4, 5, 7, 8, 9, 10, 11. Slot 6 is internal M.2 slot for optional M.2 enablement kit **Expansion slots**

Slot 1 (onboard)	PCIe 3.0 x16, low profile, requires 2nd CPU
Slot 2 (onboard)	PCIe 3.0 x8, low profile, requires 2nd CPU
Slot 3-5 (riser card)	Supports one of the following for riser card: Option 1: PCle 3.0 x8/x8/x8 (slot 3-5). Full height, half length. Option 2: PCle 3.0 x8/x8/x8 ML2 (slot 3-5). Full height, half length Option 4: PCle 3.0 x8/x16 ML2 (slot 3 and 5). Full height, half length Slot 3 - 5 requires 2nd CPU
Slot 7 (onboard)	LOM, low profile
Slot 8 (onboard)	PCIe 3.0 x8, low profile
Slot 9 (onboard)	PCIe 3.0 x8, low profile
Slot 10 (onboard)	PCIe 3.0 x8, low profile
Slot 11 (onboard)	PCIe 3.0 x16, low profile

System unique options for ThinkSystem SR850

7B27A03953	ThinkSystem SR850/SR860 Processor and Memory Expansion Tray
7C57A03999	ThinkSystem SR850/SR860 2.5" Anybay 8-Bay BP Kit
7C57A03998	ThinkSystem SR850/SR860 2.5" SATA/SAS 8-Bay BP Kit
7X97A03954	ThinkSystem SR850 Front VGA Connector Upgrade Kit
7C57A03950	ThinkSystem SR850/SR860 x8/x8/x8 PCIe FH Riser Kit
7C57A03951	ThinkSystem SR850/SR860 x8/x8/x8ML2 PCIe FH Riser Kit
7C57A03952	ThinkSystem SR850/SR860 x8/x16ML2 PCIe FH Riser Kit



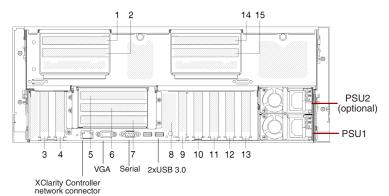




ThinkSystem SR860 Platform Specifications

	Smarification	- Indutio							
Components	Specification 4U rack								
Form factor	4U rack Height: 175 mm (6.9 in). Width: 482 mm (19.0 in) with rack latches. Depth: 765.88 mm (30.15 in)								
Dimensions	without security bezel	without security bezel							
Weight	Maximum configuration: 87.74 lb (39.8 kg)								
	Supports up to four 205W Gen 1 or	upports up to four 205W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Gold or							
Processor		atinum. 2 processor sockets on system board, 2 processor sockets on optional processor and generally expansion tray. Up to 28 cores at 2.7GHz, up to 3.8GHz with 4 cores. Four processors							
	are connected in ring topology with	two 10.4GT	/s UP	(Ultra	Path Intercor	nnect) pe	r proces	ssor	
Chipset	Intel C624 Platform Controller Hub								
	Up to 48 DIMM sockets. 24 DIMM so processor and memory expansion tr	ockets on s	ystem	main b	oard, 24 DIM	MM socke	ts on op	tional	
	channels. Supports following:	ay. Lacii pi	00033	oi sup	30113 up 10 12	_ DIIVIIVI 3	OCKEIS V	witi 0 :	
	Memory Type	Speed	4	Offeri	na				
	Intel Optane DC Persistent Memory				B/256GB/512	2GB			
	RDIMM				16GB/32GB/6	64GB			
Memory	LRDIMM	DDR4	-2933	64GB	/128GB				
	3DS RDIMM	DDR4	-2933	128G	В				
	Performance+ RDIMM	DDR4	-2933	16GB	/32GB/64GB				
	Performance+ 3DS RDIMM			128G					
	RDIMM LRDIMM			64GB	16GB/32GB				
	3DS RDIMM			128G					
	6TB with 48x 128GB 3DS RDI								
Memory capacity	 12TB with 24x 512GB DC Per 	sistent Men	nory (r	nemor	y mode) and	four L Sk			
	15TB with 24x 512GB DC Personal and four L SKU processors	sistent ivien	nory (r	nemor	y mode) + 24	X 128GB	3DS RI		
Memory protection	ECC, memory mirroring, and memory	ry sparing							
, ,	Supports the following RAID/HBA ad								
	Feature Interface Drive type RAII) lovols	IROD	Cache	Cache	FastPath	Max		
	530-8i 12Gbps SAS SATA/SAS 0/1/-		Yes		Protection None	Yes	qty 2		
	730-8i 12Gbps SAS SATA/SAS 0/1/		Yes		None	No	2		
Storage controllers	930-8i 12Gbps SAS SATA/SAS 0/1/		Yes	2GB	Flash backup	Yes	1		
Storage controllers	930-16i 12Gbps SAS SATA/SAS 0/1/1 430-8i 12Gbps SAS SATA/SAS -	10/5/50/6/60	Yes Yes		None	Yes -	2		
	430-16i 12Gbps SAS SATA/SAS -	10/5/50/0/00	Yes		None	-	1		
	930-8e 12Gbps SAS SATA/SAS 0/1/1 430-8e 12Gbps SAS SATA/SAS -	10/5/50/6/60	Yes Yes		Flash backup None	Yes -	10		
	430-16e 12Gbps SAS SATA/SAS -		Yes	None		-	10		
	Note: 730-8i is available in China only							240	
Disk drive bays	Supports 8 front 2.5" SATA/SAS HS HS bays with maximum 8 AnyBay	bays with r	naxim	um 4 A	inyBay, or 16	front 2.5	" SATA/S	SAS	
Disk drive bays	Optional one or two internal M.2 SS	D for boot,	dual M	1.2 SSI	O supports m	irroring			
	2.5" HDD, SATA6Gbps, 7.2K	1TB/2TB							
	2.5" HDD, SAS12Gbps, 7.2K 2.5" HDD, SAS12Gbps, 10K	1TB/2TB 300GB/3000	3B SEI	D/600GI	3/600GB SED/9	900GB/1.2	TB/1.8TB	3	
	2.5" HDD, SAS12Gbps, 15K	300GB/6000	GB/900	GB				\Box	
Internal storage	2.5" SSD, SAS12Gbps 2.5" SSD, SATA6Gbps	400GB/8000 240GB/4800		4TB/7.6	8TB			-	
	2.5" NVMe SSD, AnyBay	800GB/9600	GB/1.6						
	NVMe SSD, PCIe 3.0 x4, HHHL adapter M.2 SATA SSD for boot	1.6TB/1.92T 32GB/128G			B, up to 10				
Optical	No internal optical bay. Optional USI								
Οριισαί	One dedicated management port. O					h up to fo	ur RJ-4		
Network interfaces	SFP+ ports, up to 10ĞbE. Wake-on-							tional	
	ML2 or PCIe adapters are supported							0.0	
Security features	Power-on and admin password. Trus via UEFI setting. Optional TCM in Cl						raue to 2	2.0	
Operating systems	Microsoft Windows Server 2016/201	2 R2. Red	Hat Er	nterpris	se Linux 7.4/6		Linux		
supported	Enterprise Server 12 SP3/11 SP4. V								
Systems	XClarity Controller Advanced, option XClarity Administrator. Lenovo Capa	nal upgrade	s to E	nterpris	se is available	e. Energy	Manag	er.	
management	diagnostic pull-out panel	iony i latifit	Ligit	ı aul	Diagi iostics 1	with optio	nai LOD	'	
GPU support	Up to two NVIDIA Tesla M60 GPU a	ccelerator,	300W	each					
Base warranty	MT 7X69: 3-year limited onsite servi	ce with 9x5	/NBD						
	MT 7X70: 1-year limited onsite servi								
Power supply	Up to two redundant hot-swap 750W power supplies. 1600W and 2000W						ialitied A	IC	
Video	Integrated Matrox G200 in XClarity 0		∠+∪ v,	JU1612	uic 1007 - 2	-TU V		-	
VIGEO	princegrated matrox G200 in Acidfity (JUILLUILEI							

Components	Specification					
Cooling	Six hot-swap fans, N + 1 redundancy					
Front ports	One XClarity Controller USB connector, one USB 2.0 or USB 3.0 (model dependent), one VGA					
Rear ports	One VGA, two USB 3.0, one serial, one XClarity	Controller network connector				
	Supports ASHRAE A4 with limitations.					
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)				
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)				
	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)				
Environmental	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)				
specification	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%				
	Humidity - storage (with package), non-condensing	8%~90%				
	Models should meet the following requirements to support A3 and A4: Two PSU installed NVMe drives not installed PCIe flash adapter not installed GPU not installed					
Environmental	Energy Star Server 2.1 certified. More environm	ental information please see:				
certification	www.lenovo.com/social_responsibility/us/en/env	vironment/				



Expansion slotsUp to 13 PCle slots with one LOM slot and one M.2 slot

- 1	
Slot 1-2 (riser card 2)	One PCIe 3.0 x16 for GPU or two PCIe 3.0 x8, full height, full length
Slot 3 (onboard)	PCIe 3.0 x16, for riser card 2 or used as a low profile slot if riser card 2 not used
Slot 4 (onboard)	PCIe 3.0 x8, low profile
Slot 5-7 (riser card 1)	Supports one of the following for riser card:
	Option 1: PCIe 3.0 x8/x8/x8 (slot 5-7). Full height, half length
	Option 2: PCIe 3.0 x8/x8/x8 ML2 (slot 5-7). Full height, half length
	Option 4: PCIe 3.0 x8/x16 ML2 (slot 5 and 7). Full height, half length
Slot 8 (onboard)	M.2 slot for M.2 enablement kit, internal
Slot 9 (onboard)	LOM slot, low profile
Slot 10 -12(onboard)	PCIe 3.0 x8, low profile
Slot 13 (onboard)	PCIe 3.0 x16, for riser card 3 or used as a low profile slot if riser card 3 not used
Slot 14-15 (riser card 3)	One PCIe 3.0 x16 for GPU or two PCIe 3.0 x8, full height, full length, 4 CPU required

System unique options for ThinkSystem SR850

7B27A03953	ThinkSystem SR850/SR860 Processor and Memory Expansion Tray
7C57A03999	ThinkSystem SR850/SR860 2.5" Anybay 8-Bay BP Kit
7C57A03998	ThinkSystem SR850/SR860 2.5" SATA/SAS 8-Bay BP Kit
7C57A03950	ThinkSystem 2U x8/x8/x8 PCIE FH Riser 1
7C57A03951	ThinkSystem 2U x8/x8/x8ML2 PCIE FH Riser 1
7C57A03952	ThinkSystem 2U x8/x16ML2 PCIE FH Riser 1
4C57A08184	ThinkSystem SR860 2x8 PCIe FH Riser 2 (Slot 1 & 2)
4C57A08186	ThinkSystem SR860 1x16 PCIe FH Riser 2 (Slot 1)
4C57A08185	ThinkSystem SR860 2x8 PCIe FH Riser 3 (Slot 14 & 15)
4C57A08187	ThinkSystem SR860 1x16 PCIe FHFL Riser 3 (Slot 14)
00KG655	NVIDIA Tesla M60 GPU, PCIe (Passive)









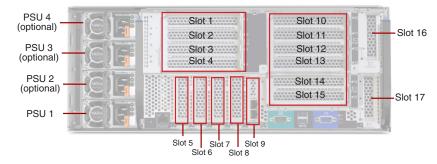




ThinkSystem SR950 Platform Specifications

Components	Specific	ation									
Form factor	4U rack										
Dimensions		•			•	0 in) at	t EIA F	lange. Depth:	853 mm	(33.6	in)
Weight		Maximum configuration: 129.4 lb (58.7 kg) Supports up to four Gen 1 or Gen 2 Intel Xeon Scalable family processors. Gold or Platinum									
	Supports up to four Gen 1 or Gen 2 Intel Xeon Scalable family processors, Gold or Platinum. Or up to eight Intel Xeon Scalable family processors, Platinum only.										
Processor	Process	ors and mer	nory are lo	ocated o	n syster	n boar	ds inst	alled in comp			
. 1000000	per syste	em board, 2	system bo	oards pe	r compu	ıte tray	, up to	2 compute tra UPI (Ultra Pa	ay per sy	stem.	Up to
		num 10.4GT		ai iz wili	14 00160	3. Op 10	J lillee	Of I (Ollia i a	illi iiileici	Jilile	n) iii ko
Chipset	Intel C62	24 Platform	Controller	Hub							
		DIMM sock s following:	ets. Each	process	or supp	orts up	to 12	DIMM sockets	s with 6 c	hann	els.
	Memory				Qr.	peed	Of	fering			
		tane DC Pei	sistent Me	emory				8GB/256GB/5	512GB		
	RDIMM							GB/32GB/640			
Memory offering	LRDIMN							GB/128GB			
, ,	3DS RD		48.4					GB/128GB/25			
		ance+ RDIM ance+ 3DS						GB/32GB/640 8GB/256GB	3D		
	RDIMM	ancer obo	I I DIIVIIVI					GB/32GB			
	LRDIMN	Л				DR4-26					
	3DS RD	MMI			DI	DR4-26	66 64	GB/128GB			
		TB with 96x							aimbt I C	1/11 -	****
Memory capacity	• 24 so		512GB D	C Persis	stent ivie	mory (memo	ry mode) and	eignt L S	ко р	roces-
mornery dapasity	• 36				tent Me	mory (memo	ry mode) + 48	3x 256GE	3DS	RDIMM
Memory protection		emory mirro			rank spa	aring.					
,					s for mo	st RAI	D/HBA	adapters. Su	pports th	е	
	following	RAID/HBA	adapters:								
	Feature	Interface	Drive type	RAID le	vels	JBOD	Cache	Cache protection	FastPath	Max	
	530-8i	12Gbps SAS				Yes		None	Yes	qty 2	
	730-8i	12Gbps SAS	SATA/SAS	0/1/10/5	5/50	Yes	1GB	None	No	2	
Storage controllers	930-8i 930-16i	12Gbps SAS 12Gbps SAS	SATA/SAS	6 0/1/10/5 6 0/1/10/5	5/50/6/60 5/50/6/60	Yes Yes	4GB	Flash backup Flash backup	Yes Yes	2	
	430-8i	12Gbps SAS	SATA/SAS) -		Yes	None	None	-	2	
	430-16i 930-8e	12Gbps SAS 12Gbps SAS			/50/6/60	Yes Yes	None 4GB	None Flash backup	- Yes	4	
	430-8e	12Gbps SAS			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Yes	None		-	14	
	Note: 730 5 firstly.	-8i is available	in China or	nly. 930-8	e should i	be place	ed in slo	ot 7 firstly. 430-8	e should b	e plac	ed in slot
Diele deles beere		disk bavs w	ith maxim	um 6 Ar	nvBav. o	r up to	24 dis	k bays with m	aximum	12 Ar	nvBav.
Disk drive bays	Optional	one or two	internal M	.2 SSD 1	for boot,	dual N	Л.2 SS	D supports m			
		le SSD, AnyBa					.6TB/1.	92TB/3.84TB			
		, SAS12Gbps , SAS12Gbps			1TB/2TB 300GB/6		00GB				
		, SAS12Gbps						.2TB/1.8TB,			
Internal storage		, SAS12Gbps			300GB/6			,			
		, SATA6Gbps			240GB/4	80GB					
		, SAS12Gbps			400GB/8						
	M.2 SATA	SD, PCIe x4 H	HHL adapte		1.6TB/1.9		2TB/3.8	4TB			
			agament n		32GB/12		nuotom	ized LOM wit	h un to fo	ur D	1 15 or
Naturali interfesso	SFP+ pc	orts, up to 10	GbE. Wak	ke-on-LA	N and I	VC-SI	are ava	ailable on Por	t 0 of LOI	M. Op	tional
Network interfaces	ML2 or F	Cle adapte	rs are sup	ported. (One sta	ndard I	ML2 sl	ailable on Por ot, one option	al ML2 s	lot via	optional
0								CG 1.2 comp			
Security features	via UEFI	I setting. Op	tional TCN	1, China	only						
	via UEFI setting. Optional TCM, China only Microsoft Windows Server 2016/2012 R2. Red Hat Enterprise Linux 7.3/6.9. SUSE Linux Enterprise Server 12 SP2/11 SP4. VMware vSphere (ESXi) 6.5/6.0 U3								5.9. SUSI	= Linu	IX
Operating systems supported	o.p			VClarity	Admini			ity Energy Ma	nager. X		y Pro-
supported	XClarity	Controller E									
supported Systems	XClarity visioning	Controller E Manager. >	Clarity Es			Capa	city Pla	anner. Light P	ath Diagr	nostic	s with
supported Systems management	XClarity visioning LCD dia	Controller E	Clarity Es			Capa	city Pla	anner. Light P	ath Diagr	nostic	s with
supported Systems	XClarity visioning LCD dia None	Controller E Manager. >	(Clarity Es out panel	sentials	. Lenovo			anner. Light P	ath Diagr	nostic	s with

Components	Specification					
Power supply	Supports one, two or four hot-swap 1100W/160 supplies. Redundant with two or four power sup 1600W Platinum is 200V - 240V, 1100W is 100V from 110V input	plies (N+N, N = 1 or 2).				
Video	Integrated Matrox G200 in XClarity Controller					
Cooling	Up to 12 hot-swap fans. N +1 redundancy. 6 fan	s per compute tray, 3 fans per storage tray				
Front ports	One XClarity Controller USB connector, one US	SB 2.0, one VGA				
Rear ports	One VGA, two USB 3.0, one serial, one XClarity Controller network connector					
	Supports ASHRAE A4 with limitations.					
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)				
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)				
Environmental	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)				
specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)				
·	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:20%~80%				
	Humidity - storage (with package), non-condensing	8%~90%				
	Models should meet the following requirements to support A3 and A4: • 2.5" NVMe SSD and PCIe NVMe flash adapter not installed (NVMe devices are supported up to 35°C) • Processors with TDP more than or equal to 150-watt not installed					
Environmental certification	Energy Star Server 2.1 certified. More environwww.lenovo.com/social_responsibility/us/en/					



Note: All riser cards, expansion cards, and LOM adapters are optional.

Expansion slots

Supports five standard expansion slots (slot 5 - 9) and up to 12 optional expansion slots (slot 1 - 4, 10 - 15, 16 - 17) via 3 riser cards. The slots are as follows:

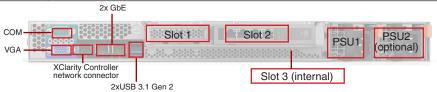
Slot 1-4	Supports one of the following for riser card 1:
(riser card 1)	Option 1: PCle 3.0 x8/x8/x8/x8 (slot 1-4). Full height, half length
(I)	Option 2: PCle 3.0 x16/x16 (slot 3 and 4). Full height, half length
	Option 3: PCle 3.0 x16/x16/x16/x16 (slot 1-4). Full height, half length
Slot 5 (on main I/O tray)	PCIe 3.0 x16, low profile
Slot 6 (on main I/O tray)	PCIe 3.0 x16, low profile
Slot 7 (on main I/O tray)	PCIe 3.0 x8, low profile
Slot 8 (on main I/O tray)	PCIe 3.0 x16 ML2, low profile
Slot 9 (on main I/O tray)	LOM slot, low profile
Slot 10-15	Supports one of the following for riser card 2:
(riser card 2)	Option 1: PCle 3.0 x8/x8/x8/x8 (slot 10-13). Full height, half length
,	Option 2: PCle 3.0 x16/x16 (slot 12 and 13). Full height, half length
	Option 3: PCIe 3.0 x16/x16/x16/x16/x16/x16/x16 ML2 (slot 10-15).
	Full height, half length
Slot 16 -17(riser card 3)	PCIe 3.0 x8, low profile
·	<u> </u>

For riser cards configuration of each model, please see model configuration table.

