ThinkPad T450s

Product Specifications Reference (PSREF)



Lenovo® ThinkPad T450s



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# ThinkPad T450s Platform Specifications

Processor	5th Generation Intel® Core™ i5 / i7 Processor		Optional: Smart card reader
	Processor # of # of Base Max Turbo Cache Types Graphics    Number   Cores Threads Frequency   Frequency   Cache   Memory Types Graphics	Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Three USB 3.0 (one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector (integrated models only)
	15-5200U   2   4   2.2 GHz   2.7 GHz   3MB   DDR3L-1600   Graphics   17-5600U   2.6 GHz   3.2 GHz   4MB   DDR3L-1600   S500	Audio support	HD720p resolution, low light sensitive, fixed focus HD Audio, Realtek® ALC3232 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack
Graphics	Intel HD Graphics 5500 in processor, supports external analog monitor via VGA and digital monitor via Mini DisplayPort; supports three independent displays;	UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless glass surface touchpad, multi-touch
	Max resolution: 3840x2160@60Hz (DP via mDP cable); 1920x1200@60Hz (VGA)	Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant
Chipset Memory	Intel SoC (System on Chip) platform 20GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket	ThinkEngine	Delivers improved thermal and power efficiency, up to 30 day standby, faster resume time, enhanced security, as well as anti-tampering measures Intel vPro Technology
Display	Some: 14.0" (355mm) HD+ (1600x900), anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio	l — • · · · · · · · · · · · · · · · · · ·	Optional: Fingerprint reader on the keyboard bezel, swipe sensor
	Some: 14.0" (355mm) FHD (1920x1080), anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 700:1 contrast ratio, IPS	External battery	Optional: Integrated Li-Ion or Li-Polymer 3-cell (23Wh) Li-Ion 3-cell (23Wh) or 6-cell (48Wh or 72Wh)
Multi-touch (opt)	Capacitive-type multi-touch, supports 10-finger gesture, 264 nits	-	Models         3-cell + 3-cell         3-cell + 6-cell 48Wh         3-cell + 6-cell 72Wh           Battery life         10.16 hr         14.9 hr         19.9 hr
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable,		45W AC adapter, 65W Slim AC adapter, or 65W AC adapter
M.2 SSD (opt) Optical	upgradable, Shock Mounted Hard Drive, Active Protection System™ Some: SSHD with 8GB NAND flash memory Single-sided M.2 SSD, via M.2 card slot None	1	Windows® 7 Professional 64 preinstalled Some: Windows 8.1 64-bit Some: Windows 8.1 Pro 64-bit Some: Windows 8.1 Pro 64-bit Some: Windows 10 Pro 64 Lenovo Solution Center Lenovo SHAREit
Ethernet Bluetooth™	Non-vPro model: Intel Ethernet Connection I218-V (Clarkville) vPro model: Intel Ethernet Connection I218-LM (Clarkville) Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter		Lenovo Shareit     Lenovo Shareit     Lenovo REACHit     ThinkVantage Product Recovery     Rescue and Recovery™     Microsoft Office preloaded:
WLAN <sup>4</sup>	One of the following, configurable by model:  • 11b/g/n, ThinkPad 11b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card  • 11ac, Intel Dual Band Wireless-AC 7265, 2x2, Wi-Fi + BT adapter, M.2 card		<ul> <li>ThinkVantage System Update</li> <li>PC Device Stage</li> <li>Adobe® Reader®</li> <li>purchase a product key to activate</li> <li>Norton Internet Security</li> <li>(30 days of virus definitions,</li> </ul>
WWAN (optional)	One of the following, configurable by model:  • Wireless WAN upgradable  • Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card		<ul> <li>Microsoft® Office preloaded; purchase a product key to activate</li> <li>Norton™ Internet Security (30 days of virus definitions)</li> <li>Win8 w/o i5/i7 model)</li> <li>McAfee® LiveSafe™ (30-day trial, Win8 i5/i7 and Win10 model)</li> </ul>
SIM card (opt)	AT&T® or Verizon® LTE (4G), contract required with service provider		One of the following, configurable by model:  1-year depot repair service
Dimensions <sup>3</sup>	14.0" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm 14.0" Touch (WxDxH): 13.03" x 8.90" x 0.90"; 331mm x 226mm x 22.94mm		3-year/1-yr battery depot repair service     3-year/1-yr battery limited onsite service <sup>24</sup>
Weight <sup>2</sup>	Models No + 3-cell 3-cell + 3-cell 3-cell + 6-cell		3-year/1-yr battery limited onsite service, OID (Onsite International Delivery)
	Non-touch         3.26 lb / 1.48 kg         3.49 lb / 1.59 kg         3.90 lb / 1.77 kg           Multi-touch         3.79 lb / 1.72 kg         4.02 lb / 1.82 kg         4.42 lb / 2.01 kg	<u> </u>	MIL-STD-810G military certification
Case material	Display cover: Carbon-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum		EPEAT™ Gold (US) or EPEAT Silver (WE); ENERGY STAR® 6.1; GREENGUARD®; RoHS-compliant

# ThinkPad T450s 20BX (TopSeller)

				Memory (soldered		Multi-		M.2	WLAN &		SIM	Smart	Cam-	Backlit		Battery cells	Power adapter		Base warranty		Ann date
Model	Processor	vPro				touch		SSD	Bluetooth	WWAN		reader		keyboard		(int+ext)		Preload	(year)		
20BX001PUS	i5-5200U	No	HD 5500	4+0GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	None	Finger	3+3	45W	Win8.1 DG Win7	1-depot	No	01/15
20BX0015US	i5-5300U	vPro	HD 5500	4+0GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	None	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX0016US	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	180G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX0017US	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	128G SSD	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX0018US	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	No No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7			01/15
20BX0019US						No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7			01/15
20BX001AUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7			01/15
20BX001DUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	None	Finger	3+3	45W	Win8.1 DG Win7			01/15
20BX001EUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001HUS	i5-5300U	vPro	HD 5500	4+0GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001JUS	i5-5300U	vPro	HD 5500	4+0GB	14" HD+	No	180G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001KUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	No.	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001NUS	i5-5300U	vPro	HD 5500	4+0GB	14" HD+	No	128G SSD	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001BUS	i7-5600U	vPro	HD 5500	4+4GB	14" HD+	No	180G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001CUS	i7-5600U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001FUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IPS	No No	512G SSD	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX001LUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IPS	S No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BX003SUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IPS	No No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 DG Win7	3-depot	No	08/15
20BX003TUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IPS	No No	512G SSD	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 DG Win7	3-depot	No	08/15
20BX003PUS	i5-5200U	No	HD 5500	4+0GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	None	Finger	3+3	45W	Win10 DG Win7	1-depot	No	08/15
20BX003QUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 DG Win7	3-depot	No	08/15
20BX003RUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 DG Win7	3-depot	No	08/15