ThinkSystem SR250 Platform Specifications

Components	Specification	n								
Form factor	1U rack									
Dimensions		Height: 43 mm (1.7 in), width: 434.4 mm (17.1 in), depth: 497.8 mm (19.6 in). The depth is counted from EIA flange front surface to rear of chassis								
Weight	Maximum coi	Maximum configuration: 27.1 lb (12.3 kg)								
Processor	12MB cache, Or up to one 8MB cache, or Or up to one cache, DDR4 Or up to one	Up to one Intel Xeon E family processor, up to 95W, up to 6 cores at 3.8GHz, up to 12MB cache, up to DDR4-2666 memory speed. Or up to one 8th Intel Core i3 processor, up to 91W, up to 4 cores at 4.0GHz, up to 8MB cache, up to DDR4-2400 memory speed. Or up to one Intel Pentium Gold processor, up to 54W, 2 cores at 3.9GHz, 4MB cache, DDR4-2400 memory speed Or up to one Intel Celeron processor, up to 54W, 2 cores at 3.2GHz, 2MB cache, DDR4-2400 memory speed								
Chipset	Intel C246 PI	atform Cont	roller Hu	b						
Memory	4 DIMM sock	ets with 2 cl	hannels.	2 DIMMs pe	r chan	nel. U	DIMM. DDF	34-2666.		
Memory capacity	64GB with 4x			'						
Memory protection										
momory protoction	Supports the	following R	ΔΙΠ/ΗΒΔ	adanters:						
	Cupporto tric	Tollowing 11	, (10/110/	adaptoro.					1	
	RAID adapter	Interface	Drive type	RAID levels	JBOD	Cache	Cache	FastPath		
	Onboard SATA	6Gbps SATA	SATA	0/1/10/5	Yes	None	None	No	1	
Storage controllers	530-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50	Yes	None	None	Yes]	
storage controllers	730-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50	Yes	1GB	None	No	ļ	
	930-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50/6/60		2GB		Yes		
	430-8i	12Gbps SAS			Yes		None	-	-	
	430-8e	12Gbps SAS	SAIA/SAS	0/1/10/5/50/6/60	Yes Yes	None	Flash backup	- Yes	-	
	930-8e	12Gbps 5A5	SAIASAS	10/1/10/5/50/6/60	1 165	4GB	јгіазії раскир	162	J	
Disk drive bays	Supports 4 front 3.5" SATA simple-swap bays. Or 4 front 3.5" SATA/SAS HS bays. Or 8 front 2.5" SATA/SAS HS bays. Or 10x 2.5" HS bays with 8 SATA/SAS bays plus 2 Anybay. Optional one internal M.2 SSD for boot, consumes one onboard SATA port									
	For 3.5" SS bay 3.5" HDD, SATA6Gbps, 7.2K				TB/2TB					
	2.5" SSD, SAIA6Gbps				240GB/480GB/960GB					
		3.5" HDD, SATA			1TB/2TB/4TB/6TB/8TB					
	(3.5" disks or	3.5" HDD, SAS	12Gbps, 7.2	2K 1	1TB/2TB/4TB/6TB/8TB					
	2.5" disks with	2.5" HDD, SAS	12Gbps, 15	K 3	800GB/6	00GB/90	00GB			
	3.5" tray)	2.5" SSD, SATA	A6Gbps	2	40GB/4	80GB/96	60GB			
Disk support		2.5" HDD, SATA	A6Gbps, 7.2	!K 1	TB/2TB					
		2.5" HDD, SAS			TB/2TB					
				2	300GB/3	00GB S	ED/600GB/900	GB/1.2TB/		
	For 2.5" HS bay	2.5" HDD, SAS	12Gbps, 10	K I	.8TB/2.4					
		2.5" HDD, SAS	12Gbps. 15		300GB/600GB/900GB					
		2.5" SSD, SATA			40GB/4					
	M.2 SSD	M.2 SATA SSD			32GB/12					
O-4:1								740500	C)	
Optical	None optical									
Network interfaces	Two onboard									
Network interfaces	one dedicate	d managem	ent port.	Optional PC	le ethe	ernet a	adapters are	e availab	le	
Security features	Power-on and Optional TCN pad lock									
Operating systems	Microsoft Wir	ndows Serve	er 2019/2	016/2012 R2	2. Red	Hat E	nterprise Li	nux 7.5.		
supported	SUSE Linux									
	XClarity Conf								`	
Systems										
management	available. En							SI SIIOW U	i i e	
	status of pow					Syste	m emor			
GPU support	Up to one op									
Base warranty	MT 7Y51: 3-y MT 7Y52: 1-y									
Power supply	Supports one One fixe	of the followed power support of the follower support	wing PSU pply, 300		Gold o	ertifie		LUS Plat	inum	

Components	Specification
Video	Integrated Matrox G200 in XClarity Controller
Cooling	Four non-hot-swap system fans.
Front ports	One XClarity Controller USB connector, one USB 3.1 Gen 1. One optional VGA
Rear ports	2x USB 3.1 Gen 2. 2x RJ-45. 1x XClarity Controller network connector. 1x COM. 1x VGA
Environmental specification	Supports ASHRAE A2
Environmental certification	Energy Star Server 2.1 certified



Expansion slotsSupports up to three PCle 3.0 slots as following:

· · · · · · · · · · · · · · · · · · ·
Supports one of the following
Option 1: PCle 3.0 x8/x16 (slot 1-2). Low profile for x8, full height half length
for x16, x16 is negotiable link width x8
Option 2: PCle 3.0x16 (slot 2). Full height half length
Slot 3 is covered by riser card so this slot is not available
PCIe 3.0 x8 (negotiable link width x4), dedicated internal RAID slot

Partial options for ThinkSystem SR250

ThinkSystem 8GB TruDDR4 (1Rx8, 1.2V) 2666 MHz UDIMM	4ZC7A08696
ThinkSystem 16GB TruDDR4 (2Rx8, 1.2V) 2666 MHz UDIMM	4ZC7A08699
ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	7XB7A00049
ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Hot Swap 512e HDD	7XB7A00053
900GB 15K 12Gbps SAS 2.5" G4HS 512e HDD	7XB7A00023
300GB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00024
600GB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00025
900GB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00026
1.2TB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00027
1.8TB 10K 12Gbps SAS 2.5" G4HS 512e HDD	7XB7A00028
2.4TB 10K SAS 12Gb HS 512e HDD	7XB7A00069
300GB 10K 12Gbps SAS 2.5" G4HS SED	7XB7A00030
1TB 7.2K 12Gbps NL SAS 2.5" G4HS HDD	7XB7A00034
2TB 7.2K 12Gbps NL SAS 2.5" G4HS HDD	7XB7A00035
M.2 CV3 128GB SATA SSD	7N47A00130
ThinkSystem ST50/ST250 Rack Mount Kit	4M17A12785





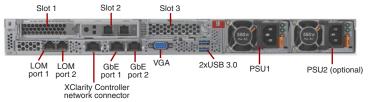




ThinkSystem SR530 Platform Specifications

Components	Specif	ication									C	
Form factor	1U rac	k									В	
Dimensions	Height	: 43 mm	(1.7 in). Wid	dth: 482 mr	n (19.0 in) with	rack la	tches.	Depth: 778.3	mm (30.6	34 in)	ľ	
Weight			, ,		` '				(,	_P	
g		Maximum configuration: 35.27 lb (16 kg) Up to two 125W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, Gold, or										
Processor	Platinu	ım. Up to	22 cores a	t 1.9GHz, ι	up to 3.8GHz wi	th 4 cc	res. Tv	vo processors		,	$\ \nabla$	
					terconnect) link	s up to	10.40	aT/s			ŀċ	
Chipset		ntel C622 Platform Controller Hub Jp to 12 DIMM sockets. Each processor supports up to 6 DIMM sockets with 6 channels.										
				acn proces	sor supports up	10 6 L	JIIVIIVI S	ockets with 6	cnanneis	i.	F	
		Supports following:										
Memory	RDIM	ry Type		Speed	Offering 8GB/16GB/320	CD/64	CP					
	RDIM				8GB/16GB/320		аь					
	LRDIN			DR4-2666		<u> </u>	\dashv					
Memory capacity					ual processor						1	
Memory protection			mirroring, a								E	
, , , , , , , , , , , , , , , , , , ,			llowing RAI								3	
		RAID		l	· 			Cache		Max		
		adapter	Interface	Drive type	RAID levels	JBOD	Cache	protection	FastPath	qty		
	For SS bays	Onboard SATA	6Gbps SATA	SATA	0/1/10/5	Yes	None	None	No	-		
	bayo	530-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50	Yes	None		Yes	1	IE	
Storage controllers		730-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50	Yes		None	No	1	c	
	For HS	930-8i 430-8i	12Gbps SAS	SATA/SAS SATA/SAS	0/1/10/5/50/6/60	Yes Yes	None	Flash backup None	Yes -	1		
	bays	430-8e	12Gbps SAS	SATA/SAS	-	Yes	None	None	-	2		
			12Gbps SAS			Yes	None			2		
	930-8e 12Gbps SAS SATA/SAS 0/1/10/5/50/6/60 Yes 4GB Flash backup Yes Note: 730-8i is available in China only. All RAID/HBA adapters should be placed in slot 1 firstly.						2					
					p bays, or 4 fro					nt 2 5"	-	
Disk drive bays		SAS HS I		simple-swa	p bays, or 4 no	111 0.0	OAIA.	OAO 110 Days	5, 01 0 1101	11 2.5		
				al M.2 SSD	for boot, dual N	Л.2 SS	D supp	orts mirroring	g			
	For 3.5	" SS bay			A6Gbs, 7.2K			2TB/4TB/6TB/8				
	For 3.5" bay			3.5" HDD, SATA6Gbs, 7.2K				1TB/2TB/4TB/6TB/8TB/10TB				
	(3.5" dis	sks or 2.5"	disks with	3.5" HDD, SAS12Gbs, 7.2K 12.5" HDD, SAS12Gbs, 15K 2.5" SSD, SATA6Gbs				1TB/2TB/4TB/6TB/10TB 300GB/600GB				
	3.5" tra	y)	2					B/480GB			N	
				2.5" HDD, SATA6Gbs, 7.2K				1TB/2TB				
Internal storage				2.5" HDD, SAS12Gbs, 7.2K			1TB/2TB				S	
			2.	5" HDD, SAS	S12Gbs, 10K		3000	B/600GB/900G	BB/1.2TB/1	.8TB		
	For 2.5'	" bay	2.	5" HDD, SAS	S12Gbs, 15K		300GB/600GB					
			_	2.5" SSD, SAS12Gbs			400GB/800GB/3.84TB				s	
			_	5" SSD, SAT			240GB/480GB					
0 .: 1				.2 SATA SSE			_	3/128GB			Ļ	
Optical					DVD±RW optic			1011	, ,		S	
					nt port plus two					mized	0	
Network interfaces					r card with ML2		IVILZ O	i Ole adapte	ois aic		7	
	Up to t	wo ports	supports V	√ake-on-LA	N and NC-SI (s	ee rigl					7)	
Security features					ed Platform Mod				pgrade to	2.0	1	
,					na only. Optiona R2. Red Hat E				CHELL	inuv	7)	
Operating systems supported					SP4. VMware E				. 303E L	iiiux	72	
Systems	XClarit	y Contro	ller Standaı	rd, optional	upgrades to Ac	dvance			available.	Energy	72	
management	Manag	er. XClar	ity Adminis	trator. Lend	ovo Capacity Pla	anner.		•		3,	72 7)	
<u> </u>		oning Ma	anager. Ess	entials. Lig	ht Path Diagnos	SIICS					''	
GPU support	None]	

Components	Specification							
Base warranty	MT 7X07: 1-year limited onsite service with 9x5/NBD MT 7X08: 3-year limited onsite service with 9x5/NBD							
Power supply	supplies. Or up to two redundant hot-swap 750	Up to two redundant hot-swap 550W and 750W 80 PLUS Platinum qualified AC power supplies. Or up to two redundant hot-swap 750W Titanium qualified AC power supplies. 750W Titanium is 200V - 240V, others are 100V - 240V						
Video	Integrated Matrox G200 in XClarity Controller							
Cooling	Four fans (3+1) for single processor model, six	fans (5+1) for dual processor model						
Front ports	One XClarity Controller USB, one USB 3.0, one	e optional VGA						
Rear ports	One VGA, two USB 3.0, two ethernet (RJ-45), one XClarity Controller connector. Optional COM port							
	Supports ASHRAE A4 with limitations.							
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)						
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)						
Environmental	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)						
specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)						
•	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:20%~80%						
	Humidity - storage (with package), non-condensing	8%~90%						
	Models should meet the following requirements to support A3 and A4:							
	Redundant power supplies required No system fan fails							
	Energy Star Server 2.1 certified. More environmental information please see: www.lenovo.com/social responsibility/us/en/environment/							



Note: GbE port 1 and LOM port 1 support Wake-on-LAN and NC-SI. Riser cards, expansion cards, and LOM adapters are optional.

Expansion slots

Slot 1-2 (riser card 1)	Supports one of the following for riser card 1:
	Option 1: PCIe 3.0 x8/x16 (slot 1-2). Low profile for x8, low profile or full
	height half length for x16
	Option 2: PCIe 3.0 x8/x8 ML2 (slot 1-2). Low profile
Slot 3 (riser card 2)	Option 1: PCIe 3.0 x 8, low profile, for single processor model
, ,	Option 2: PCIe 3.0 x 16, low profile, for dual processor model
ıl.	When slot 2 is full height, slot 3 cannot be used

Option	Description
7XH7A05892	ThinkSystem SR530/SR570 x8/x8ML2 PCIe LP+LP Riser 1 kit
7XH7A02682	ThinkSystem SR530/SR570/SR630 x8/x16 PCIe LP+LP Riser 1 Kit
7XH7A05893	ThinkSystem SR530/SR570/SR630 x8/x16 PCIe LP+FH Riser 1 Kit
7XH7A05891	ThinkSystem SR530/SR570 x8 PCIe LP Riser 2 kit
7XH7A02685	ThinkSystem SR530/SR570/SR630 x16 PCIe LP Riser 2 Kit
7Z17A02579	ThinkSystem SR530/SR570/SR630 Front VGA Connector Upgrade Kit
7Z17A02581	ThinkSystem 1U Security Bezel
7Z17A02577	ThinkSystem COM Port Upgrade Kit
7XH7A05896	ThinkSystem SR530/SR630 2.5" SATA/SAS 8-Bay Backplane Kit





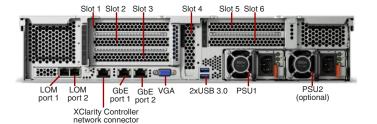




ThinkSystem SR550 Platform Specifications

Components	Specif	ication									
Form factor	Specification 2U rack										
Dimensions		Height: 86.5 mm (3.4 in). Width: 482 mm (19.0 in) with rack latches. Depth: 763.7 mm (30.1 in)									
Weight	Maximum configuration: 57.32 lb (26 kg)										
Processor	Platinu	Up to two 125W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, Gold, or Platinum. Up to 22 cores at 1.9GHz, up to 3.8GHz with 4 cores. Two processors are connected with two UPI (Ultra Path Interconnect) links up to 10.4GT/s									
Chipset		Intel C622 Platform Controller Hub									
		Up to 12 DIMM sockets. Each processor supports up to 6 DIMM sockets with 6 channels. Supports following:									
Memory offering	RDIM!	Memory Type Speed Offering RDIMM DDR4-2933 8GB/16GB/32GB/64GB RDIMM DDR4-2666 8GB/16GB/32GB LRDIMM DDR4-2666 64GB									
Memory capacity	768GB	with 12x	64GB RE	DIMM and	dual processor						
Memory protection	ECC, r	nemory n	nirroring, a	and memor	y sparing						
, ,				AID/HBA ac							
		RAID	Interface	Drive type	RAID levels	JBOD	Cache	Cache	FastPath	Max	
	For SS bays	adapter Onboard SATA	6Gb SATA		0/1/10/5	Yes		None Protection	No	qty -	
	bayo	530-8i	12Gbs SAS	SATA/SAS	0/1/10/5/50	Yes	None	None	Yes	2	
		730-8i	12Gbs SAS	SATA/SAS	0/1/10/5/50	Yes	1GB	None	No	2	
Storage controllers		930-8i	12Gbs SAS	S SATA/SAS	0/1/10/5/50/6/60 0/1/10/5/50/6/60	Yes	2GB	Flash backup	Yes	2	
	For HS	930-16i 430-8i	12Gbs SAS	SAIA/SAS	0/1/10/5/50/6/60	Yes Yes		Flash backup	Yes -	2	
	bays	430-6i	12Gbs SA3	S SATA/SAS S SATA/SAS	-	Yes	None None		-	1	
				S SATA/SAS	_	Yes	None		-	6	
			12Gbs SAS	S SATA/SAS	-	Yes	None		-	6	
		930-8e	12Gbs SAS	SATA/SAS	0/1/10/5/50/6/60	Yes	4GB	Flash backup	Yes	6	
	Note: 73	30-8i is ava	ilable in Ch	ina only. All l	RAID/HBA adapter	s shou	d be pla	aced in slot 4 fir	stly.		
Disk drive bays	or 16 fi	ront 2.5"	SATA/SAS	S HS bays.	ap bays, or 8 fro or 8 front 2.5" S O for boot, dual						
		" SS bay			TA6Gbs, 7.2K			B/2TB/4TB/6TB/			
					TA6Gbs, 7.2K			3/2TB/4TB/6TB/			
	For 3.5	" bay		3.5" HDD, SAS12Gbs, 7.2K			-	1TB/2TB/4TB/6TB/10TB 300GB/600GB 240GB/480GB			
	(3.5" dis	sks or 2.5"									
	3.5" tra	y)	-				_				
Internal storage			-					1TB/2TB 1TB/2TB 300GB/600GB/900GB/1.2TB/1.8TB			
	For 2.5	" hav	-		S12Gbs, 15K						
	01 2.3	Day	-					300GB/600GB 400GB/800GB/3.84TB			
				2.5" SSD, SA					+10		
			-	2.5" SSD, SA			240GB/480GB				
	L			M.2 SATA SS			_	BB/128GB			
Optical					B DVD±RW option						
Network interfaces	LOM w	Integrated one dedicated management port plus two GbE ports. One LOM slot for customized LOM with two RJ-45 or SFP+ ports, up to 10GbE. Optional ML2 or PCIe adapters are supported. ML2 adapter requires riser card with ML2 slot. Up to two ports supports Wake-on-LAN and NC-SI (see right)									
Security features	Power-	on and a	dmin pass	sword. Trus	ted Platform Mo nina only. Option	dule,	ΓCG 1.		upgrade t	o 2.0	
Operating systems supported	Micros Enterp	oft Windo	ws Serve er 12 SP3	r 2016/201 3/12 SP2/1	2 R2. Red Hat E I SP4. VMware	Enterp ESXi 6	rise Lir 3.5U1/6	nux 7.4/7.3/6.9 6.5/6.0 U3			
Systems management	Manag	XClarity Controller Standard, optional upgrades to Advanced or Enterprise are available. Energy Manager. XClarity Administrator. Lenovo Capacity Planner. Provisioning Manager. Essentials. Light Path Diagnostics									
GPU support	None										

Components	Specification						
Base warranty	MT 7X03: 1-year limited onsite service with 9x5/NBD MT 7X04: 3-year limited onsite service with 9x5/NBD						
Power supply	Up to two redundant hot-swap 550W and 750W 80 PLUS Platinum qualified AC power supplies. Or up to two redundant hot-swap 750W Titanium qualified AC power supplies. 750W Titanium is 200V - 240V, others are 100V - 240V						
Video	Integrated Matrox G200 in XClarity Controller						
Cooling	Three fans (2+1) for single processor model, for	our fans (3+1) for dual processor model					
Front ports	One XClarity Controller USB, one USB 3.0, one optional VGA						
Rear ports	One VGA, two USB 3.0, two ethernet (RJ-45) one XClarity Controller connector. Optional COM port						
	Supports ASHRAE A4 with limitations.						
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)					
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)					
Environmental	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)					
specification	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)					
	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:20%~80%					
	Humidity - storage (with package), non-condensing 8%~90%						
	Models should meet the following requirements to support A3 and A4:						
	Redundant power supplies required No system fan fails						
Environmental	Energy Star Server 2.1 certified. More environ						
certification	www.lenovo.com/social_responsibility/us/en/environment/						



Note: GbE port 1 and LOM port 1 support Wake-on-LAN and NC-SI. Riser cards, expansion cards, and LOM adapters are optional.