Processor	5th Generation Intel®	® Core™ i5 / i7 P	rocessor			Dimensions <sup>3</sup>	14.0" (WxD)		.90" x 0.81"; 331mr		
	Processor # of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Types	10/a:ala42		(WxDxH): 13.03" x 8			mm
	i5-5200U	2.2 GHz	2.7 GHz	3MB		Weight <sup>2</sup>	Models	No + 3-cell	3-cell + 3-cell	3-cell + 6-cell	
	i5-5300U 2	2.3 GHz	2.9 GHz	3MB	DDR3L-1600		Non-touch	3.26 lb / 1.48 kg	3.49 lb / 1.59 kg	3.90 lb / 1.77 kg	
	i7-5600U	2.6 GHz	3.2 GHz	4MB			Multi-touch	3.79 lb / 1.72 kg	4.02 lb / 1.82 kg	4.42 lb / 2.01 kg	J .
Graphics	Intel HD Graphics 55	500 in processor				Case material		er: Carbon-Fiber Rein	forced Plastic; Botto	om: Magnesium/Alu	uminum
Chipset Memory	Intel SoC (System of 20GB max <sup>7</sup> / PC3-12 4GB memory solder	2800 1600MHz [	DR3L, non-parity,	dual-cha -DIMM s	nnel capable, ocket	Smart card reade Media reader Ports	4-in-1 reade Three USB	mart card reader er (MMC, SD, SDHC, S 3.0 (one Always On), \ ctor (integrated model	VGA, Mini DisplayPor	t, Ethernet (RJ-45),	,
Display  Multi-touch (opt)	Some: 14.0" (355mi Some: 14.0" (355mi Capacitive-type mult	m) FHD (1920x1	080), 300 nits, 700	:1 contra		Keyboard UltraNav™	TrackPoint®	resistant, multimedia F pointing device and bu	ıttonless glass surfac	e touchpad, multi-to	
Storage	Some: SSD / SATA Some: HDD / SATA Some: SSHD with 8	6.0Gb/s, 2.5" wi 6.0Gb/s, 2.5" wi 8GB NAND flash	de, 7mm high de, 7mm or 9.5mm memory		S	Security Security chip vPro (optional) Fingerprint reade	Trusted Plat Intel vPro Te	assword, hard disk pas form Module, TCG 1.2 echnology ngerprint reader on th	2-compliant		eyhole
M.2 SSD <i>(opt)</i> Optical	Single-sided M.2 SS None					Internal battery External battery	Optional: II	ntegrated Li-Ion or Li-F (23Wh) or 6-cell (48W	Polymer 3-cell <i>(23Wh</i> Wh or 72Wh)	)	
Ethernet Bluetooth™	Intel Ethernet Conne Bluetooth 4.0 wireles	ection I218-V ( <i>No</i> ss, integrated in	o <i>n-vPro model</i> ) or l2 Wi-Fi + Bluetooth co	218-LM ( ombo ada	<i>vPro model</i> ) apter	Max battery life <sup>10</sup>	Models	3-cell + 3-cell	3-cell + 6-cell 48Wh	3-cell + 6-cell 72Wh	7
WLAN <sup>4</sup>	11b/g/n+BT: Th	ninkPad 11b/g/n,	2x2, Wi-Fi + BT, M ireless-AC 7265, 2x	.2 card		AC adapter	Battery life 45W AC ada	10.16 hr apter, 65W Slim AC ac	14.9 hr dapter, or 65W AC ad	19.9 hr apter	
WWAN (optional)	Upg: Wireless W EM7345: Wireless W	VAN upgradable VAN, Sierra Wire	,	•	,	Preload	Win8.1 / 10 Win8.1 64:	downgra Windows	s <sup>®</sup> 7 Professional 64 <sub>I</sub> de rights in Windows s 10 Pro 64 s 8.1 64-bit		1
SIM card (opt)	AT&T® or Verizon® LT	ΓΕ (4G), contrac	t required with servi	ice provid	der		Win8.1 P64.	: Windows	s 8.1 Pro 64-bit		
Camera Audio support	HD720p resolution, I HD Audio, Realtek® A dual array microphor	ALC3232 codec	/ stereo speakers, 2	2W x 2 /		Limited warranty <sup>1</sup>		Windows t / 3-year (1-yr battery) ar battery) onsite / 3-y		onsite, OID	

### ThinkPad T450s 20BX (TopSeller) - Windows 8

Model	Processor	vPro	Graphics	Memory (soldered +DIMM)	Display	Multi- touch		M.2 SSD	WLAN & Bluetooth	WWAN				Backlit keyboard			adapter	Preload	Base warranty (year)		Ann date (m/y)
20BX001GUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	S MT	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 P64	3-depot	No	01/15
20BX001MUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IPS	S MT	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 P64	3-depot	No	01/15