Expansion slots

Slot 1-3 (riser card 1)	Supports one of the following for riser card 1:
'	Option 1: PCle 3.0 x8/x8/x8 (slot 1-3). Full height, half length.
	Option 2: PCle 3.0 x16/x8 (slot 1 and 3). Full height, half length
	Option 3: PCIe 3.0 x8/x8/x8 ML2 (slot 1-3). Full height, half length
Slot 4 (onboard)	PCIe 3.0 x8, low profile
Slot 5 (riser card 2)	PCIe 3.0 x16, full height, half length, requires 2nd CPU
Slot 6 (riser card 2)	PCIe 3.0 x8, full height, half length

7XH7A02680	Lenovo SR550/SR590/SR650 x8/x8/x8ML2 PCIe FH Riser 1 Kit
7XH7A02679	Lenovo SR550/SR590/SR650 (x16/x8)/(x16/x16) PCIe FH Riser 2 Kit
7XH7A02678	Lenovo SR550/SR590/SR650 x16/x8 PCIe FH Riser 1 Kit
7XH7A02677	Lenovo SR550/SR590/SR650 x8/x8/x8 PCIe FH Riser 1 Kit
7Z17A02578	Lenovo SR550/SR590/SR650 EIA Latch w/ VGA Upgrade Kit
7XH7A06254	Lenovo SR550/SR650 2.5" SATA/SAS 8-Bay Backplane Kit
7Z17A02580	Lenovo 2U Security Bezel
7Z17A02577	Lenovo COM Port Upgrade Kit









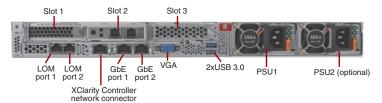




ThinkSystem SR570 Platform Specifications

Storage controllers For HS 330-8i 12Gbs 330-8i 12Gbs 330-8i 12Gbs 340-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-16i 12Gbs 430-16e 12Gbs 330-8e 12Gbs 330-8i 12Gbs 330-8	a: 35.27 lb (16 I or Gen 2 Interes at 2.0GHz, es at 2.0GHz	Skg) el Xeon Scalat up to 3.8GHz up to 3.8GHz Interconnect) I ssor supports Spee DDR DDR DDR DDR DDR DDR DDR DDR DOR DOR	ble famil v with 4 c links up up to 8 ed 4-2666 4-2933 4-2666 4-2666 4-2666 yes JBOD Yes Yes Yes O Yes	y procesores. To 10.4 DIMM: Offering 128GB, 8GB/1664GB I procesore 64GB Cache None None 1GB 2GB	ssors, Bronze wo processor GT/s each sockets with 6 2256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and	e, Silver, Crs are 6 channels 6 GB GB or M SKU 0 processor	Gold, or
Dimensions Height: 43 mm (1.7 in) Weight Maximum configuration Up to two 150W Gen 1 Platinum. Up to 26 cor connected with two UF Chipset Intel C622 Platform Cc Up to 16 DIMM socket Supports following: Memory Type Intel Optane DC Persi RDIMM RDIMM LRDIMM * 1TB with 16x 64 * 2TB with 4x 512 * 2.76TB with 4x 5 or M SKU Gen 1 Memory protection **ECC, memory mirrorin** Supports the following RAID adapter Interface	a: 35.27 lb (16 I or Gen 2 Interes at 2.0GHz, es at 2.0GHz	Skg) el Xeon Scalat up to 3.8GHz up to 3.8GHz Interconnect) I ssor supports Spee DDR DDR DDR DDR DDR DDR DDR DDR DOR DOR	ble famil v with 4 c links up up to 8 ed 4-2666 4-2933 4-2666 4-2666 4-2666 yes JBOD Yes Yes Yes Yes O Yes	y procesores. To 10.4 DIMM: Offering 128GB, 8GB/1664GB I procesore 64GB Cache None None 1GB 2GB	ssors, Bronze wo processor GT/s each sockets with 6 2256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and	e, Silver, Crs are 6 channels 6 GB GB or M SKU 0 processor	Gold, or s.
Weight Maximum configuration Up to two 150W Gen 1 Platinum. Up to 26 cor connected with two UF Chipset Intel C622 Platform Cc Up to 16 DIMM socket Supports following: Memory Type Intel Optane DC Persi RDIMM RDIMM LRDIMM LRDIMM * 1TB with 16x 64 * 2TB with 4x 512 * 2.76TB with 4x 5 or M SKU Gen 1 Memory protection **ECC, memory mirrorin Supports the following RAID adapter Interface	a: 35.27 lb (16 I or Gen 2 Interes at 2.0GHz, es at 2.0GHz	Skg) el Xeon Scalat up to 3.8GHz up to 3.8GHz Interconnect) I ssor supports Spee DDR DDR DDR DDR DDR DDR DDR DDR DOR DOR	ble famil v with 4 c links up up to 8 ed 4-2666 4-2933 4-2666 4-2666 4-2666 yes JBOD Yes Yes Yes Yes O Yes	y procesores. To 10.4 DIMM: Offering 128GB, 8GB/1664GB I procesore 64GB Cache None None 1GB 2GB	ssors, Bronze wo processor GT/s each sockets with 6 2256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and	e, Silver, Crs are 6 channels 6 GB GB or M SKU 0 processor	Gold, or s.
Processor Processor Platinum. Up to 26 cor connected with two UF connected with two UF the C622 Platform Connected with two UF the C622 Platform Connected with two UF the C622 Platform Connected with two UF the C622 Platform Connected with two UF the C622 Platform Connected with two UF the C622 Platform Connected with the UF the C622 Platform Connected With the UF the C622 Platform Connected With the UF the C622 Platform Connected With the UF the C622 Platform Connected With the UF the C622 Platform Connected With the UF the C622 Platform Connected With the UF the C622 Platform Connected With the UF th	GB RDIMM are GB DC Persis State SATA/SAS SAS SATA/SAS SAS SAS SATA/SAS SAS SAS SATA/SAS SAS SAS SATA/SAS SAS SATA	Speed DDR DDR DDR DDR DDR DDR DDR DDR DDR DD	up to 8 ed 4-2666 4-2933 4-2666 4-2666 ssor and dual ry + 12x JBOD Yes Yes Yes O Yes	Offering 128GB, 8GB/16 64GB Cache None None 1GB	wo processor GT/s each sockets with 6 2/256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and	GB GB FastPath	Gen 1) r (Gen 2
Processor Platinum. Up to 26 cor connected with two UF Chipset Intel C622 Platform Cc Up to 16 DIMM socket Supports following: Memory Type Intel Optane DC Persi RDIMM RDIMM INTEL Plate Intel Optane DC Persi RDIMM INTEL Plate Intel Optane DC Persi RDIMM INTEL Plate Intel Optane DC Persi RDIMM INTEL Plate Intel Optane DC Persi RDIMM INTEL Plate Intel Optane DC Persi RDIMM INTEL Plate Intel Optane DC Persi RDIMM INTEL Plate Intel Optane DC Persi RDIMM INTEL Plate Intel In	es at 2.0GHz, PI (Ultra Path I portroller Hub s. Each proce stent Memory GB RDIMM ar GB DC Persis fit2GB DC Per J g, and memor RAID/HBA ac ace Drive type ATA SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	ssor supports Spee DDR DDR DDR DDR DDR DDR Setent Memory a rsistent Memory a rsistent Memory 6 (1/10/5/50) (0/1/10/5/50) (0/1/10/5/50) (0/1/10/5/50) (0/1/10/5/50) (1/10/5/50	up to 8 ed 4-2666 4-2933 4-2666 4-2666 ssor and dual ry + 12x JBOD Yes Yes Yes O Yes	Offering 128GB, 8GB/16 64GB Cache None None 1GB	wo processor GT/s each sockets with 6 2/256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and	GB GB FastPath	Gen 1) r (Gen 2
connected with two UF Chipset Intel C622 Platform Cc Up to 16 DIMM socket Supports following: Memory Type Intel Optane DC Persi RDIMM RDIMM LRDIMM - 1TB with 16x 64 - 2TB with 4x 512 - 2.76TB with 4x 512 - 2.76TB with 4x 512 - 0 r M SKU Gen 1 Memory protection ECC, memory mirrorin Supports the following RAID adapter For SS Onboard bays SATA 530-8i 12Gbs 730-8i	GB RDIMM ar GB DC Persis 12GB DC Per	Interconnect) I ssor supports Spee DDR DDR DDR DDR DDR Addul procestent Memory arsistent Memory arsistent Memory arsistent Memory arsistent Memory arsistent Memory and July 10/1/10/5/50 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6	up to 8 ed 4-2666 4-2933 4-2666 4-296	Offering 128GB, 8GB/16 64GB I proces 64GB Cache None None 1GB 2GB	GT/s each sockets with 6 2 256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and Cache protection None None	GB GB or M SKU (processor	Gen 1)
Memory offering Memory Type Intel Optane DC Persi RDIMM RDIMM LRDIMM ITB with 16x 64 2 TB with 4x 512 2 .76TB with 4x 5 or M SKU Gen 1 Memory protection ECC, memory mirrorin Supports the following RAID Adapter For SS Onboard bays SAIA 530-8i 12Gbs 730-8i 12Gbs 390-16i 12Gbs 430-16e 12Gbs 430-16e 12Gbs 430-16e 12Gbs 430-16e 12Gbs A30-8e 12Gbs A30-16e 12Gbs A30	S. Each proce stent Memory GB RDIMM ar GB DC Persis 612GB DC Per 10 10 10 11 11 11 11 11 11 11 11 11 11	Speed DDR DD	JBOD Yes Yes OY Yes Yes OY Yes Yes Yes Yes Yes Yes Yes	Offering 128GB, 8GB/16 8GB/16 64GB I proces 64GB Cache None None 1GB 2GB	2/256GB/512G GB/32GB/64 GB/32GB GSOr (Gen 2 o RDIMM and	GB GB or M SKU (processor	Gen 1)
Memory offering Memory Type Intel Optane DC Persi RDIMM RDIMM LRDIMM * 1TB with 16x 64 * 2TB with 4x 512 * 2.76TB with 4x 5 or M SKU Gen 1 Memory protection **ECC, memory mirrorin Supports the following RAID adapter Interfa dadapter B RDIMM ar GB DC Persis i12GB DC Per j) g, and memor RAID/HBA ac ace Drive type ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	Speed DDR DD	JBOD Yes Yes OY Yes Yes OY Yes Yes Yes Yes Yes Yes Yes	Offering 128GB, 8GB/16 8GB/16 64GB I proces 64GB Cache None None 1GB 2GB	2/256GB/512G GB/32GB/64 GB/32GB GSOr (Gen 2 o RDIMM and	GB GB or M SKU (processor	Gen 1)	
Memory offering Memory Type Intel Optane DC Persi RDIMM RDIMM LRDIMM	GB RDIMM ar GB DC Persis 112GB DC Per 112GB DC PER 112GB	DDR DDR DDR DDR DDR DDR DDR DDR DDR DDR	4-2666 4-2933 4-2666 4-2666 ssor and dual ry + 12x JBOD Yes Yes Yes Yes Yes	128GB, 8GB/16 8GB/16 64GB I proces 6 64GB Cache None None 1GB 2GB	256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and	r M SKU (processor	(Gen 2
Memory offering Intel Optane DC Persi RDIMM RDIMM LRDIMM LRDIMM	GB RDIMM ar GB DC Persis 112GB DC Per 112GB DC PER 112GB	DDR DDR DDR DDR DDR DDR DDR DDR DDR DDR	4-2666 4-2933 4-2666 4-2666 ssor and dual ry + 12x JBOD Yes Yes Yes Yes Yes	128GB, 8GB/16 8GB/16 64GB I proces 6 64GB Cache None None 1GB 2GB	256GB/512G GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and	r M SKU (processor	(Gen 2
RDIMM RDIMM LRDIMM RDIM LRD	GB RDIMM ar GB DC Persis 112GB DC Per 112GB DC PER 112GB	DDR DDR DDR DDR nd dual procestent Memory arsistent Memory arsistent Memory arsistent Memory and apters: RAID levels 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6	JBOD Yes Yes Yes GO Yes	8GB/16 8GB/16 64GB I proces 64GB Cache None 1GB 2GB	GB/32GB/64 GB/32GB ssor (Gen 2 o RDIMM and Cache protection None	r M SKU (processor	(Gen 2
Memory capacity 1 TB with 16x 64 2 TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 3.76TB with 4x 512 4.76TB with 4x 512 4.76TB with 4x 512 6.76TB with 4x 512	GB DC Persis i12GB DC Per i12GB DC Per i) g, and memor RAID/HBA ac acc Drive type ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	DDR DDR DDR nd dual procestent Memory arsistent Memory arsistent Memory arsistent Memory Sparing dapters: RAID levels 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6	JBOD Yes Yes Yes Yes Yes Yes Yes Ye	RGB/16 64GB I proces 64GB Cache None 1GB 2GB	SSOF (Gen 2 of RDIMM and Cache protection None None	FastPath	(Gen 2
LRDIMM	GB DC Persis i12GB DC Per i12GB DC Per i) g, and memor RAID/HBA ac acc Drive type ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	DDR nd dual proces tent Memory a rsistent Memo ry sparing dapters: RAID levels 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6	JBOD Yes Yes Yes 50 Yes	Cache None 1GB 2GB	cache protection None None	FastPath No	(Gen 2
1TB with 16x 64 2TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 5 or M SKU Gen 1 Memory protection	GB DC Persis i12GB DC Per i12GB DC Per i) g, and memor RAID/HBA ac acc Drive type ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	nd dual procestent Memory a rsistent Memory a rsistent Memory a rsistent Memory adapters: RAID levels 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6	JBOD Yes Yes Yes OO Yes	Cache None 1GB 2GB	Cache protection None None	FastPath No	(Gen 2
2 TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 2.76TB with 4x 512 30 Feb 12 Gbs 30 Feb 12	GB DC Persis i12GB DC Per i12GB DC Per i) g, and memor RAID/HBA ac acc Drive type ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	resistent Memory a resistent Memory a resistent Memory sparing dapters: RAID levels 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6	JBOD Yes Yes Yes Yes Yes	Cache None None 1GB 2GB	Cache protection None None	FastPath No	(Gen 2
Column	g, and memor RAID/HBA ac ace Drive type ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	Dapters: RAID levels 0/1/10/5 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6	Yes Yes Yes 50 Yes	None None 1GB 2GB	protection None None	No	
Supports the following	RAID/HBA ac ace Drive type ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	Dapters: RAID levels 0/1/10/5 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6	Yes Yes Yes 50 Yes	None None 1GB 2GB	protection None None	No	
RAID adapter For SS Onboard SATA SATA Sa0-8i 12Gbs 930-8i 12Gbs 930-8i 12Gbs 930-8i 12Gbs 930-8i 12Gbs 930-8i 12Gbs 930-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-8e 12Gbs 930-8e ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	RAID levels 0/1/10/5 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6	Yes Yes Yes 50 Yes	None None 1GB 2GB	protection None None	No		
Storage controllers Gob S SATA Sa0-8i 12Gbs 330-8i 12Gbs 330-8i 12Gbs 330-8i 12Gbs 330-16i 12Gbs 330-16i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-16i 12Gbs	ATA SATA SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	0/1/10/5 0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6 0/1/10/5/50/6/6	Yes Yes Yes 50 Yes	None None 1GB 2GB	protection None None	No	
bays	SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	0/1/10/5/50 0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6	Yes Yes 0 Yes	None 1GB 2GB	None		
Storage controllers	SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	0/1/10/5/50 0/1/10/5/50/6/6 0/1/10/5/50/6/6 0/1/10/5/50/6/6	Yes Yes	1GB 2GB		V	-
Storage controllers For HS 330-16i 12Gbs 330-16i 12Gbs 340-8i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-16i 12Gbs 430-16i 12Gbs 430-16e 12Gbs 430-8e 12Gbs 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e 30-8e	SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	0/1/10/5/50/6/6 0/1/10/5/50/6/6 - -	0 Yes	2GB	None	Yes	1
For HS 30-16i 12Gbs 430-8i 12Gbs 430-8i 12Gbs 430-16i 12Gbs 430-	SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	0/1/10/5/50/6/6 - -			Electeda le colonia	No	1
For HS	SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS SAS SATA/SAS	i - i -			Flash backup Flash backup	Yes Yes	1
123 124 124 125	SAS SATA/SAS SAS SATA/SAS		Yes	None		-	1
430-16e 12Gbs 330-8e 12Gbs 370-8i is available ir Support 4 front 3.5" S/SATA/SAS HS bays, o Optional one or two interest For 3.5" SS bay For 3.5" bay (3.5" disks or 2.5" disks w 3.5" tray)	SAS SATA/SAS	i -	Yes	None		-	1
930-8e 12Gbs Note: 730-8i is available ir Support 4 front 3.5" S\ SATA/SAS HS bays, o Optional one or two interest For 3.5" SS bay For 3.5" bay (3.5" disks or 2.5" disks w 3.5" tray)			Yes Yes	None		-	3
Support 4 front 3.5" S/SATA/SAS HS bays, o Optional one or two interest of the second	SAS SATA/SAS	0/1/10/5/50/6/6			Flash backup	Yes	2
Disk drive bays Support 4 front 3.5" S/SATA/SAS HS bays, o Optional one or two interest of the second of the seco	Note: 730-8i is available in China only						
For 3.5" SS bay For 3.5" bay (3.5" disks or 2.5" disks w 3.5" tray)	Support 4 front 3.5" SATA simple-swap bays, or 4 front 3.5" SATA/SAS HS bays, or 8 front SATA/SAS HS bays, or 10 front 2.5" SATA/SAS HS bays with 4 AnyBay. Optional one or two internal M.2 SSD for boot, dual M.2 SSD supports mirroring			nt 2.5"			
For 3.5" bay (3.5" disks or 2.5" disks w 3.5" tray)		ATA6Gbs, 7.2K			/2TB/4TB/6TB/		\neg
(3.5" disks or 2.5" disks w 3.5" tray)	3.5" HDD, SA	ATA6Gbs, 7.2K		1TB	/2TB/4TB/6TB/	8TB/10TB	
3.5" tray)		3.5" HDD, SAS12Gbs, 7.2K 3.5" HDD, SAS12Gbs, 15K 2.5" SSD, SATA6Gbs			1TB/2TB/4TB/6TB/10TB		
Internal storage	ith 3.5" HDD, SA				300GB/600GB/900GB		
					240GB/480GB		
	- i	2.5" NVMe SSD, AnyBay 2.5" HDD, SATA6Gbs, 7.2K 2.5" HDD, SAS12Gbs, 7.2K 2.5" HDD, SAS12Gbs, 10K			960GB/1.92TB/3.84TB 1TB/2TB 1TB/2TB 300GB/600GB/900GB/1.2TB/1.8TB		
For 2.5" bay							
For 2.5" bay			SED			GB/1.21B/1	.016
		2.5" HDD, SAS12Gbs, 10K, SED 2.5" HDD, SAS12Gbs, 15K		_	300GB/600GB 300GB/600GB/900GB		
	2.5" SSD, SA			_	400GB/800GB/3.84TB		
	2.5" SSD, SA			_	240GB/480GB		
	2.5" NVMe S			960	960GB/1.6TB/1.92TB/3.84TB		
M.2 boot drive	M.2 SATA SS	SD		32G	B/128GB		
Optical No internal optical bay	Optional USF	B DVD±RW op	otical dri	ve			
Network interfaces LOM with two RJ-45 o supported. ML2 adapto	No internal optical bay. Optional USB DVD±RW optical drive Integrated one dedicated management port plus two GbE ports. One LOM slot for customized LOM with two RJ-45 or SFP+ ports, up to 10GbE. Optional ML2 or PCle adapters are supported. ML2 adapter requires riser card with ML2 slot. Up to two ports supports Wake-on-LAN and NC-SI (see right)						
Security features Power-on and admin p		ted Platform N	Module,	TCG 1.		upgrade to	0 2.0
Operating systems	rts Wake-on-L assword. Trus	supported. ML2 adapter requires riser card with ML2 slot. Up to two ports supports Wake-on-LAN and NC-SI (see right) Power-on and admin password. Trusted Platform Module, TCG 1.2 compliant, upgrade to 2.0 via UEFI setting. Optional TCM in China only. Optional lockable security bezel Microsoft Windows Server 2016/2012 R2. Red Hat Enterprise Linux 7.3/6.9. SUSE Linux			ecurity bezel		
Systems XClarity Controller Sta	rts Wake-on-L bassword. Trus onal TCM in Ch rver 2016/201	2 R2. Red Ha	t Enterp	Enterprise Server 12 SP2/11 SP4. VMware ESXi 6.5/6.0 U3 XClarity Controller Standard, optional upgrades to Advanced or Enterprise are available. Energy Manager. XClarity Administrator. Lenovo Capacity Planner.			
GPU support None	rts Wake-on-L password. Trus anal TCM in Ch rver 2016/201 SP2/11 SP4. V ndard, optiona ninistrator. Ler	2 R2. Red Ha Mware ESXi 6 al upgrades to novo Capacity	t Enterp 6.5/6.0 t Advanc Planne	ed or E			

Components	Specification				
Base warranty	Up to two redundant hot-swap 550W and 750W 80 PLUS Platinum qualified AC power				
Power supply					
Video	Integrated Matrox G200 in XClarity Controller				
Cooling	4x 3.5" or 8x 2.5" models: four fans for single processor model, six fans for dual processor model, all fans are 4028 10x 2.5" models: six fans for both single and dual processor models, all fans are 4056				
Front ports	One XClarity Controller USB, one USB 3.0, one optional VGA				
Rear ports	One VGA, two USB 3.0, two ethernet (RJ-45), one XClarity Controller connector. Optional COM port				
	Supports ASHRAE A4 with limitations.				
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)			
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)			
	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)			
	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)			
Environmental	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%			
specification	Humidity - storage (with package), non-condensing	8%~90%			
	Models should meet the following requirements to sup, • Redundant power supplies required • No system fan fails • No NVMe drive • No rear two HS bays • Processor TDP is less than or equal to 140 watts, and • On 12x 3.5" models, mo M.2 drives				
Environmental	Energy Star Server 2.1 certified. More environn	mental information please see:			
certification	www.lenovo.com/social responsibility/us/en/en				



Note: GbE port 1 and LOM port 1 support Wake-on-LAN and NC-SI. Riser cards, expansion cards, and LOM adapters are optional.