Processor	5th Generation Intel®	© Core™ i5 / i7 P	rocessor			Dimensions <sup>3</sup>	14.0" (WxDx			nm x 226mm x 20.65mm
	Processor # of Cores	<del> </del>			Memory Types	Weight <sup>2</sup>	14.0" Touch	(WxDxH): 13.03" x	8.90" x 0.90"; 331m 3-cell + 3-cell	nm x 226mm x 22.94mm 3-cell + 6-cell
	i5-5200U	2.2 GHz	2.7 GHz	3MB		VVoigiti	Non-touch	3.26 lb / 1.48 kg	3.49 lb / 1.59 kg	3.90 lb / 1.77 kg
	i5-5300U 2	2.3 GHz	2.9 GHz	3MB	DDR3L-1600		Multi-touch	3.79 lb / 1.72 kg	4.02 lb / 1.82 kg	4.42 lb / 2.01 kg
	i7-5600U	2.6 GHz	3.2 GHz	4MB		Case material		er: Carbon-Fiber Rei		tom: Magnesium/Aluminum
Graphics	Intel HD Graphics 55	500 in processor	•			Smart card reade			morced riastic, Doi	tom: Magnesian/Alaminam
Chipset Memory	Intel SoC (System or 20GB max <sup>7</sup> / PC3-12 4GB memory soldere	2800 1600MHz [	DDR3L, non-parity, d			Media reader Ports	4-in-1 reade Three USB 3	r (MMC, SD, SDHC,	VGA, Mini DisplayPo	ort, Ethernet (RJ-45),
Display	Some: 14.0" (355mi Some: 14.0" (355mi	m) FHD (1920x1	1080), 300 nits, 700:	1 contra	st ratio, IPS	Keyboard UltraNav™	6-row, spill-re TrackPoint®p	esistant, multimedia pointing device and t	Fn keys, optional LEI outtonless glass surfa	D backlight ce touchpad, multi-touch
Multi-touch (opt)	Capacitive-type mult		<u> </u>	264 nits		Security	Power-on pa	ssword, hard disk pa	assword, supervisor p	password, security keyhole
Storage M.2 SSD (opt)	Some: SSD / SATA Some: HDD / SATA Some: SSHD with 8 Single-sided M.2 SS	6.0Gb/s, 2.5" will GB NAND flash	ide, 7mm or 9.5mm h memory	nigh, AP	S	Security chip vPro (optional)	Trusted Platt Intel vPro Te	form Module, TCG 1 chnology	2-compliant he keyboard bezel, s	
Optical	None					Internal battery External battery		ntegrated Li-Ion or Li (23Wh) or 6-cell (48	-Polymer 3-cell <i>(23W</i> Wh or 72Wh)	(h)
Ethernet Bluetooth™	Intel Ethernet Conne Bluetooth 4.0 wireles					Max battery life <sup>10</sup>	Models	3-cell + 3-cell	3-cell + 6-cell 48Wh	
WLAN <sup>4</sup>			2x2, Wi-Fi + BT, M.2			AC adapter	Battery life	10.16 hr	14.9 hr adapter, or 65W AC a	danter
			ireless-AC 7265, 2x2	2, WI-FI -	+ B1, M.2 card	Preload	Win8.1 / 10			preinstalled through
WWAN (optional)	EM7345: Wireless W		eless EM7345, GPRS/EDGE, GPS, N	И.2 card	I	Freioau	Win8.1 64:	downgi Windov	vs 7 Professional 64 rade rights in Window vs 10 Pro 64 vs 8.1 64-bit	
SIM card (opt)	AT&T® or Verizon® LT	ΓΕ (4G), contrac	t required with service	e provid	der		Win8.1 P64:		vs 8.1 Pro 64-bit	
Camera Audio support	HD720p resolution, I HD Audio, Realtek® A dual array microphor	ALC3232 codec	/ stereo speakers, 2	W x 2 /		Limited warranty <sup>1</sup>	Win10 P64: 1- year depot 3-year (1-year)	/ 3-year (1-yr batter	vs 10 Pro 64 y) depot / -year (1-year battery)	onsite, OID

### ThinkPad T450s 20BX (TopSeller) - Windows 10

Model	Processor	vPro	Graphics	Memory (soldered +DIMM)	Display	Multi- touch	_	M.2 SSD	WLAN & Bluetooth	WWAN			Cam-	Backlit keyboard	print		adapter		Base warranty (year)		Ann date II (m/y)
20BX005DUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IP	S MT	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	No	09/15
20BX005FUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IP	S No	512G SSD	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	No	09/15
20BX005GUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IP	S No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	No	09/15
20BX005CUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	No	09/15
20BX005EUS	i5-5200U	No	HD 5500	4+0GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	None	Finger	3+3	45W	Win10 P64	1-depot	No	09/15
20BX005HUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	No	09/15