Expansion slots

Slot 1-2 (riser card 1)	Supports one of the following for riser card 1:
	Option 1: PCIe 3.0 x8/x16 (slot 1-2). Low profile for x8, low profile or full
	height half length for x16
	Option 2: PCIe 3.0 x8/x8 ML2 (slot 1-2). Low profile
Slot 3 (riser card 2)	Option 1: PCle 3.0 x 8, low profile, for single processor model
'	Option 2: PCle 3.0 x 16, low profile, for dual processor model
	When slot 2 is full height, slot 3 cannot be used

7XH7A05892	ThinkSystem SR530/SR570 x8/x8ML2 PCIe LP+LP Riser 1 Kit	
7XH7A02682	ThinkSystem SR530/SR570/SR630 x8/x16 PCIe LP+LP Riser 1 Kit	
7XH7A05893	ThinkSystem SR530/SR570/SR630 x8/x16 PCIe LP+FH Riser 1 Kit	
7XH7A05891	ThinkSystem SR530/SR570 x8 PCIe LP Riser 2 Kit	
7XH7A02685	ThinkSystem SR530/SR570/SR630 x16 PCIe LP Riser 2 Kit	
7Z17A02579	ThinkSystem SR530/SR570/SR630 Front VGA Connector Upgrade Kit	
7Z17A02581	ThinkSystem 1U Security Bezel	
7Z17A02577	ThinkSystem COM Port Upgrade Kit	
4XH7A08762	ThinkSystem SR570 2.5" SATA/SAS 8-Bay Backplane Kit	









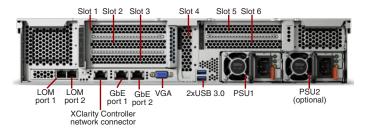




ThinkSystem SR590 Platform Specifications

Components	Specification							
Form factor	2U rack							
Dimensions	Height: 86.5 mm (3	4 in) Width: 48	2 mm (19 0 in) w	ith racl	(latche	s Denth: 769	3 7 mm (3	0 1 in)
Weight	,		. ,	itii iadi	· iatoric	.э. Берин. 700).7 Hilli (O	0.1 111)
vveigni	Maximum configuration: 61.7 lb (28 kg) Up to two 150W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, Gold, or			Sold or				
Processor Platinum. Up to 26 cores at 2.0GHz, up to 3.8GHz with 4 cores. Two processors			wo processor	s are	aoia, oi			
	connected with two	UPI (Ultra Path	Interconnect) lin	ks up t	o 10.4	GT/s each		
Chipset	Intel C622 Platform							
	Up to 16 DIMM sockets. Each processor supports up to 8 DIMM sockets with 6 channels. Supports following:							
Memory offering	Memory Type Speed Offering							
		DDR4-2666 128GB/256GB/512GB						
	RDIMM		DDR4-2933 8GB/16GB/32GB/64GB					
	RDIMM		DDR4-2666 8C		iB/32G	В		
	LRDIMM		DDR4-2666 64					
Memory capacity	 2TB with 4x 5 	12GB DC Persi x 512GB DC Pe	and dual process stent Memory an ersistent Memory	id dual				
Memory protection	ECC, memory mirro		ory sparing					
	Supports the follow		, , 					
	DAID					Cache		Max
	adapter	erface Drive typ	e RAID levels	JBOD	Cache	protection	FastPath	qty
	For SS Onboard SATA 6G	b SATA SATA	0/1/10/5	Yes	None	None	No	-
		bs SAS SATA/SA	S 0/1/10/5/50	Yes	None	None	Yes	2
0	730-8i 12G	bs SAS SATA/SA		Yes	1GB		No	2
Storage controllers			S 0/1/10/5/50/6/60 S 0/1/10/5/50/6/60	Yes		Flash backup Flash backup	Yes Yes	1
	FOr HS 130-8i 12G	bs SAS SATA/SA		Yes Yes	None		-	2
	bays 430-16i 12G	bs SAS SATA/SA	S -	Yes	None		-	1
		bs SAS SATA/SA		Yes	None	None	-	5
		bs SAS SATA/SA		Yes	None	None Flash backup	- Vaa	<u>5</u>
	Note: 730-8i is availabi		S 0/1/10/5/50/6/60	Yes	4GB	Flash backup	Yes	3
Disk drive bays	Supports 3.5" Simple-swap bay up to 8, or 3.5" HS bay up to 12x 3.5", 8x 2.5", or 16x 2.5" bay models, 4 bays can be up HS bays are supported on 12 x 3.5" model, takes place in r Optional one or two internal M.2 SSD for boot, dual M.2 SS		ograde riser ca SD sup	grade to AnyBay. Optional 2 rear 3.5 ser card 1 location D supports mirroring				
	For 3.5" SS bay		SATA6Gbs, 7.2K			/2TB/4TB/6TB/		
			3.5" HDD, SAS13Cho, 7.2K			/2TB/4TB/6TB/		
	For 3.5" bay		3.5" HDD, SAS12Gbs, 7.2K			/2TB/4TB/6TB/		
	II'		3.5" HDD, SAS12Gbs, 15K 2.5" SSD, SATA6Gbs		_	GB/600GB/900	GB	
	3.5" tray)					GB/480GB	4TD	
			SSD, AnyBay SATA6Gbs, 7.2K			GB/1.92TB/3.84 /2TB	410	
Internal storage			SAS12Gbs, 7.2K			/2TB		
internal storage			SAS12Gbs, 10K		_	GB/600GB/900	GB/1 2TB/	1 8TB
			SAS12Gbs, 10K, SE	.D		GB/600GB	GD/ T.ETD/	1.015
	For 2.5" bay		SAS12Gbs, 15K			GB/600GB/900	GB	
	II.							
		[2.5" SSD, S	AS12Gbs		400	GB/800GB/3.84	+IB	
		2.5" SSD, S 2.5" SSD, S				GB/800GB/3.84 GB/480GB	+IB	
		2.5" SSD, S			240			
	M.2 boot drive	2.5" SSD, S	SATA6Gbs SSD, AnyBay		240 960	GB/480GB		
Optical	M.2 boot drive No internal optical b	2.5" SSD, S 2.5" NVMe M.2 SATA S	SATA6Gbs SSD, AnyBay SSD	l drive	240 960	GB/480GB GB/1.6TB/1.92		
		2.5" SSD, S 2.5" NVMe M.2 SATA S Day. Using USB cated managen 5 or SFP+ ports apter requires ri	SATA6Gbs SSD, AnyBay SSD DVD±RW optical nent port plus two , up to 10GbE. O ser card with ML:	o GbE optiona 2 slot.	960 32G ports. (GB/480GB GB/1.6TB/1.92 B/128GB One LOM slo	TB/3.84TB	mized
Network interfaces	No internal optical to Integrated one dedit LOM with two RJ-4 supported. ML2 add	2.5" SSD, S 2.5" NVMe M.2 SATA S Day. Using USB cated managen 5 or SFP+ ports apter requires ri ports Wake-on- n password. Tru	SATA6Gbs SSD, AnyBay SSD DVD±RW optical nent port plus two i, up to 10GbE. C ser card with ML: LAN and NC-SI (sted Platform Mo	o GbE optiona 2 slot. (see ricodule,	240 960 32G ports. (I ML2 (ght) FCG 1.	GB/480GB GB/1.6TB/1.92 B/128GB One LOM sloor PCIe adapt 2 compliant,	TB/3.84TB	
Optical Network interfaces Security features Operating systems supported	No internal optical to Integrated one dedit LOM with two RJ-4 supported. ML2 add Up to two ports sup Power-on and admit	2.5" SSD, S 2.5" NVMe M.2 SATA S Day. Using USB cated manager 5 or SFP+ ports apter requires ri ports Wake-on- n password. Tru tional TCM in C Server 2016/20	ATA6Gbs SSD, AnyBay SSD DVD±RW optical nent port plus two to up to 10GbE. C ser card with ML: LAN and NC-SI (sted Platform Motina only. Option 12 R2. Red Hat If	o GbE Optiona 2 slot. (see rigodule, odule, nal lock Enterp	960 32G ports. (I ML2 oght) FCG 1. (able serise Lin	GB/480GB GB/1.6TB/1.92 B/128GB One LOM sloor PCIe adapt 2 compliant, ecurity bezel	TB/3.84TB t for custo ters are upgrade t	o 2.0
Network interfaces Security features Operating systems supported Systems management	No internal optical by Integrated one dedition with two RJ-4 and Up to two ports supported. ML2 and Up to two ports supported in MIC and Up to two ports supported in UEFI setting. Of Microsoft Windows Enterprise Server 1 XClarity Controller 3 Manager. XClarity Provisioning Manager.	2.5" SSD, S 2.5" NVMe M.2 SATA S Day, Using USB cated managen 5 or SFP+ ports apter requires ri ports Wake-on- n password. Tru titional TCM in C Server 2016/20 2 SP2/11 SP4. Standard, option dministrator. Le	ATAGGbs SSD, AnyBay SSD DVD±RW optical nent port plus two to up to 10GbE. O ser card with ML LAN and NC-SI (sted Platform Mo Shina only. Optior 12 R2. Red Hat I VMware ESX 6.3 and voyo Capacity P	o GbE Optiona 2 slot. (see rigodule, odule, odule, odule) Enterpos 5/6.0 L Idvanc	ports. (I ML2 countries Links) [CG 1. (able serise Links) [Cd of the serise Links] [Cd of the serise Links]	GB/480GB GB/1.6TB/1.92' B/128GB One LOM slo' or PCle adapt 2 compliant, ecurity bezel ux 7.3/6.9. S	TB/3.84TB t for custo ters are upgrade t	o 2.0 x
Network interfaces Security features Operating systems supported Systems	No internal optical by Integrated one dediction with two RJ-4 supported. ML2 add up to two ports supported in the power-on and admixia UEFI setting. Of Microsoft Windows Enterprise Server 1 XClarity Controller Manager. XClarity A	2.5" SSD, S 2.5" NVMe M.2 SATA S Day, Using USB cated managen 5 or SFP+ ports apter requires ri ports Wake-on- n password. Tru titional TCM in C Server 2016/20 2 SP2/11 SP4. Standard, option dministrator. Le	ATAGGbs SSD, AnyBay SSD DVD±RW optical nent port plus two to up to 10GbE. O ser card with ML LAN and NC-SI (sted Platform Mo Shina only. Optior 12 R2. Red Hat I VMware ESX 6.3 and voyo Capacity P	o GbE Optiona 2 slot. (see rigodule, odule, odule, odule) Enterpos 5/6.0 L Idvanc	ports. (I ML2 countries Links) [CG 1. (able serise Links) [Cd of the serise Links] [Cd of the serise Links]	GB/480GB GB/1.6TB/1.92' B/128GB One LOM slo' or PCle adapt 2 compliant, ecurity bezel ux 7.3/6.9. S	TB/3.84TB t for custo ters are upgrade t	o 2.0 x

Components	Specification				
Power supply	Up to two redundant hot-swap 550W and 750' supplies. Or up to two redundant hot-swap 750 750W Titanium is 200V - 240V, others are 100	0W Titanium qualified AC power supplies.			
Video	Integrated Matrox G200 in XClarity Controller				
Cooling	Three fans (2+1) for single processor model, f	our fans (3+1) for dual processor model			
Front ports	One XClarity Controller USB, one USB 3.0, or	ne optional VGA			
Rear ports	One VGA, two USB 3.0, two ethernet (RJ-45), one XClarity Controller connector. Optional COM port				
	Supports ASHRAE A4 with limitations.				
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)			
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)			
	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)			
	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)			
Environmental	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%			
specification	Humidity - storage (with package), non-condensing	8%~90%			
	Models should meet the following requirements to support A3 and A4: • Redundant power supplies required • No system fan fails • No NVMe drive • No rear two HS bays • Processor TDP is less than or equal to 140 watts, and no Intel Xeon 6140 or 6152 processor is installed • On 12x 3.5" models, mo M.2 drives				
Environmental	Energy Star Server 2.1 certified. More environ	mental information please see:			
certification	www.lenovo.com/social responsibility/us/en/e				



Note: GbE port 1 and LOM port 1 support Wake-on-LAN and NC-SI. Riser cards, expansion cards, and LOM adapters are optional.

Expansion slots

-xpanioron orono	
Slot 1-3 (riser card 1)	Supports one of the following for riser card 1: Option 1: PCIe 3.0 x8/x8/x8 (slot 1-3). Full height, half length. Option 2: PCIe 3.0 x16/x8 (slot 1 and 3). Full height, half length Option 3: PCIe 3.0 x8/x8/x8 ML2 (slot 1-3). Full height, half length Option 4: Two rear 3.5" disk bays, 12 x 3.5" models only
Slot 4 (onboard)	PCIe 3.0 x8, low profile
Slot 5 (riser card 2) Slot 6 (riser card 2)	PCIe 3.0 x16, full height, half length, requires 2nd CPU PCIe 3.0 x8, full height, half length

7XH7A06253	ThinkSystem SR590/SR650 Rear HDD Kit
4XH7A08778	ThinkSystemSR550/SR590/SR650 x8/x8/x8ML2 PCIe FH Riser 1 Kit
4XH7A08779	ThinkSystem SR550/SR590/SR650 x16/x8 PCIe FH Riser 1 Kit
4XH7A08777	ThinkSystem SR550/SR590/SR650 x8/x8/x8 PCIe FH Riser 1 Kit
4XH7A08780	ThinkSystemSR550/SR590/SR650 x16/x8(or x16) PCIe FH Riser 2 Kit
7Z17A02578	ThinkSystem SR550/SR590/SR650 EIA Latch w/ VGA Upgrade Kit
7Z17A02580	ThinkSystem 2U Security Bezel
7Z17A02577	ThinkSystem COM Port Upgrade Kit
4XH7A08764	ThinkSystem SR590 2.5"" Anybay 8-Bay Backplane Kit
4XH7A08763	ThinkSystem SR590 2.5" SATA/SAS 8-Bay Backplane Kit







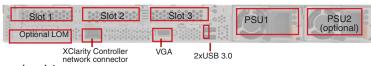




ThinkSystem SR630 Platform Specifications

Components	Specification						
Form factor	1U rack						
Dimensions	Height: 43 mm (1.7 in). Width: 482 mm (19.0 in) with rack latches. Depth: 778.3 mm (30.	.64 in)					
Weight	Maximum configuration: 41.9 lb (19 kg)						
	Up to two 205W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, G	Gold, or					
Processor	Platinum. Up to 28 cores at 2.7GHz, up to 3.8GHz with 4 cores. Two processors are						
Chinaat	connected with two UPI (Ultra Path Interconnect) links up to 10.4GT/s						
Chipset	Intel C624 Platform Controller Hub Up to 24 DIMM sockets. Each processor supports up to 12 DIMM sockets with 6 channels.	ale					
	Supports following:	713.					
	Memory Type Speed Offering						
Memory offering	Intel Optane DC Persistent Memory DDR4-2666 128GB/256GB/512GB						
	RDIMM DDR4-2933 8GB/16GB/32GB/64GB						
	3DS RDIMM DDR4-2933 128GB						
	Performance+ RDIMM						
	Performance+ 3DS RDIMM DDR4-2933 128GB RDIMM DDR4-2666 8GB/16GB/32GB						
	LRDIMM DDR4-2666 64GB						
	3DS RDIMM DDR4-2666 64GB/128GB						
	3TB with 24x 128GB 3DS RDIMM and dual M or L SKU processor						
Memory capacity	 6TB with 12x 512GB DC Persistent Memory and dual L SKU processor 7.5TB with 12x 512GB DC Persistent Memory + 12x 128GB 3DS RDIMM and dual 	ali SKII					
	processor	II L OILO					
Memory protection	ECC, memory mirroring, and memory sparing						
	One dedicated internal RAID slot for most RAID/HBA adapters. Supports the						
	following RAID/HBA adapters:						
	Feature Interface Drive type RAID levels JBOD Cache Cache protection FastPath Max gtv						
	S30-8i 12Gbps SAS SATA/SAS 0/1/10/5/50 Yes None None Yes 1						
	730-8i 12Gbps SAS SATA/SAS 0/1/10/5/50 Yes 1GB None No 1						
Storage controllers	930-8i 12Gbps SAS SATA/SAS 0/1/10/5/50/6/60 Yes 2GB Flash backup Yes 1 930-16i 12Gbps SAS SATA/SAS 0/1/10/5/50/6/60 Yes 4GB Flash backup Yes 1						
	430-8i 12Gbps SAS SATA/SAS - Yes None None - 1						
	430-16i 12Gbps SAS SATA/SAS - Yes None None - 1						
	430-8e 12Gbps SAS SATA/SAS - Yes None None - 2						
	430-16e 12Gbps SAS SATA/SAS - Yes None None - 2						
	Note: 730-8i is available in China only. 930-8e, 430-8e, and 430-16e will be placed in slot 2 firstly. Supports the following disk bay configurations, optional rear bay occupies riser card 1 location:						
	Chassis Maximum Disk Bay Coniguration 2x 3.5" Rear Bays Support	į.					
	4x 3.5" 4x 3.5" HS SATA/SAS Yes						
Disk drive bays	1						
	CO O FILLIO CATA/CAC . ACO FILATORES						
	10x 2.5" 0x 2.5" HS SAIA/SAS + 4x 2.5" AnyBay Yes No						
	Optional one or two internal M.2 SSD for boot, dual M.2 SSD supports mirroring						
	2 F" HDD CATACCHOO 7 OV HTD/OTD/ATD/CTD/OTD						
	1 07 3.5 bdy 3.5" HDD, SAS12Gbps, 7.2K 1TB/2TB/4TB/4TB SED FIPS/6TB/10TB						
	3.5" tray) 2.5" HDD, SAS12Gbps, 15K 300GB/600GB 2.5" SSD, SATA6Gbps 240GB/480GB						
	2.5" HDD, SATA6Gbps, 7.2K 1TB/2TB						
	2.5" HDD, SAS12Gbps, 7.2K 1TB/2TB	2000/					
Internal storage	2.5" HDD, SAS12Gbps, 10K 2.5" HDD, SAS12Gbps, 10K 1.2TB/1.8TB	00GB/					
	2.5" HDD, SAS12Gbps, 15K B00GB/600GB/900GB						
	2.5" SSD, SAS12Gbps 400GB/800GB/3.84TB/7.68TB 2.5" SSD, SATA6Gbps 240GB/480GB						
	2.5" NVMe SSD, AnyBay 800GB/960GB/1.6TB/1.92TB/3.84TB						
	PCIe 3.0 x4, HHHL adapter NVMe SSD 1.6TB/1.92TB/3.2TB/3.84TB						
Ontical	M.2 boot drive M.2 SATA SSD						
Optical	No internal optical bay. Optional USB DVD±RW optical drive	45					
Network interfaces	One dedicated management port. One LOM slot for customized LOM with up to four RJ SFP+ ports, up to 10GbE. Wake-on-LAN and NC-SI are available on Port 0 of LOM. Opt ML2 or PCle adapters are supported. ML2 adapter requires riser card with ML2 slot.	-45 or tional					
Security features	Power-on and admin password. Trusted Platform Module, TCG 1.2 compliant, upgrade t via UEFI setting. Optional TCM in China only. Optional lockable security bezel	o 2.0					
Operating systems	Microsoft Windows Server 2016/2012 R2. Red Hat Enterprise Linux 7.4/7.3/6.9. SUSE I	inux					
supported	Enterprise Server 12 SP3/12 SP2/11 SP4. VMware ESXi 6.5U1/6.5/6.0 U3						