Processor	5th Generation Intel® Core™ i5 / i7 Processor	Dimensions <sup>3</sup>	14.0" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm
	Processor   # of Cores   Base Frequency   Max Turbo Frequency   Cache   Memory Types	Majaht2	14.0" Touch (WxDxH): 13.03" x 8.90" x 0.90"; 331mm x 226mm x 22.94mm
	i5-5200U 2.2 GHz 2.7 GHz 3MB	Weight <sup>2</sup>	Models         No + 3-cell         3-cell + 3-cell         3-cell + 6-cell
	i5-5300U 2 2.3 GHz 2.9 GHz 3MB DDR3L-1600		Non-touch 3.26 lb / 1.48 kg 3.49 lb / 1.59 kg 3.90 lb / 1.77 kg
	i7-5600U 2.6 GHz 3.2 GHz 4MB		Multi-touch 3.79 lb / 1.72 kg 4.02 lb / 1.82 kg 4.42 lb / 2.01 kg
Graphics	Intel HD Graphics 5500 in processor	Case material	Display cover: Carbon-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
Chipset Memory	Intel SoC (System on Chip) platform 20GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket	Smart card reade Media reader Ports	er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Three USB 3.0 (one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector (integrated models only)
Display  Multi-touch (opt)	Some: 14.0" (355mm) HD+ (1600x900), 250 nits, 400:1 contrast ratio Some: 14.0" (355mm) FHD (1920x1080), 300 nits, 700:1 contrast ratio, IPS Capacitive-type multi-touch, supports 10-finger gesture, 264 nits	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless glass surface touchpad, multi-touch
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS Some: SSHD with 8GB NAND flash memory	Security Security chip vPro (optional) Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology or Optional: Fingerprint reader on the keyboard bezel, swipe sensor
M.2 SSD (opt) Optical	Single-sided M.2 SSD, via M.2 card slot None	Internal battery External battery	Optional: Integrated Li-Ion or Li-Polymer 3-cell (23Wh) Li-Ion 3-cell (23Wh) or 6-cell (48Wh or 72Wh)
Ethernet Bluetooth™	Intel Ethernet Connection I218-V ( <i>Non-vPro model</i> ) or I218-LM ( <i>vPro model</i> ) Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Max battery life <sup>10</sup>	Models 3-cell + 3-cell   3-cell + 6-cell 48Wh   3-cell + 6-cell 72Wh
WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card Intel Dual Band Wireless-AC 7265, 2x2, Wi-Fi + BT, M.2 card	AC adapter	Battery life   10.16 hr   14.9 hr   19.9 hr   45W AC adapter, 65W Slim AC adapter, or 65W AC adapter
WWAN (optional)		Preload	Win8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8.1 Pro 64-bit or Windows 10 Pro 64 Win8.1 64: Windows 8.1 64-bit
SIM card (opt)	AT&T® or Verizon® LTE (4G), contract required with service provider	]	Windows 8.1 Pro 64-bit Win8.1 P64: Windows 8.1 Pro 64-bit
Camera Audio support	HD720p resolution, low light sensitive, fixed focus HD Audio, Realtek® ALC3232 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack	Limited warranty <sup>1</sup>	Win10 P64: Windows 10 Pro 64  12 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID

ThinkPad T450s 20BW

Product Specifications Reference (PSREF)

Model	Processor	vPro		Memory (soldered +DIMM)	d	Multi-	_	M.2 SSD	WLAN & Bluetooth	WWAN	SIM card	Smart card reader	Cam-	Backlit keyboard	print	Battery cells (int+ext)	adapter	Preload	Base warranty (year)		Ann date I (m/y)
20BW0004US	i5-5300U	vPro	HD 5500	4+0GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BW0006US	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BW0009US	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IP	S No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BW000BUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IP	S No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BW000CUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IP	S No	180G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BW000AUS	i7-5600U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BW000HUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IP	S No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15
20BW000JUS	i7-5600U	vPro	HD 5500	4+4GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-depot	No	01/15