	Components	Specification	
	Systems management	XClarity Controller Standard, optional upgrade Energy Manager. XClarity Administrator. Len Provisioning Manager. Essentials. Light Path	
r	GPU support		or 3rd GPU requires 2nd CPU. Supports up to 1 to 3 LP and single width GPU adapters (Quadro
_	Base warranty	MT 7X01: 1-year limited onsite service with 9 MT 7X02: 3-year limited onsite service with 9	
	Power supply	Up to two redundant hot-swap 550W/750W/1 supplies. Or up to two redundant hot-swap 7: Titanium is 200V - 240V, others are 100V - 2	50W Titanium qualified power supplies. 750W
	Video	Integrated Matrox G200 in XClarity Controlle	r
	Cooling	Five fans (4+1) for single processor model, s	even fans (6+1) for dual processor model
	Front ports	One XClarity Controller USB connector, one	USB 3.0, one optional VGA
	Rear ports	One VGA, two USB 3.0, one XClarity Contro	ller network connector. Optional COM port
		Supports ASHRAE A4 with limitations.	
		Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)
4		Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)
		Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)
		Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)
IJ	Environmental	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%
4	specification	Humidity - storage (with package), non-condensing	8%~90%
		6134M, and 8156 processors not installed Both NVMe 2.5" SSD and NVMe PCIe adapter no GPU not installed Must have redundant PSU	Watt and Xeon 4112, 5122, 6126, 6128, 6132, 6134,
	Environmental certification	Energy Star Server 2.1 certified. More enwww.lenovo.com/social_responsibility/us/	



Expansion slots

•	
	Supports one of the following for riser card 1:
,	Option 1: PCIe 3.0 x8/x16 (slot 1-2). Low profile for x8, low profile or full
	height half length for x16
	Option 2: PCle 3.0 x8 ML2/x16 (slot 1-2). Low profile for x8 ML2,
	low profile or full height half length for x16
	Option 3: PCIe 3.0 x16 ML2/x8 (slot 1-2). Low profile for x16 ML2,
	low profile or full height half length for x8
	Option 4: 2x 2.5" drive bay, for 10 x 2.5" model only
Slot 3 (riser card 2)	PCIe 3.0 x 16, low profile, requires 2nd CPU. When slot 2 is full height, slot 3 cannot be
•	used

7XH7A05896	Lenovo SR530/SR570/SR630 2.5" SATA/SAS 8-Bay Backplane Kit
7XH7A05893	Lenovo SR530/SR570/SR630 x8/x16 PCIe LP+FH Riser 1 Kit
7XH7A05895	Lenovo SR630 x16ML2/x8 PCIe LP+FH Riser 1 Kit
7XH7A05894	Lenovo SR630 x8ML2/x16 PCIe LP+FH Riser 1 Kit
7XH7A02682	Lenovo SR530/SR570/SR630 x8/x16 PCIe LP+LP Riser 1 Kit
7XH7A02683	Lenovo SR630 x8ML2/x16 PCIe LP+LP Riser 1 Kit
7XH7A02684	Lenovo SR630 x16ML2/x8 PCIe LP+LP Riser 1 Kit
7XH7A02685	Lenovo SR530/SR570/SR630 x16 PCIe LP Riser 2 Kit
7XH7A06252	Lenovo SR630 Rear HDD Kit
7Z17A02577	Lenovo COM Port Upgrade Kit
7Z17A02579	Lenovo SR530/SR570/SR630 Front VGA Connector Upgrade Kit
7Z17A02581	Lenovo 1U Security Bezel



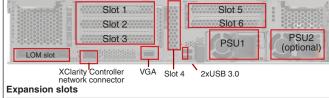




ThinkSystem SR650 Platform Specifications

ThinkSystem	SR65	u Platto	rm Sp	ecificati	ons						
Components	Specification										
Form factor	2U rack										
Dimensions	Height: 86.5 mm (3.4 in). Width: 482 mm (19.0 in) with rack latches. Depth: 763.7 mm (30.1 in)										
Weight	Maximum configuration: 70.54 lb (32 kg)										
Wolghi	Up to two 205W Gen 1 or Gen 2 Intel Xeon Scalable family processors, Bronze, Silver, Gold, or										
Processor	Platinum. Up to 28 cores at 2.7GHz, up to 3.8GHz with 4 cores. Two processors are						e	/ -			
	connected with two UPI (Ultra Path Interconnect) links up to 10.4GT/s										
Chipset	Intel C624 Platform Controller Hub							-la			
	Up to 24 DIMM sockets. Each processor supports up to 12 DIMM sockets with 6 channels. Supports following:										
	Memory Type Speed Offering										
			istent Mer				ing 3B/256GB/512	2GB			
							16GB/32GB/				
Memory offering	3DS RDIMM			DD	R4-293	33 1280	βB				
	Performance+ RDIMM						3/32GB/64GB	3			
		ance+ 3DS R	RDIMM			-2933 128GB					
	RDIMM LRDIMM	4				4-2666 8GB/16GB/32GB 4-2666 64GB					
	3DS RD						3/128GB				
			PAGE 3DS				KU processor	,			
Memory capacity	• 6T	B with 12x 51	12GB DC I	Persistent Me	emory	(memor	y mode) and	dual L SKI	J prod	cessor	
INCITIOTY CAPACITY	 6TB with 12x 512GB DC Persistent Memory (memory mode) and dual L SKU processor 7.5TB with 12x 512GB DC Persistent Memory (memory mode) + 12x 128GB 3DS RDIMM and dual L SKU processor 										
Memory protection		emory mirrori	•		ın						
INCITION PROTECTION		icated interna				BA adar	iters.				
	One ded	Toutou interne					Casha		May	1	
	Feature	Interface	Drive type	RAID levels	JBC	DD Cach	e Cache protection	FastPath	Max		
	530-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50	Ye		None	Yes	2		
	730-8i 930-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50 0/1/10/5/50/6/	Ye 60 Ye		None Flash backup	No Yes	3		
	930-16i	12Gbps SAS	SATA/SAS	0/1/10/5/50/6/	60 Ye	s 4GE	Flash backup	Yes	1		
Storage controllers	930-24i 430-8i			0/1/10/5/50/6/			Flash backup	Yes	1		
	430-8i 430-16i	12Gbps SAS 12Gbps SAS	SATA/SAS	-	Ye Ye		e None None	-	1		
	930-8e	12Gbps SAS	SATA/SAS	0/1/10/5/50/6/	60 Ye	s 4GE	Flash backup	Yes	5		
	430-8e	12Gbps SAS 12Gbps SAS			Ye Ye		e None None	-	5		
					•	•	will be placed in	elot 1 firetl		21i will ha	
	placed in a	slot 1 firstly.					·				
	Supports the following disk bay configurations, optional rear bay occupies riser card 1 location:										
	Chassis	Maximum D	isk Bay Co	niguration			2x 3.5" Rea	ar Bays Su	ipport	į	
	100 5	12x 3.5" HS	SATA/SAS	3		Yes					
	12x 3.5"	8x 3.5" HS SATA/SAS + 4x 3.5" AnyBay						Yes			
	8x 3.5"	5" 8x 3.5" HS SATA/SAS						Yes			
		24x 2.5" HS	SATA/SAS	3	Yes						
		20x 2.5" HS SATA/SAS + 4x 2.5" AnyBay						Yes			
Disk drive bays		16x 2.5" HS SATA/SAS + 8x 2.5" AnyBay						Yes			
	24x 2.5"	12x 2.5" HS SATA/SAS + 12x 2.5" AnyBay						No			
			8x 2.5" HS SATA/SAS + 16x 2.5" U.2					No			
		20x U.2						No			
		24x U.2	CATA/CAC					No Vo			
	10, 0 5"	16x 2.5" HS			nu (Day)			Yes			
	10X 2.5	12x 2.5" HS						Yes			
		8x 2.5" HS S						. res			
	Optional	one or two in					SD supports n				
	For 3.5" b	av					/4TB/6TB/8TB/1 /4TB/4TB SED		nTR		
				5" HDD, SAS12Gbps, 15K 3000		300GB/600GB					
	3.5" tray)		D, SATA6Gbps		240GB/480GB						
			Me SSD, AnyB				2TB/3.84TB				
	2.5" HDD, SATA 2.5" HDD, SAS					7.2K 1TB/2TB 7.2K 1TB/2TB					
Internal storage				D, SAS12Gbps	10K	300GB/3	00GB SED/600	GB/600GB	SED/9	00GB/	
	For 2.5" b	ay		D, SAS12Gbps	1.216/1.016				$\overline{}$		
	2.5" SSD, SAS12			D, SAS12Gbps	;	400GB/8	00GB/3.84TB/7	.68TB			
	2.5" SSD, SATA60					240GB/4		OTD/0 047]	
	2.5" NVMe SSD, A						60GB/1.6TB/1.9 92TB/3.2TB/3.8		>		
	M.2 boot		M.2 SA				8GB/480GB				

	Components	Specification						
	Optical	No internal optical bay. Optional USB DVD±RW optical drive						
r	Network interfaces	One dedicated management port. One LOM slot for customized LOM with up to four RJ- 45 or SFP+ ports, up to 10GbE. Wake-on-LAN and NC-SI are available on Port 0 of LOM. Optional ML2 or PCIe adapters are supported. ML2 adapter requires riser card with ML2 slot.						
1	Security features	Power-on and admin password. Trusted Platform Module, TCG 1.2 compliant, upgrade to 2.0 via UEFI setting. Optional TCM in China only. Optional lockable security bezel						
	Operating systems supported	Microsoft Windows Server 2016/2012 R2. Red Hat Enterprise Linux 7.4/7.3/6.9. SUSE Linux Enterprise Server 12 SP3/12 SP2/11 SP4. VMware ESXi 6.5U1/6.5/6.0 U3						
	Systems management	XClarity Controller Standard, optional upgrades to Advanced or Enterprise are available. Energy Manager. XClarity Administrator. Lenovo Capacity Planner. Provisioning Manager. Essentials. Light Path Diagnostics						
	GPU support	Requires riser card with PCle x16 slot. 2nd or 3rd GPU requires 2nd CPU. Supports up to 2 FHFL and double width GPU adapters, or up to 3 FHFL and single width GPU adapters						
	Base warranty	MT 7X05: 1-year limited onsite service with 9x5/NBD MT 7X06: 3-year limited onsite service with 9x5/NBD						
	Power supply	Up to two redundant hot-swap 550W/750W/1100W/1600W 80 PLUS Platinum qualified AC power supplies. Or up to two redundant hot-swap 750W Titanium qualified AC power supplies. 750W Titanium and 1600W Platinum are 200V - 240V, others are 100V - 240V						
	Video	Integrated Matrox G200 in XClarity Controller						
	Cooling	Five fans (4+1) for single processor model, six fans (5+1) for dual processor model						
	Front ports	One XClarity Controller USB connector, one USB 3.0, one optional VGA						
M	Rear ports	One VGA, two USB 3.0, one XClarity Controller network connector. Optional COM port						
-		Supports ASHRAE A4 with limitations.						
		Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)					
		Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)					
		Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)					
		Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)					
	F	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:8%~80%					
	Environmental	Humidity - storage (with package), non-condensing	8%~90%					
	specification	Models should meet the following requirements to support A3 and A4: NVMe drives not installed PCIe flash adapter not installed Graphic processing unit (GPU) not installed Must have redundant PSU Certain processors not installed:						
be :		 Processors with TDP more than or equal to 150-watt not installed On 16 x 2.5", 24 x 2.5", and 12 x 3.5" models, the following processors not installed: Intel Xeon 4112, 5122, 6126, 6128", 6132", 6134, 6134M*, and 8156 processors (Processors marked with * will be available later) 						
	Environmental certification	Energy Star Server 2.1 certified. More environmen www.lenovo.com/social_responsibility/us/en/enviro						
		Slot 1 Slot 5						

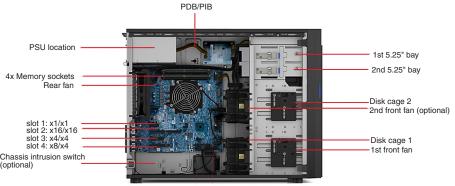


Slot 1-3 (riser card 1)	Supports one of the following for riser card 1:				
	Option 1: PCle 3.0 x8/x8/x8 (slot 1-3). Full height, half length.				
	Option 2: PCle 3.0 x16/x8 (slot 1 and 3). Full height, full length for x16.				
	Full height, half length for x8				
	Option 3: PCIe 3.0 x8/x8/x8 ML2 (slot 1-3). Full height, half length				
	Option 4: PCle 3.0 x8/x16 ML2 (slot 1 and 3). Full height, half length				
	Option 5: Two rear 3.5" disk bays, 12 x 3.5" models only				
Slot 4 (onboard)	PCIe 3.0 x8, low profile				
Slot 5 (riser card 2)	PCle 3.0 x16, full height, full length, requires 2nd CPU				
Slot 6 (riser card 2)	PCIe 3.0 x16, full height, half length, requires 2nd CPU				

ThinkSystem ST250 Platform Specifications

Components	Specification	n	-								
Form factor	Tower or 4U rack with optional rack mount kit										
Dimensions	11:1:400 (40.00:) : 111.475 (0.00:) 11.505.7 (0.00:)										
	Height: 430 mm (16.93 in), width: 175 mm (6.89 in), depth: 565.7 mm (22.27 in)										
Weight	Maximum configuration: 51.94 lb (23.56 kg)										
	Up to one Intel Xeon E family processor, up to 95W, up to 6 cores at 3.8GHz, up 12MB cache, up to DDR4-2666 memory speed.						ıp to				
_	Or up to one					up to	4 cores at 4	OGHz. ı	ot au		
Processor	8MB cache, u					up to	+ 00100 at +	.oai iz, c	יף יט		
	Or up to one	Intel Pentiu	m Gold p	rocessor, up	to 54\	N, 2 c	ores at 3.9G	Hz, 4ME	3		
	cache, DDR4	Or up to one Intel Pentium Gold processor, up to 54W, 2 cores at 3.9GHz, 4MB cache, DDR4-2400 memory speed									
Chipset	Intel C246 PI	atform Cont	roller Hu	b							
Memory	4 DIMM sock				chan	nel. U	DIMM. DDR	4-2666.			
Memory capacity	64GB with 4x										
Memory protection	ECC										
,,,	Supports the	following R	AID/HBA	adapters:							
	DAID I I	1	D : .	DAID!	IDOD	Cache	Cache	F .D	.		
	RAID adapter	Interface		RAID levels				FastPath			
	Onboard SATA	6Gbps SATA		0/1/10/5	Yes	None		No			
	530-8i 730-8i	12Gbps SAS 12Gbps SAS			Yes Yes	None	None	Yes No			
Storage controllers	930-8i	12Gbps SAS	SATA/SAS	0/1/10/5/50/6/60			Flash backup	Yes			
otorago controlloro	930-16i	12Gbps SAS	SATA/SAS	0/1/10/5/50/6/60	Yes	4GB	Flash backup	Yes			
	430-8i	12Gbps SAS	SATA/SAS	-	Yes	None		-			
	430-16i	12Gbps SAS			Yes	None		-			
	430-8e	12Gbps SAS			Yes	None		-			
	430-16e 930-8e	12Gbps SAS		0/1/10/5/50/6/60	Yes Yes	None 4GB	Flash backup	Yes			
									(
Disk drive bays	Supports 4 or 8 front 3.5" SATA simple-swap bays. Or 4 or 8 front 3.5" SATA/SAS HS bays. Or 8 or 16 front 2.5" SATA/SAS HS bays. Or 4x 3.5" plus 8x 2.5" hybrid SATA/SAS HS bays. Optional one internal M.2 SSD for boot, consumes one onboard SATA port										
		3.5" HDD, SAT			1TB/2TB/4TB/6TB/8TB						
	For 3.5" SS bay 2.5" SSD, SATA6Gbps				240GB/480GB/960GB						
	For 3.5" HS bay 3.5" HDD, SATA6Gbps, 7.2K				1TB/2TB/4TB/6TB/8TB						
	(3.5" disks or 3.5" HDD, SAS12Gbps, 7.2K			2K 1	1TB/2TB/4TB/6TB/8TB						
	2.5" disks with 2.5" HDD, SAS12Gbps, 15K				300GB/600GB/900GB						
	3.5" tray) 2.5" SSD, SATA6Gbps					240GB/480GB/960GB					
Disk support		2.5" HDD, SAT	A6Gbps, 7.2	K 1	TB/2TB						
		2.5" HDD, SAS	12Gbps, 7.2		TB/2TB						
	For 2.5" HS bay	25" HDD SAS	12Ghps 10	K I	300GB/300GB SED/600GB/900GB/1.2TB/1.8T						
					B/2.4TB						
		2.5" HDD, SAS12Gbps, 15K			300GB/600GB/900GB 240GB/480GB/960GB						
	Macen	2.5" SSD, SATA6Gbps M 2 SATA SSD									
	M.2 SSD M.2 SATA SSD 32GB/128GB/480GB										
Optical	two optical or			icai, LTO-7 S	AS or	HDX	USB 3.0 tap	e arive.	Up to		
Network interfaces	Two onboard GbE port via integrated gigabit ethernet Broadcom BCM5720 plus one dedicated management port. Optional PCIe ethernet adapters are available										
	Power-on and admin password. Trusted Platform Module, TCG 1.2 or 2.0 compliant,										
Security features	Optional TCM in China only. Optional chassis intrusion switch, Kensington lock, and pad lock										
Operating systems Microsoft Windows Server 2019/2016/2012 R2. Red Hat Enter			nterprise Li	nux 7.5.							
supported	SLISE Linux Enterprise Server 12 SP3 VMware vSphere (ESVi) 6 7/6 5 LI2										
	XClarity Controller Standard, optional upgrades to Advanced or Enterprise are										
Systems	available. Energy Manager. XClarity Administrator. LEDs on front panel show the										
management	status of power, ID, network, simple-swap disks, and system error					ne					
GPU support	Up to one optional GPU, NVIDIA Quadro P620 or Quadro P2000										
	MT 7Y45: 3-y										
Base warranty	MT 7Y46: 1-y										
	Supports one										
Dower ourselv				W. 80 PLUS	Platinu	ım ce	rtified.				
Power supply	 Up to two redundant hot-swap power supplies, 550W each. 80 PLUS Platinum 										
	certified				, ,						

Components	Specification
Video	Integrated Matrox G200 in XClarity Controller
Cooling	One fixed rear fan, one fixed front fan, CPU fan, PSU fan. One optional front fan for 2nd disk drive cage
Front ports	One XClarity Controller USB connector, one USB 3.1 Gen 1
Rear ports	2x USB 3.1 Gen 2. 2x USB 3.1 Gen 1. 2x RJ-45. 1x XClarity Controller network connector. 1x COM. 1x VGA
Environmental specification	Supports ASHRAE A2
Environmental certification	Energy Star Server 2.1 certified



Expansion slotsSupports three PCIe 3.0 slots as following:

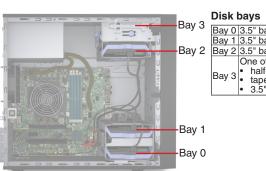
	•
Slot 1	PCIe 3.0 x1, full height, half length, links to PCH
Slot 2	PCIe 3.0 x16, full height, half length, links to CPU
Slot 3	PCIe 3.0 x4, full height, half length, links to PCH
Slot 4	PCIe 3.0 x8 (negotiable link width x4), full height, half length, links to PCH

Partial options for ThinkSystem ST250

ThinkSystem 8GB TruDDR4 (1Rx8, 1.2V) 2666 MHz UDIMM	4ZC7A08696
ThinkSystem 16GB TruDDR4 (2Rx8, 1.2V) 2666 MHz UDIMM	4ZC7A08699
ThinkSystem 3.5" 1TB 7.2K SATA 6Gb Hot Swap 512n HDD	7XB7A00049
ThinkSystem 3.5" 8TB 7.2K SATA 6Gb Hot Swap 512e HDD	7XB7A00053
900GB 15K 12Gbps SAS 2.5" G4HS 512e HDD	7XB7A00023
300GB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00024
600GB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00025
900GB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00026
1.2TB 10K 12Gbps SAS 2.5" G4HS HDD	7XB7A00027
1.8TB 10K 12Gbps SAS 2.5" G4HS 512e HDD	7XB7A00028
2.4TB 10K SAS 12Gb HS 512e HDD	7XB7A00069
300GB 10K 12Gbps SAS 2.5" G4HS SED	7XB7A00030
1TB 7.2K 12Gbps NL SAS 2.5" G4HS HDD	7XB7A00034
2TB 7.2K 12Gbps NL SAS 2.5" G4HS HDD	7XB7A00035
M.2 CV3 128GB SATA SSD	7N47A00130
ThinkSystem ST50/ST250 Rack Mount Kit	4M17A12785

ThinkSystem ST50 Platform Specifications

	Specification Specifications				
Components Form factor	•				
Dimensions	Tower or 4U rack with optional rack mount kit				
	Height: 375 mm (14.76 in), width: 175 mm (6.89 in), depth: 407 mm (16.0 in)				
Weight	Maximum configuration: 24.7 lb (11.2 kg) Up to one Intel Xeon E family processor, up to 95W, up to 6 cores at 3.8GHz, up to 12MB cache, up to DDR4-2666 memory speed. Or up to one 34 lb latel Care is processor, up to 91W, up to 4 cores at 4.0GHz, up to				
Processor	Or up to one 8th Intel Core i3 processor, up to 91W, up to 4 cores at 4.0GHz, up to 8MB cache, up to DDR4-2400 memory speed. Or up to one Intel Pentium Gold processor, up to 54W, 2 cores at 3.9GHz, 4MB cache, DDR4-2400 memory speed Or up to one Intel Celeron processor, up to 54W, 2 cores at 3.2GHz, 2MB cache, DDR4-2400 memory speed				
Chipset	Intel C246 Platform Controller Hub				
Memory	4 DIMM sockets with 2 channels, 2 DIMMs per channel. UDIMM. DDR4-2666. Non-ECC UDIMM are supported in China only				
Memory capacity	64GB with 4x 16GB UDIMMs, both ECC and Non-ECC				
Memory protection	ECC				
	Supports the following RAID/HBA adapters:				
Storage controllers	RAID adapter Interface Drive type RAID levels JBOD Cache Cache protection FastPath				
Disk drive bays	Up to 4x 3.5"/2.5" Non-hot swap SATA/SAS cabled drive, HDD, SSD, or mixing of HDD and SSD. 4th bay is optional with 5.25" to 3.5" conversion kit and occupies 5.25" bay				
SD card reader	Up to two SD card with optional SD card module, 32GB or 64GB				
Disk support	3.5" HDD, SATA6Gbps, 7.2K				
Optical	One 5.25" bays for half-height optical, LTO-7 SAS or RDX USB 3.0 tape drive, or 4th disk bay plus one slim optical				
Network interfaces	One onboard GhE port via integrated gigabit athernet Intel i210I M, supports Wake-				
Security features	Power-on and admin password. Trusted Platform Module, TCG 1.2 or 2.0 compliant, Optional TCM in China only. Optional chassis intrusion switch, Kensington lock, and pad lock				
Operating systems supported					
Systems management	Intel Active Management Technology 12 on Xeon models, Intel Standard Manageability on other models				
GPU support	Up to one optional NVIDIA Quadro P620				
Base warranty	MT 7Y48: 3-year limited onsite service with 9x5/NBD MT 7Y49: 1-year limited onsite service with 9x5/NBD				
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.				
Video	Integrated Intel UHD Graphics P630 in -G suffix Xeon processors, or Intel UHD Graphics 630 in Core i3, or Intel UHD Graphics 610 in Pentium and Celeron processors				
Cooling	Two fixed system fans, CPU fan, PSU fan, and optional media bay fan				
Front ports	2x USB 3.1 Gen 1 Type A				
riear ports	2x USB 3.1 Gen 1 Type A. 2x USB 2.0 Type-A. 1x RJ-45. 1x COM. 1x line-out. 2x DP (DP needs Core, Pentium, Celeron, or -G suffix Xeon processor)				
Environmental specification	Supports ASHRAE A2				
Environmental certification	Energy Star Server 2.1 certified. More environmental information please see: www.lenovo.com/social_responsibility/us/en/environment/				



,	Bay 0	3.5" bay, HDD or SSD
	Bay 1	3.5" bay, HDD or SSD
)	Bay 2	3.5" bay, HDD or SSD
	Bay 3	One of the following: • half-height optical • tape drive • 3.5" bay + slim optical

Expansion slotsSupports three PCle 3.0 slots as following:

Slot 1	PCIe 3.0 x16, full height, half length, links to CPU
Slot 2	PCIe 3.0 x1, full height, half length, links to PCH
Slot 3	PCIe 3.0 x16 (negotiable link width x4), full height, half length, links to PCH

Partial options for ThinkSystem ST50

Turnar options for riminoystom of to	
ThinkSystem 8GB TruDDR4 (1Rx8, 1.2V) 2666 MHz UDIMM	4ZC7A08696
ThinkSystem 16GB TruDDR4 (2Rx8, 1.2V) 2666 MHz UDIMM	4ZC7A08699
ThinkSystem ST50 3.5" 1TB 7.2K SATA 6Gb Non-Hot Swap 512n HDD	4XB7A13554
ThinkSystem ST50 3.5" 2TB 7.2K SATA 6Gb Non-Hot Swap 512n HDD	4XB7A13555
ThinkSystem ST50 3.5" 4TB 7.2K SATA 6Gb Non-Hot Swap 512n HDD	4XB7A13556
ThinkSystem ST50 3.5" 6TB 7.2K SATA 6Gb Non-Hot Swap 512e HDD	4XB7A13557
ThinkSystem ST50 3.5" 8TB 7.2K SATA 6Gb Non-Hot Swap 512e HDD	4XB7A13558
ThinkSystem ST50 3.5" Intel S4510 240GB Entry SATA 6Gb Non Hot Swap SSD	4XB7A14914
ThinkSystem ST50 3.5" Intel S4510 480GB Entry SATA 6Gb Non Hot Swap SSD	4XB7A14915
ThinkSystem ST50 3.5" Intel S4510 960GB Entry SATA 6Gb Non Hot Swap SSD	4XB7A14916
ThinkSystem ST50 HH ODD / Tape Cable Kit	4Z57A13568
ST50 5.25 to 3.5 HDD kit W/ Slim ODD	4M17A12096
ST50 DP to HDMI Dongle Kit	4X97A12100
ST50 DP to VGA Dongle Kit	4X97A12099
ThinkSystem ST50 Super Cap Bracket & Cable Kit	4M17A12094
ST50 Dual SD Cards Adapter Kit	4M17A12095
ThinkSystem ST50/ST250 Rack Mount Kit	4M17A12785
ThinkSystem ST50 Super Cap Bracket & Cable Kit ST50 Dual SD Cards Adapter Kit	4M17A12094 4M17A12095





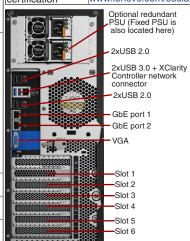




ThinkSystem ST550 Platform Specifications

Components	Specificat	ion							
Form factor	Tower or 4U rack								
Dimensions	Without foot stands and security door: Height: 425.5 mm (16.8 in). Width: 175.8 mm (6.92 in). Depth: 666.4 mm (26.24 in)								
Weight		configuration: 81		9 kg)					
	Up to two 1	125W Gen 1 or (Gen 2 Intel	Xeon Scalable	family	proces	sors, Bronze	, Silver, G	iold, or
Processor	Platinum. U	Jp to 20 cores at with two UPI (U	t 2.0GHz, ι	ıp to 3.8GHz wi	th 4 co	res. Tv	vo processors	sare	
Chipset	Intel C621	Platform Contro	ller Hub						
Memory	Up to 12 D DDR4-293	IMM sockets. Ea 3 or DDR4-2666	ch process	sor supports up	to 6 D	IMM s	ockets with 6	channels	
Memory capacity	Up to 7680	BB with 12 x 64	GB DIMMs	and two proces	ssors				
Memory protection		ory mirroring, ar							
,		ne following RAI							
			1	1	1			1	
	RAI ada		Drive type	RAID levels	JBOD	Cache	Cache	FastPath	Max qty
	For SS Onb	oard Ghos SATA	SATA	0/1/10/5	Yes	None	None	No	- qty
	bays SAT		SATA/SAS	0/1/10/5/50	Yes	None	None	Yes	2
	730				Yes		None	No	2
Storage controllers	930			0/1/10/5/50/6/60	Yes		Flash backup	Yes	2
9	030			0/1/10/5/50/6/60	Yes		Flash backup	Yes	1
	For HS Q30			0/1/10/5/50/6/60			Flash backup	Yes	1
	bays 430	-8i 12Gbps SAS	SATA/SAS	-	Yes	None		-	2
	430	-16i 12Gbps SAS	SATA/SAS	-	Yes	None	None	-	1
	430		SATA/SAS	-	Yes	None	None	-	6
	930	-8e 12Gbps SAS	SATA/SAS	0/1/10/5/50/6/60	Yes	4GB	Flash backup	Yes	6
	location Optional one or two internal M.2 SSD for boot, dual M.2 SSD supports mirroring								
		bay 3.5" HDD, SA					TB/8TB/10TB		
	For 3.5" bay						TB/8TB/10TB		
	(3.5" disks o	or 3.5" HDD, SA	S12Gbps, 7	.2K 1	TB/2TE	8/4TB/67	TB/10TB		
	2.5" disks w	ith 2.5" HDD, SA	S12Gbps, 1	5K 3	00GB/6	00GB			
	3.5" tray)	2.5" SSD, SA	TA6Gbps	2	40GB/4	180GB			
		2.5" HDD, SA	TA6Gbps, 7.	2K 1	TB/2TE	3			
Internal storage		2.5" HDD, SA	S12Gbps. 7	.2K 1	TB/2TE	3			
orrial otorago		2.5" HDD, SA			00GB/6	SOOGR/9	00GB/1.2TB/1.	8TR	
		2.5" HDD, SA				00GB/9		OID	
	For 2.5" bay								
		2.5" SSD, SA				800GB/3	0.841D		-
					240GB/480GB				
		2.5" NVMe S		1	.92TB/3	3.84TB			
		M.2 SATA SS	D	3	2GB/12	28GB/48	0GB		
Optical	Two 5.25" bays for optical and tape drive. Supports DVD-ROM or DVD±RW drives, half-height. Supports LTO-6 SAS, LTO-7 SAS, and RDX USB 3.0 tape drives								
Network interfaces	Integrated one dedicated management port plus two GbE ports. Optional PCle adapters are supported. NC-SI and Wake-on-LAN are available on GbE port 1 (See right)								
Security features	Power-on and admin password. Trusted Platform Module, TCG 1.2 compliant, upgrade to 2.0 via UEFI setting. Optional TCM in China only. Optional lockable security bezel. Optional chassis intrusion switch								
Operating systems supported	Microsoft Windows Server 2016/2012 R2. Red Hat Enterprise Linux 7.3/6.9. SUSE Linux Enterprise Server 12 SP2/11 SP4. VMware vSphere (ESXi) 6.5/6.0 U3								
Systems management	XClarity Controller Standard, optional upgrades to Advanced or Enterprise are available. Energy Manager. XClarity Administrator. Provisioning Manager. Essentials. LEDs on front panel show the status of power, ID, network, simple-swap disks, and system error								
GPU support	Up to two optional NVIDIA Quadro P2000 or Quadro P6000								
	7)								

Components	Specification				
Base warranty	MT 7X09: 1-year limited onsite service with 9x5/NBD MT 7X10: 3-year limited onsite service with 9x5/NBD				
Power supply	Supports one fixed 450W 80 PLUS Gold qualified AC power supply, non-hot swap, no redundant. Or up to two redundant hot-swap 550W/750W/1100W 80 PLUS Platinum qualified AC power supplies. Or up to two redundant hot-swap 750W Titanium qualified AC power supplies. 750W Titanium is 200V - 240V, others are 100V - 240V				
Video	Integrated Matrox G200 in XClarity Controller				
Cooling	Up to four fans with one for redundant. Two fans for single processor, three fans for dual processor or single processor with 4 x 2.5" HS bay installed. 4th fan is N + 1 redundant or GPU installed				
Front ports	One XClarity Controller USB connector, one US	SB 3.0			
Rear ports	One VGA, two USB 3.0, four USB 2.0, two ethernet (RJ-45), one XClarity Controller network connector. Optional COM port				
	Supports ASHRAE A4 with limitations.				
	Temperature - operating	A4: 5°C to 45°C (41°F to 113°F) A3: 5°C to 40°C (41°F to 104°F) A2: 10°C to 35°C (50°F to 95°F)			
	Temperature - non operating (no package)	-10°C to 60°C (14°F to 140°F)			
	Temperature - non operating (with package)	-40°C to 70°C (-40°F to 158°F)			
Environmental	Altitude - operating	(Unpressurized): 0-10000ft (0-3048m)			
specification	Humidity - operating, non-condensing	A4: 8%~90%. A3:8%~85%. A2:20%~80%			
∥ '	Humidity - storage (with package), non-condensing	8%~90%			
	Models should meet the following requirements to support A3 and A4: • System rear fan required, no system fan fail • 450W fixed power supply not installed, redundant power supplies required • NVMe SSD not installed • GPU not installed • When 4 x 2.5" bay installed, only support up to 2TB SAS HDD/SSD and all SATA HDD/SSD				
Environmental	Energy Star Server 2.1 certified. More environment				
certification	www.lenovo.com/social_responsibility/us/en/	environment/			



Expansion slots

•	
Slot 1 (CPU1)	PCIe 3.0 x8, full height, half length
Slot 2 (CPU1)	PCIe 3.0 x16, full height, half length
Slot 3 (CPU1)	PCIe 3.0 x16, full height, full length, double-width
Slot 4 (CPU2)	PCle 3.0 x16 (x8 elec), full height, full length
Slot 5 (CPU2)	PCIe 3.0 x16, full height, full length, double-width
Slot 6 (CPU1)	PCle 3.0 x8 (x4 elec), full height, full length

Note: All expansion cards and redundant PSU are optional.

System unique options

-,		
7X77A03475	ThinkSystem ST550 2.5" SATA/SAS 4-Bay Backplane Kit	
7X77A03476	ThinkSystem ST550 2.5" Anybay 8-Bay Backplane Kit	
7TP7A04369	ThinkSystem ST550 2.5" 8-Bay Backplane Kit	
7TP7A04370	ThinkSystem ST550 3.5" SATA/SAS 4-Bay Backplane kit	
7X77A03481	ThinkSystem ST550 3.5" Simple Swap Bracket Plate	
7X77A03484	ThinkSystem ST550 4U Security Bezel	
7X77A03485	ThinkSystem ST550 CMA kit	
7X77A03488	ThinkSystem ST550 4U Tower to Rack Conversion Kit	
7Z17A02577	ThinkSystem ST550 COM Port Upgrade Kit	
7XH7A06781	ThinkSystem ST550 Front Mid FAN Module for 4x2.5" ODD conversion	
7TP7A04371	ThinkSystem ST550 Rear FAN Module for RDN FAN	

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Warranty: For a copy of applicable warranties, write to: Lenovo Warranty Information, 1009 Think Place, Morrisville, NC, 27560. Lenovo makes no representation or warranty regarding third party products or services. The Lenovo Limited Warranty applies only to Lenovo hardware products purchased for your own use, and does not transfer upon resale.

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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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.

June, 2019 - Version 543

Additions in this update

► New product(s)

ThinkVision T27p-10 announced May 2019

► New model(s)

None

▶ Others

None

Withdrawals in this update

► Withdrawn product(s)

ThinkVision P27 is withdrawn in the book

ThinkVision T24i is withdrawn in the book

ThinkVision T2423 is withdrawn in the book

ThinkVision T2424z is withdrawn in the book

ThinkVision T2220VA is withdrawn in the book

ThinkVision T2364t is withdrawn in the book

ThinkVision T2224z is withdrawn in the book

ThinkVision Pro2820 is withdrawn in the book













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-compliant² 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™ Gold rating Environmental

Preset resolutions VGA:

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

SXGA: 1280x1024 WXGA: 1366x768

Presets / user settings Standard presets: 15

user settings: 16

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

Rotating screen

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

Direct access (control buttons on front) for automatic image setup and adjustment for brightness Multiple input

None

Monitor connectors

Signal cables

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

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

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

Limited Warranty

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

Accessories

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

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

See all monitors at www.lenovo.com/thinkvision

Features

Widescreen 18.5-inch monitor

• Supports HD 1366x768 resolution

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

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

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

Microsoft Windows 8 / Windows 8.1 certified



ThinkVision E1922s Wide Monitor

Lenovo February 2014













E2054 Wide Flat Panel Monitor Name Case color Type-model Raven black

60DFAAR1US / 60DFAAT1EU Panel TFT-LCD, In-Plane Switching (IPS), LED backlight

Viewable image size

19.5" (**494mm**) diagonal 16.48" x 10.33" / 418.6mm x 262.4mm

Max view area (W x H) Native resolution 1440x900 16:10

Aspect ratio Pixel pitch (mm) Dot/Pixel per Inch 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 Bezel width

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; 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 Emission standards

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

Preset resolutions 640x480, 720x400

SVGA: 800x600 XGA: 1024x768

1280x768, 1280x1024 SXGA:

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

Presets / user settings user settings: 10

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

Rotating screen None

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

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

Multiple input None

Monitor connectors

Signal cables

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

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

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

Limited Warranty

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

Accessories

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

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

See all monitors at www.lenovo.com/thinkvision

Features

Widescreen 19.5-inch monitor

• Supports HD 1440x900 resolution

Supports VESA mount (100mm)
Mercury free panel and arsenic free glass Kensington lock slot ready for enhanced security

Support Lenovo Tiny PC via VESA mount
 Microsoft® Windows® 7 certified
 Microsoft Windows 8 / Windows 8.1 certified

Microsoft Windows 10 certified



ThinkVision E2054 Wide Monitor

Lenovo November 2015











Name LT1913p Square Flat Panel Monitor Case color **Black**

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

Viewable image size

19.0" (480.0mm) diagonal 14.76" x 11.80" (374.7mm x 299.8mm) 1280x1024 Max view area (W x H) Optimum resolution

Max pixel rate 205MHz (VGA), 165MHz (DVI) Aspect ratio Pixel pitch (mm) 0.0976 (H) x 0.2928 (V) mm Dot/Pixel per Inch

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

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

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

Tilt, swivel, pivot, and height adjustable stand Sides: 0.68" (17.4mm); top: 0.68" (17.4mm); bottom: 0.68" (17.4mm) Stand Bezel width

Dimensions (HxWxD)

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, Power supply <0.5 watts standby/suspend, universal,

integrated (no external brick-like power supply)

10.69 lb; 4.85kg Weight

3 year (includes backlight) April 2015 Limited warranty4

Available date

Viewing adjustments

VESA-compliant² VESA DDC2B/CI, EDID 1.3

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

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

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

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

1280x1024 SXGA: Presets / user settings 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

Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages) Rotating screen On screen display Direct access (buttons on front) for automatic image setup, input switch, and brightness Control features Dual input (two different PCs attach to two different connectors; one PC shows image; select via button) Multiple input (1) VGA 15-pin D-shell, analog, blue (2) Digital Visual Interface (DVI-D), digital, white, **HDCP-compliant** Monitor connectors (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) Ship group

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

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

Accessories Limited Warranty 73P2582 Kensington MicroSaver Cable Lock See details at http://support.lenovo.com/en_US/guides-and-manuals/de-Kensington Twin Head Cable Lock Lenovo Security Cable Lock 45K1620 tail.page?DocID=UM008281 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) 72%

Color gamut

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™** Gold rating Environmental

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

SVGA: 800x600

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

Presets / user settings Standard presets: 17; user settings: 17

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

Rotating screen None

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

Multiple input

Monitor connectors

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

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

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

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

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

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 See all monitors at www.lenovo.com/thinkvision













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™** Gold rating Environmental

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

SVGA: 800x600

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

Presets / user settings Standard presets: 22;

user settings: 22

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

Rotating screen None

Viewing adjustments

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

Control features

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) Multiple input

Monitor connectors

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

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 Lenovo Tiny PC and 3rd party thin client via optional Lenovo bracket
- Supports optional soundbar
- Microsoft® Windows® 7 certified
 Microsoft Windows 8 certified
- Microsoft Windows 8.1 certified
- Microsoft Windows 10 certified



ThinkVision T1714p Monitor

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













Name Bezel color Raven black 60G1MAR2US / 60G1MAT2EU Type-model Panel TFT-LCD, In-Plane Switching (IPS), 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 warrantv4 Available date

T2054p Wide Flat Panel Monitor

19.5" (495mm) diagonal 16.48" x 10.33" (418.6mm x 262.4mm) **1440x900**

16:10 0.2915 x 0.2915 mm

87 dpi 250 nits or cd/m2 (typical)

1000:1 (typical) 7ms (typical)

178° (+/- 89°) horizontal, 178° (+/- 89°) vertical Tilt, swivel, and height adjustable stand

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

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)

September 2015

VESA DDC2B/CI VESA-compliant² ENERGY STAR® qualified Power management Ergonomics ISO 9241-307

Emission standards FCC Class B Environmental

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

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

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

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 19.5-inch monitor

• Supports 1440x900 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



ThinkVision T2054p Wide Monitor



E21 Wide Flat Panel Monitor Name

Bezel color **Black**

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™ Gold rating** Environmental

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

SVGA: XGA: 1024x768, 1152x864

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

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

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



ThinkVision F21 Wide Monitor

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

Rotating screen None

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

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

USB hub None

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

Monitor connectors

Signal cables

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

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

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

Limited Warranty

See details at http://support.lenovo.com/en_US/guides-and-manuals/de-

tail.page?DocID=UM008281

Accessories

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

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













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

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

White LED backlight Viewable image size

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

Native resolution Aspect ratio 16:9

Pixel pitch (mm) 0.2745 x 0.2745 mm

Dot/Pixel per Inch 92.5 dpi

Brightness 250 nits or cd/m2 (typical)

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

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

Tilt adjustable stand Stand Bezel width

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

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

ISO 9241-307 Ergonomics Emission standards FCC Class B

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

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

SVGA: XGA: 1024x768, 1152x864

SXGA: 1280x1024 WXGA: 1366x768

WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 Full HD: 1920x1080

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

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

Rotating screen None On screen display

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

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

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

Signal cables

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

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

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

1.8 meter black power cord

Limited Warranty

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

Accessories

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

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

See all monitors at www.lenovo.com/thinkvision

Features

 Widescreen 23.8-inch monitor • Supports 1920x1080 resolution

Supports ThinkCentre Tiny VESA mount

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified



ThinkVision E24 Wide Monitor













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

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

23.8" (**604.7mm**) diagonal 20.74" x 11.67" (526.9mm x 296.4mm) Viewable image size

Max view area (W x H)

2560x1440 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 1000:1 (typical)

Pixel response time 4ms (extreme) / 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) 14.7" H x 21.26" W x 10.3" D; Stand Bezel width

Dimensions (HxWxD)

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

120 watts maximum (with USB 3.0 hub),

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

Weight Limited warranty 12.54 lb; 5.69 kg

3 year (includes backlight)

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™ Gold rating** Environmental

Preset resolutions 640x480, 720x400

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

WSXGA+: 1680x1050 Full HD: 1920x1080, 1920x1200

QHD: 2560x1440 Presets display modes HDMI: 22; DP: 14

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 USB hub

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** Monitor connectors

(2) DisplayPort (1.2), digital (3) DisplayPort-out, digital (4) USB 3.1 Type-C (1) USB 3.1 Type-C cable, 1.8 meter Signal cables

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 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 Kensington Twin Head Cable Lock

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

See all monitors at www.lenovo.com/thinkvision

- 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

73P2582

45K1620













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) 1000:1 (typical)

Contrast ratio Pixel response time Color gamut

4ms 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)

Power supply

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

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 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™ Gold rating,

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



ThinkVision P24q Monitor













T2224d Wide Flat Panel Monitor Name Bezel color

Black

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

Viewable image size

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

Native resolution Aspect ratio 16:9

Pixel pitch (mm) 0.248 x 0.248 mm

Dot/Pixel per Inch 102 dpi

Brightness 250 nits or cd/m² (typical)

Contrast ratio 1000:1 (typical) Pixel response time

7ms (typical); 4ms (extreme mode) Color gamut

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

Stand Tilt stànd

Bezel width Sides: 0.69" (17.6mm)

Dimensions (HxWxD)

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

20 watts typical, 25 watts maximum Power supply

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

6.48 lb; 2.94 kg

3 year (includes backlight)
March 2017 Weight Limited warranty

Available date

VESA-compliant VESA DDC2B/CI

Power management ENERGY STAR® qualified

Ergonomics ISO 9241-307 Emission standards FCC Class B

TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™** 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: 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/detail.page?DocID=UM008281

Accessories

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

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

See all monitors at www.lenovo.com/thinkvision

Features

Supports ThinkCentre Tiny via VESA back mount

systems concurrently (analog and digital)

Includes dual input connection for attachment to two

Widescreen 21.5-inch monitor

· Supports optional soundbar

EPEAT Gold certified

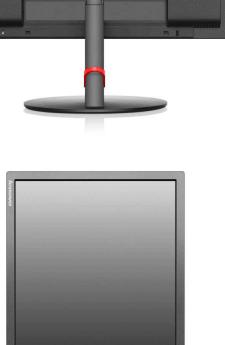
• Supports 1920x1080 resolution

Microsoft® Windows® 7 certified

Think Vision T2224d Wide Monitor















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 March 2015

Available date VESA-compliant Power management

VESA DDC2B/CI ENERGY STAR® qualified

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

Signal cables

(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

Mounting features

(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)

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

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

Accessories

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













Name T22i Wide Flat Panel Monitor Bezel color **Black** 61A9MAR1US / 61A9MAT1EU Type-model 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) 6ms (typical); 4ms (extreme mode) Pixel response time 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) Weight Limited warranty 10.85 lb; 4.92 kg

3 year (includes backlight) Available date April 2017 VESA-compliant VESA DDC2B/CI Power management ENERGY STAR® qualified

ISO 9241-307 Ergonomics Emission standards FCC Class B Environmental

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

Preset resolutions VGA: 640x350, 640x480, 720x400 SVGA: 800x600 XGA: 1024x768, 1152x864 SXGA: 1280x1024

1280x768, 1366x768 1440x900, 1680x900 WXGA: WXGA+: WSXGA+: 1680x1050 1920x1080

Full HD: Presets display modes HDMI: 17; DP: 17

Viewing adjustments Rotating screen

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

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision T22i Wide Monitor

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) 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) 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

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

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













T22v Wide Flat Panel Monitor Name **Black**

Bezel color

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

102 dpi

1000:1 (typical)

250 nits or cd/m2 (typical)

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

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

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

485.8mm H x 489.7mm W x 251.9mm D 18 watts typical, 43 watts maximum (with USB 3.0 hub),

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 0.248 x 0.248 mm

Pixel pitch (mm) Dot/Pixel per Inch Brightness

Contrast ratio Pixel response time Color gamut

Viewing angle at 10:1 CR Stand Bezel width

Dimensions (HxWxD)

Power supply

Weight Limited warranty Available date

Ergonomics

VESA-compliant

10.16 lb; 4.61 kg

3 year (includes backlight) October 2017 VESA DDC2B/CI ENERGY STAR® qualified

Power management 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 640x480, 720x400 800x600, 832x624 VGA: SVGA:

XGA: 1024x768, 1152x864 SXGA: 1280x1024 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

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

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

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

Lenovo October 2017













T2324d Wide Flat Panel Monitor Name

Bezel color **Black**

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

Viewable image size

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

1920x1080 Native resolution

Aspect ratio 16:9

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

Brightness 250 nits or cd/m2 (typical)

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

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

Tilt stand Stand

Sides: 0.68" (17.3mm) Bezel width

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

400.3mm H x 545.8mm W x 204.9mm D

Power supply 20 watts typical, 27 watts maximum

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

Weight Limited warranty

7.06 lb; 3.20 kg

3 year (includes backlight)
June 2016

Available date

VESA-compliant VESA DDC2B/CI 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

Tilt: 22° back, -5° Viewing adjustments

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

On screen display

Control features USB hub

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

None

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

Signal cables

Mounting features

Security

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

1.8 meter black power cord

Limited Warranty

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

Accessories

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

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

See all monitors at www.lenovo.com/thinkvision

Features

Widescreen 23.0-inch monitor

• Supports 1920x1080 resolution

· Supports optional soundbar

Supports ThinkCentre Tiny via VESA back mount

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

EPEAT Gold certified

Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision T2324d Wide Monitor













Name T23d-10 Wide Flat Panel Monitor **Features** Bezel color **Black** • Widescreen 22.5-inch monitor Type-model 61C3MAR6US / 61C3MAT6EU • Supports 1920x1200 resolution Panel TFT-LCD, In-Plane Switching (IPS), Supports ThinkCentre Tiny Clamp Bracket White LED backlight Supports optional soundbar **22.5**" (**571.5mm**) diagonal 19.5" x 12.4" (496.2mm x 313.9mm) Viewable image size Includes dual input connection for attachment to two Max view area (W x H) systems concurrently 1920x1200 Native resolution EPEAT Gold certified Aspect ratio 16:10 • Microsoft® Windows® 7 certified Pixel pitch (mm) 0.25 x 0.25 mm Microsoft Windows 10 certified 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) 10.67 lb; 4.85 kg

3 year (includes backlight) Weight Limited warranty Available date June 2018 VESA-compliant VESA DDC2B/CI Power management ENERGY STAR® qualified ISO 9241-307 Ergonomics Emission standards FCC Class B TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, EPEAT™ Gold rating Environmental Preset resolutions VGA: 640x480, 720x400 SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080 ThinkVision T23d-10 Wide Monitor WUXGA: 1920x1200 Presets display modes Standard presets: 27; user settings: 20

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

Limited Warranty	Accessories
See details at http://support.lenovo.com/en_US/guides-and-manuals/de-tail.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













T23i Wide Flat Panel Monitor Name **Features** Bezel color **Black** Widescreen 23-inch monitor Type-model 61ABMAR1US / 61ABMAT1EU • Supports 1920x1080 resolution Panel TFT-LCD, In-Plane Switching (IPS), Supports ThinkCentre Tiny Clamp Bracket White LED backlight Includes dual input connection for attachment to two 23" (584.2mm) diagonal 20.36" x 11.92" (517.2mm x 302.8mm) 1920x1080 Viewable image size systems concurrently Max view area (W x H) ÉPEAT Gold certified Native resolution Microsoft® Windows® 7 certified
 Microsoft Windows 10 certified Aspect ratio 16:9 0.2652 x 0.2652 mm Pixel pitch (mm) Dot/Pixel per Inch 95.8 dpi Brightness 250 nits or cd/m2 (typical) Contrast ratio 1000:1 (typical) Pixel response time 6ms (typical) Color gamut Viewing angle at 10:1 CR 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 Stand Bezel width Dimensions (HxWxD) 16 watts typical, 45 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-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: 640x480, 720x400 SVGA: 800x600 XGA: 1024x768, 1152x864 SXGA: 1280x1024 WXGA+: 1440x900 WSXGA+: 1680x1050 Full HD: 1920x1080 ThinkVision T23i Wide Monitor Presets display modes HDMI: 18; DP: 18 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 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) Control features USB hub Multiple input Dual input (two different PCs attach to two different connectors; one PC snows image; select via c (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

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 T2454p Wide Flat Panel Monitor Bezel color Raven black 60F9MAR1US / 60F9MAT1EU Type-model Panel TFT-LCD, In-Plane Switching (IPS),

7ms (typical)

77.4%

White LED backlight Viewable image size

24.0" (**609.6mm**) diagonal 20.41" x 12.76" (518.4mm x 324.0mm) **1920x1200** 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 94 dpi Brightness 300 nits or cd/m2 (typical) 1000:1 (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 Power management

Ergonomics Emission standards

Environmental

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

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

13.60 lb; 6.15 kg

VESA DDC2B/CI ENERGY STAR® qualified

ISO 9241-307

3 year (includes backlight) March 2015

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

WXGA: 1280x720, 1280x768, 1280x800

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)

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

Presets / user settings Tilt: 30° back, -5° forward; lift: 4.3" (110mm); swivel: +/-45°; detachable stand Viewing adjustments Rotating screen 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 On screen display Control features 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) USB hub Multiple input 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) 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 DisplayPort cable, Ship group 1.8 meter USB 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/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

16:10

94 dpi

0.27 x 0.27 mm

1000:1 (typical)

7ms (typical)

300 nits or cd/m2 (typical)

24" (**609.6mm**) diagonal 20.41" x 12.75" (518.4mm x 324mm) **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)

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

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

VESA-compliant Power management Ergonomics Emission standards Environmental

Presets display modes

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

June 2017

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

Preset resolutions VGA: 640x480, 720x400

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

12.41 lb; 5.63 kg

3 year (includes backlight)

WUXGA: 1920x1200 Standard presets: 22; user settings: 20 **Features**

 Widescreen 24-inch monitor • Supports 1920x1200 resolution

Supports ThinkCentre Tiny Clamp Bracket

Supports optional soundbar

 Includes dual input connection for attachment to two systems concurrently

EPEAT Gold certified

• Microsoft® Windows® 7 certified

Microsoft Windows 10 certified



ThinkVision T24d Wide Monitor

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

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













ThinkVision T24i-10 MONITOR



SPECIFICATIONS

DISPLAY

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

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

Response Time (gray to gray)
OSD Controls
Buttons
Languages

23.8" Wide In-Plane Switchng

WLED 1920 x 1080 16:9 Yes Yes

527.04 x 296.46 20.75" x 11.67" 250 cd/m² 178°/178° 1000:1 3M:1 0.2745 x 0.2745

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

5

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

DIMENSIONS (W x D x H)

 Size Packed
 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

 (inches)
 21.26" x 10.3" x 14.7"

Highest Position 540.2 x 261.75 x 483.4 (inches) 21.26" x 10.3" x 19"

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

Video Input Signals

VGA + HDMI™ 1.4 +

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

 Typical
 16.5 W

 Maximum
 55 W

 Sleep-Mode
 <0.5 W</td>

 Switch Off-Mode
 <0.3 W</td>

 Power Supply
 Internal

Power Voltage 90 VAC - 264 VAC

MECHANICAL

 Tilt Angle (Front / Back)
 -5°/ 30°

 Swivel Angle (Left / Right)
 +/-45°

 Lift Range (mm)
 110

 Pivot
 +/-90°

 Cable Management
 Yes

 Kensington* Lock
 Yes

 VESA* Mount (mm x mm)
 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™ Gold
ENERGY STAR* Rating 7.1
TCO* 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 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 Gen 1; 10 Gbit/s for USB 3.1 Gen 2 & 20 Gbit/s for USB 3.2.





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ThinkVision T24i-19 MONITOR



SPECIFICATIONS

DISPLAY

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

(mm) (inches) Brightness

Viewing Angle (H/V at CR 10:1) Contrast Ratio (Typical) Dynamic Contrast Ratio Speakers Pixel Pitch (mm)

Color Gamut (CIE 1931) Color Depth

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

Buttons Languages

(mm)

FHD (1920 x 1080)

In-Plane-Switching

23.8" Wide

16:9 Yes Yes

WLED

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 hit

16.7 Million 4 ms / 6 ms

5

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

DIMENSIONS (W x D

Size Packed 422 x 622 x 190 (inches) 16.61" x 24.48" x 7.48"

Size Unpacked with Stand Lowest Position

(mm) 21.26" x 10.3" x 14.7" (inches) Highest Position

(mm) (inches)

Size Unpacked without Stand (Monitor Head Only)

(mm) (inches)

Stand Base Footprint Area

(mm) (inches) Weiaht Packed

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

540.2 x 261.75 x 373.4

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

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

250 x 250 9.84" x 9.84"

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

1140 / 540 Units

CONNECTIVITY

Video Input Signals Video Cables Supplied

USB Hub Audio Out Power

VGA + HDMI™ + DisplayPort™

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

Yes (3.5 mm) Internal

POWER CONSUMPTION

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

Power Voltage 90 VAC - 264 VAC

ENERGY STAR® (Pon) 13.67 W ENERGY STAR® (E_{TEC}) 43.51 kWh

MECHANICAL

Tilt Angle (Front / Back) Swivel Angle (Left / Right) Lift Range (mm) Pivot Stand Cable Management Kensington® Lock VESA® Mount (mm x mm)

Bezel Color Bezel Width

Top (mm / inches) Sides (mm / inches)

-5°/30° +/-45° 110 +/-90° LTPS Yes

Yes

Yes (100 X 100) Raven Black

2 / 0.08" 2 / 0.08"

WHAT'S IN THE BOX

Monitor with Stand 1 x Power Cable 1 x VGA Cable

1 x DisplayPort™ - DisplayPort™ Cable

1 x HDMI Cable (NA Only) Quick Setup Guide

CERTIFICATIONS

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

Windows Certification Windows 7 / Windows 10

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

EPS Cushion Package

Optional





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T24m Wide Flat Panel Monitor Name **Features** Bezel color **Black** • Widescreen 23.8-inch monitor Type-model 61B8RAR3US / 61B8RAT3EU • Supports 1920x1080 resolution Panel TFT-LCD, In-Plane Switching (IPS), Supports ThinkCentre Tiny Clamp Bracket White LED backlight · Supports optional soundbar **23.8"** (**604.7mm**) diagonal 20.75" x 11.67" (527.04mm x 296.46mm) **1920x1080** Viewable image size EPEAT Gold 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/m2 (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) Weight Limited warranty August 2017 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: 640x480 SVGA: 800x600 XGA: 1024x768 SXGA: 1280x1024 WXGA: 1366x768 WXGA+: 1440x900, 1600x900 WSXGA+: 1680x1050 1920x1080,1920x1200 Full HD: Presets display modes HDMI: 19; DP: 11 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 Control features USB hub

ThinkVision T24m Wide Monitor Screen pivots 90 degrees from landscape to portrait
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)
Audio-out, optional sound bar supported
Support HDMI, DisplayPort, USB 3.1 Type-C
(1) HDMI (1.4), digital, HDCP-compliant
(2) DisplayPort (1.2), digital, HDCP-compliant
(3) USB 3.1 Type-C
(1) 1.8 meter USB Type-C to USB Type-C cable
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) Multimedia Multiple input Monitor connectors Signal cables Mounting features Security Monitor with stand, Safety and Warranty Information, 1.8 meter USB Type-C to USB Type-C cable, Ship group 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/monitoraccessories	
	See all monitors at www.lenovo.com/thinkvision	













T24v Wide Flat Panel Monitor Name

Bezel color **Black**

Type-model 61BCMAR6US / 61BCMAT6EU Panel TFT-LCD, In-Plane Switching (IPS),

Viewable image size Max view area (W x H)

Native resolution Aspect ratio

Pixel pitch (mm) Dot/Pixel per Inch Brightness Contrast ratio

Pixel response time Color gamut Viewing angle at 10:1 CR

Stand Bezel width Dimensions (HxWxD)

Power supply

Weight Limited warranty

White LED backlight

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/m² (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™** Gold 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

Viewing adjustments Rotating screen On screen display Control features USB hub Multimedia

Screen pivots 90 degrees from landscape to portrait On screen display with digital user controls (8 languages)

Direct access for power, menu, input source select, volume up / down, speaker mute and microphone mute

USB 3.0 Hub: 1 port into PC (USB 3.0); 2 ports for accessories (2 USB 3.0) Integrated speakers, dual-array microphone, audio-in and Audio-out, optional sound bar supported

Integrated 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) Camera 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













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 Viewable image size

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

Native resolution

Aspect ratio 16:9 Pixel pitch (mm) 0.2745 x 0.2745 mm

Dot/Pixel per Inch 92 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 Standard presets: 16; user settings: 20

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

Rotating screen None On screen display

Presets / user settings

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

See details at http://support.lenovo.com/en_US/guides-and-manuals/de-

tail.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 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 July 2017

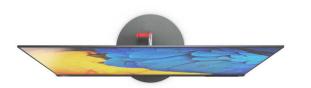












Lenovo ThinkVision X24-20

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/m² (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 Direct access (buttons on side bezel) for power, dual input and brightness

Control features

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

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

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

Limited Warranty	Accessories	١
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 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 Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) 20.21" H x 24.08" W x 10.62" D; Stand

Bezel width **Dimensions**

(HxWxD, including stand) Power supply

513mm H x 611.6mm W x 269.8mm D 38 watts typical, 140 watts maximum (with USB),

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

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

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

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 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

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

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

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

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See details at http://support.lenovo.com/en US/quides-and-manuals/de-

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 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 Max view area (W x H) 23.49" x 13.21" (596.74mm x 335.66mm) Microsoft Windows 10 certified 3840x2160 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 178° horizontal, 178° vertical Viewing angle at 10:1 CR Tilt, swivel, pivot, and height adjustable stand Sides: 0.08" (2mm) Stand Bezel width 20.21" H x 24.08" W x 10.62" D; 513.3mm H x 611.6mm W x 269.8mm D **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 Limited warranty 3 year August 2017 Available date **VESA-compliant** VESA DDC2B/CI ENERGY STAR® 7.0 ISO 9241-307 Power management Ergonomics FCC Class B Emission standards TCO Displays 7.0, TCO Certified Edge 2.0, WEEE, RoHS, **EPEAT™** Gold 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 Multiple input Monitor connectors

Support HDMI, DisplayPort, USB 3.1 Type-C (1) 2*HDMI (2.0), digital, **HDCP-compliant** (2) DisplayPort (1.2), digital, **HDCP-compliant**

(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/quides-and-manuals/de-73P2582 tail.page?DocID=UM008281 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













Think Visinn P32u-10 MONITOR



SPECIFICATIONS

DISPLAY
Panel Size Panel Type Backlight Resolution Aspect Ratio
Anti-Glare Screen Dimensions (W x H) (mm)
Maximum Brightness (Typical)
Viewing Angle (H/V at CR 10:1)
Contrast Ratio (Typical) Dynamic Contrast Ratio
Pixel Pitch (W x H) (mm)
Dot/Pixel Per Inch (DP/PPI)

Dot/Pixel Per Inch (DP/PPI) Color Gamut (1931) Response Time (Typical)

32"

In-Plane Switching WLED 3840 x 2160

16:9 Yes

708.48 (H) x 398.52 (V) 300 cd/m²

178°/178° 1000.1 3M:1

0.1845 (H) x 0.1845 (V) 137

99.5% AdobeRGB 6 ms

ENVIRONMENTAL

Operating

Non-Operating

Temperature	
Operating	0°C - 40°C
Non-Operating	-20°C - 60°C
Humidity	
Operating	8% - 80%

Non-Operating 5% - 95% Altitude

0 ft - 40,000 ft Arsenic-Free Glass Yes PVC-Free Yes Mercury-Free Yes

PCC % of Plastic Resins 85% with >25 g Plastic Parts

0 ft - 5000 ft

POWER CONSUMPTION

Typical	70 W
Maximum	200 W
Sleep-Mode	≤0.5 W
Switch Off-Mode	≤0.5 W
Power Supply	External
Power Voltage	90 VAC - 264 VAC
Voltage Dynamic Frequency	47 Hz - 63 Hz

SIGNAL INPUT

Video Input Signals	2 x HDMI [™] 2.0 + DisplayPort [™] 1.2 + Thunderbolt [™] 3.0-In + Thunderbolt [™] 3.0-Out
Video Cables Supplied	HDMI™, DisplayPort™, Thunderbolt™ 3.0
Video Cable Length USB Hub	2 m for Thunderbolt™, 1.8 m for HDMI™ and DisplayPort™ Yes (4 x Downstream, 1 x BC)
USB Cable Supplied Audio-Out	Yes (USB Type-A to Type-B) Yes (3.5 mm)

SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency	30 kHz - 160 kH
Vertical Frequency	23 Hz - 80 Hz
Native Resolution	3840 x 2160
Maximum Pixel Clock Speed / Bandwidth	HDMI™ : 6
Dariawiatii	Display Port™: 5

Preset / User **OSD Buttons**

OSD Languages

500 MHz .4 Gbps : 10 Gbps

28 / 20 5 Buttons

23.8 / 0.94"

2 / 0.08"

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

DIMENSIONS (W x D x H)

Size Packed	
(mm)	844 x 228 x 528
(inches)	33.23" x 8.98" x 20.79'
Size Unnacked with Stand	

Lowest Position (mm) 726.7 x 350 x 497.8 28.61" x 13.78" x 19.6" (inches)

Highest Position (mm)

(inches) Size Unpacked without Stand

(Monitor Head Only) (mm)

726.7 x 63.3 x 431.5 (inches) 28.61" x 2.49" x 16.99"

Distance from Table to Panel Lowest Pixel at Bottom of Screen

(mm / inches) 90.9 / 3.58" Highest Pixel at Top of Screen

(mm / inches)

489.4 / 19.27"

Stand Base Footprint Area

350 x 350 / 13.78" x 13.78" (mm / inches)

Weight Packed Unpacked

726.7 x 350 x 606.8 28.61" x 13.78" x 23.89"

Starting at 29.32 lbs (13.3 kg) Starting at 22.05 lbs (10 kg) Monitor Head Only Starting at 15.21 lbs (6.9 kg)

MECHANICAL

Tilt Angle (Front / Back)	-5° / 22°
Swivel Angle (Left / Right)	45° / 45°
Lift (mm)	110
(CW / CCW)	90° / 90°
VESA® Mount (mm)	100 x 100
Kensington® Lock Slot	Yes
Cable Management	Yes
Bezel Color	Raven Black
Bezel Width	
Top (mm / inches)	2 / 0.08"

COMPLIANCE

EPEAT™	Gold
ENERGY STAR® Rating	7.0

TCO TCO 7.0 / TCO Edge 2.0 Windows Certification Windows 7 / Windows 10 China Energy Efficiency Standard Tier 2

WARRANTY AND AVAILABILITY

Warranty 3 Years WW Geography Availability





Bottom (mm / inches)

Sides (mm / inches)

WWW.LENOVO.COM













anti-glare Curvature 1800R

Backlight

WLED

32:10

Panel Type

DISPLAY

Panel Size

43.4 inches

1052.3 x 328.8mm

41.4 x 12.9 inches

VA NearEdgeless,

Screen Dimensions (H x V)

ThinkVision P44w-10

Specifications

Resolution 3840 x 1200 **HDR**

Pixel Pitch (H x V)

0.2740 x 0.2740mm

Viewing Angle (H x V)

VESA Certified DisplayHDR™ 400

Aspect Ratio

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

Refresh Rate Max. 144Hz **Contrast Ratio (typical)**

3000:1 **Dynamic Contrast Ratio (typical)**

Color Support (typical) 1.07B

Color Gamut sRGB: 99.5% BT.709: 99.5%

DCI-P3: 90% **Brightness**

380 nits (typical) 450 nits (peak)

CONNECTIVITY

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 Input Signals

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, (D x H x W) (Lowest Position) 269.8 x 461.1 x 1058.3mm 10.62 x 18.15 x 41.67 inches

Position)

1 x USB Type-C Gen2)

4 x USB 3.1 Gen1 (1 BC)

Power Consumption

Typical/Max: 70W/250W Switch-off Mode: <0.5W

Size Packed (D x H x W)

47.99 x 19.68 x 14.80 inches

Size Unpacked w/stand

Size Unpacked w/stand

(D x H x W) (Highest

269.8 x 591.1 x 1058.3mm

10.62 x 23.27 x 41.67 inches

Sleep/Off Mode: <0.5W

DIMENSIONS

1219 x 500 x 376mm

USB Downstream

Power

Internal

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.

13.45kg/29.65lbs. Weight (Monitor Head Only) 9.35kg/20.61lbs.

Weight Unpacked

SPECIAL FEATURES

Anti-Glare Yes

PIP/PBP Yes **Software**

Yes (ThinkColor)

MECHANICAL

-5°/22° Swivel Angle (left/right)

Lift (Max. range) Yes (130mm) **VESA Mount Capability**

Yes (100 x 100mm)

Yes

1 x DP cable
1 x USB Type-C Gen2 cable
1 x USB Type-C to Type-A cable Quick setup guide

CCC Yes

Windows 7, Windows 10

ENERGY STAR® Rating

CERTIFICATIONS

Cable Management

Bezel Width (side)

Bezel Width (top/bottom)

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable

1 x HDMI cable

Yes

Bezel Color

Raven Black

2.4/25.6mm

2.4mm

TCO 8.0 Windows Certification

RoHS

Yes

ULE

Gold

China Energy Efficiency Standard Tier 2 **Ambient Operating**

Temperature

0°C to 45°C

TÜV Eye Comfort Yes



Windows

Speaker Supports optional Harman Kardon certified speaker

Tilt Angle (front/back)

Kensington™ Lock Slot

*with FreeSync support graphic cards © 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 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 3.1 Gent & 2.0 Gbit/s for USB 3.2. These products are available while supplies last. Prices shown are subject to change without notice. For any questions concerning price, please contact your Lenovo Account Executive. Lenovo is not responsible for photographic or typographic errors. Warranty: For a copy of applicable warranties, write to: Warranty Information, 500 Park Offices Drive, RTP, NC 27709, Attn: Dept. ZPYA/B600. Lenovo makes no representation or warranty regarding third-party products or services. Trademarks: Lenovo, the Lenovo logo, Rescue and Recovery, ThinkPad, ThinkCentre, ThinkStation, ThinkVantage, and ThinkVision are trademarks or registered trademarks of Lenovo. Microsoft, Windows, and Vista are registered trademarks of Microsoft Corporation. Intel, the Intel logo, Intel Inside, Intel Core, and Core Inside are trademarks of Intel Corporation in the U.S. and/or other countries. Other company, product, and service names may be trademarks or service marks of others.













Think Vision® T27i-10

DISPLAY

Panel Size

27 inch

Screen Dimensions (H x V) (mm)

597.89 (H) × 336.31 (V)

Panel Type

In-Plane Switching

Backlight

WLED

Aspect Ratio

16:9

Resolution

1920 x 1080

Pixel Pitch (H x V) (mm)

 0.3110×0.3110

Viewing angle (H x V)

178°/178°

Response Time (gray to gray)

4 ms (extreme mode)

6 ms (normal mode)

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

Color Gamut NTSC (CIE 1931)

72%

Color Support

16.7M

CONNECTIVITY

Video Input Signals

VGA + HDMI 1.4 + DP 1.2

USB Hub

Yes

1 x USB 3.0 (Upstream)

4 x USB 3.0 (Downstream, incl. 1BC)

Cable Length

1.8 m

Audio Out

Yes (3.5 mm)

Power Consumption

22W (Typical) / 58W (max) at On mode;

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

MULTI-MEDIA

Optional Soundbar Support

Yes

DIMENSIONS

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

187 x 455 x 715 mm / 7.362 x 17.913 x 28.15 inch

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

269.8 x 403.3 x 611.9 mm / 10.62 x 15.88 x 24.09 inch

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

269.8 x 513.3 x 611.9 mm / 10.62 x 20.21 x 24.09 inch

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

49.9 x 366.5 x 611.9 mm / 1.96 x 14.43 x 24.09 inch

Weight Packed (kg/lbs.)

9.32kg / 20.55 lbs.

Weight Unpacked (kg/lbs.)

6.55kg / 14.44 lbs.

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

4.60kg / 10.14 lbs.

SPECIAL FEATURES

Anti-Glare

Yes

Thin Client Support (Tinv)

Yes

(by Tiny Clamp Bracket Kit+VESA mount PN:4XF0N82412+

PN:4XF0N03161)

MECHANICAL

Tilt Angle (front/back)

-5°/30°

Swivel Angle (left/right)

-45°/+45°

Lift (Max range)

110 mm

Pivot

-90°/90°

VESA Mount

Yes (100 mm)

Kensington[™] Lock Slot

Cable Management

Yes

Bezel Color

Raven Black

Bezel Width (Side)

2.0 mm

WHAT'S IN THE BOX

Monitor with stand

1 x Power cable

1 x DP-DP cable

1 x HDMI cable (NA only)

1 x USB 3.0 cable

Quick setup guide

CERTIFICATIONS

ENERGY STAR Rating

7.0

CCC

Yes

TCO

7.0

EPEAT™

Gold

ULE Gold

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

Ambient Operating Temperature

0°C to 40°C

Eye Comfort Certification

Yes



























ThinkVision T27p-10

DISPLAY

Panel Size

27.0 inches

Screen Dimensions (H x V)

596.74 x 335.66mm

Panel Type

In-Plane Switching

Backlight WLED

Aspect Ratio

16:9

Resolution

3840 x 2160 pixels

Pixel Pitch (H x V)

0.1554 x 0.1554mm

Viewing Angle (H x V)

178°/178°

Response Time (gray to gray)

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

Refresh Rate

60Hz

Contrast Ratio (typical)

1000:1

Dynamic Contrast Ratio (typical)

3M:1

Brightness (typical)

350 cd/m²

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_{TEC})

101.94kWh

Voltage Required

100-240VAC (50/60Hz)

CONNECTIVITY

Video Input Signals

HDMI 2.0 + DP 1.2 + USB 3.1 Type-C[™] (DP 1.2 Alt Mode)

Video Cables Supplied

USB 3.1 Type-C™ + HDMI

Video Cable Length 1.8m

USB Hub

Yes

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

Yes

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[™] Lock Slot

Yes

Bezel Width (Side)

2.0mm

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™ to Type-C™ cable

Quick Setup Guide

CERTIFICATIONS

ENERGY STAR® Rating

7.1

EU RoHS

Yes

CCC Yes

Windows Certification

Windows 7, Windows 10

China Energy Efficiency Standard

Tier 2

TÜV Eye Comfort

Yes

TCO

TCO 8.0/TCO Edge 2.0

ULE Gold













*The Smart Power function intelligently detects overall power consumption and dynamically manages the power delivery to each device. 75W power delivery can be achieved when downstream USB ports are not connected and OSD brightness setting is <61.

Depending on many factors such as the processing capability of peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and is typically slower than the data rates as defined by the respective USB specifications: - 5 Gbit/s for USB 3.1 Gen1; 10 Gbit/s for USB 3.2 Gen2 & 20 Gbit/s for USB 3.2.

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Lenovo ThinkVision X1

X1 Wide Flat Panel Monitor Name

Case color **Black**

Type-model 60E2GAR1US / 60E2GAT1US / 60E2GAT1EU

Panel

TFT-LCD, IPS (In-Plane Switching), White LED backlight 27" (684.7mm) diagonal 23.49" x 13.21" (596.7mm x 335.7mm) 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) 6ms

Pixel response time 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-compliant² 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

800x600 SVGA:

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;

None

Rotating screen
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

Full HD camera with LED light Support HDMI, DisplayPort Camera Multiple input

(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/detail.page?DocID=UM008281

Kensington MicroSaver Cable Lock Kensington Twin Head Cable Lock Lenovo Security Cable Lock

57Y4303

Accessories

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

See all monitors at www.lenovo.com/thinkvision

Features

27-inch IPS LED backlit monitor with speaker

• Supports 3840x2160 resolution

• 5-Ports USB hub, support USB Type-C

• 3watts x 2 stereo speakers Microsoft® Windows® 7 certified

• Microsoft Windows 10 certified



ThinkVision X1 Monitor

73P2582

45K1620





















ThinkVision X1 (2nd GEN) MONITOR

EXTREME STYLISH, EXTREME FOREFRONT.



THE MILESTONE OF X-SERIES, 27" FULL-SCREEN, 4K, THUNDERBOLT™ 3 MONITOR.

Pushing the limit of screen share ratio with innovative technology, the 27" Lenovo[™] ThinkVision® X1 (2nd GEN) display brings full-screen and ultra-slim appearance in elegant design. With 4K resolution and >99% sRGB color gamut, you will be assured of excellent watching experience and Thunderbolt[™] 3 interface will bring the best user experience. "Motor" camera is first used on monitor, which will move up and down automatically and with it you will own standard VoIP system.

WHY YOU SHOULD BUY THE LENOVO THINKVISION X1 (2nd GEN) MONITOR



Full-screen appearance

With world's slimmest (4.7 mm) 27" 4K TBT monitor you will experience full-screen 4-side Near-Edgeless display with the screen ratio of approximately 93%. The monitor also comes with a metal stand and a base.



Brilliant performance

The 4K UHD IPS screen displays 3840 x 2160 resolution at 60 Hz, 99% sRGB color gamut, 10-bit depth, with 1.07 billion color support assures you stunning visuals and superb color experience.



Convenient user experience

Total versatility with
Thunderbolt™ 3 interface
supporting 4K + USB 3.0 &
45W PD + motor-camera with
dual-array microphone. A Think
RedDot tracking button is
integrated in the back cover.

THE LENOVO THINKVISION X1 (2nd GEN) MONITOR IS BEST SUITED FOR



The Executives and CXO of company.



SOHO and Gold Collars with high income.



Trendsetters who pursue an extreme and forefront monitor.













ThinkVisinn X1 (2nd GEN) MONITOR



SPECIFICATIONS

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/m² 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)

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%

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

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)

SIGNAL INTERFACE / PERFORMANCE

Horizontal Frequency Vertical Frequency Native Resolution Maximum Pixel Clock Speed/

Bandwidth

Default Color Temperature

Preset Modes **OSD Buttons** OSD Languages 30 kHz - 136 kHz 30 Hz - 60 Hz 3840 x 2160

20 Gbps 6500K 24

18 m

2 Buttons + Tracking Point English, French, Italian, German, Spanish, Japanese, Chinese, Russian

MECHANICAL

Tilt Angle (Front / Back) -5° / 30° Swivel Angle (Left / Right) N/A N/A Lift (mm) N/A Pivot N/A VESA® Mount (mm) Kensington® Lock Slot Yes Cable Management Yes Bezel Color N/A Bezel Width 1.2 / 0.05"

Top (mm / inches) Bottom (mm / inches) 1.2 / 0.05" Sides (mm / inches) 1.2 / 0.05"

COMPLIANCE

EPEAT™ Silver **ENERGY STAR® Rating** 7.0 ULE Silver TCO® 70 Yes Windows Certification Windows 10 China Energy Label

WARRANTY AND AVAILABILITY

Warranty 3 Years Geography Availability ww





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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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