Processor	5th Generation Intel® Core™ i5 / i7 Processor	Dimensions <sup>3</sup>	14.0" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm
	Processor   # of Cores   Base Frequency   Max Turbo Frequency   Cache   Memory Types	144 . 1 . 10	14.0" Touch (WxDxH): 13.03" x 8.90" x 0.90"; 331mm x 226mm x 22.94mm
	i5-5200U 2.2 GHz 2.7 GHz 3MB	Weight <sup>2</sup>	Models No + 3-cell 3-cell + 3-cell 3-cell + 6-cell
	i5-5300U 2 2.3 GHz 2.9 GHz 3MB DDR3L-1600		Non-touch 3.26 lb / 1.48 kg 3.49 lb / 1.59 kg 3.90 lb / 1.77 kg
	i7-5600U 2.6 GHz 3.2 GHz 4MB		Multi-touch 3.79 lb / 1.72 kg 4.02 lb / 1.82 kg 4.42 lb / 2.01 kg
Graphics	Intel HD Graphics 5500 in processor	Case material	Display cover: Carbon-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum
Chipset Memory	Intel SoC (System on Chip) platform 20GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket	Smart card reade Media reader Ports	er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Three USB 3.0 (one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector (integrated models only)
Display  Multi-touch (opt)	Some: 14.0" (355mm) HD+ (1600x900), 250 nits, 400:1 contrast ratio Some: 14.0" (355mm) FHD (1920x1080), 300 nits, 700:1 contrast ratio, IPS Capacitive-type multi-touch, supports 10-finger gesture, 264 nits	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless glass surface touchpad, multi-touch
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS Some: SSHD with 8GB NAND flash memory	Security Security chip vPro (optional) Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology or Optional: Fingerprint reader on the keyboard bezel, swipe sensor
M.2 SSD <i>(opt)</i> Optical	Single-sided M.2 SSD, via M.2 card slot None	Internal battery External battery	Optional: Integrated Li-Ion or Li-Polymer 3-cell (23Wh) Li-Ion 3-cell (23Wh) or 6-cell (48Wh or 72Wh)
Ethernet Bluetooth™	Intel Ethernet Connection I218-V ( <i>Non-vPro model</i> ) or I218-LM ( <i>vPro model</i> ) Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Max battery life <sup>10</sup>	Models 3-cell + 3-cell   3-cell + 6-cell 48Wh   3-cell + 6-cell 72Wh
WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card Intel Dual Band Wireless-AC 7265, 2x2, Wi-Fi + BT, M.2 card	AC adapter	Battery life   10.16 hr   14.9 hr   19.9 hr   45W AC adapter, 65W Slim AC adapter, or 65W AC adapter
WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card	Preload	Win8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8.1 Pro 64-bit or Windows 10 Pro 64 Win8.1 64: Windows 8.1 64-bit
SIM card (opt)	AT&T® or Verizon® LTE (4G), contract required with service provider		Win8.1 P64: Windows 8.1 Pro 64-bit
Camera Audio support	HD720p resolution, low light sensitive, fixed focus HD Audio, Realtek® ALC3232 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack	Limited warranty <sup>1</sup>	Win10 P64: Windows 10 Pro 64  12 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID

# ThinkPad T450s 20BW (Windows 8)

				Memory								Smart			Finger-	Battery	Power		Base		Ann
				(soldered		Multi-		M.2	WLAN &		SIM			Backlit	print		adapter		warranty		date
Model	Processor	vPro	Graphics	+DIMM)	Display	touch	Storage	SSD	Bluetooth	WWAN	card	reader	era	keyboard	reader	(int+ext)	(watt)	Preload	(year)	Globa	l (m/y)
20BW0007US	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IP	S MT	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 P64	3-depot	No	01/15

Processor	5th Generation Intel®	Core™ i5 / i7 P	rocessor			Dimensions <sup>3</sup>	14.0" (WxD.	<i>xH</i> ): 13.03" x 8	.90" x 0.81"; 331mr	n x 226mm x 20.65mm
		<del></del>	Max Turbo Frequency		Memory Types	Weight <sup>2</sup>	14.0" Touch			n x 226mm x 22.94mm
	i5-5200U	2.2 GHz	2.7 GHz	3MB		VVCIGITE		No + 3-cell	3-cell + 3-cell	3-cell + 6-cell
	i5-5300U 2	2.3 GHz	2.9 GHz	3MB	DDR3L-1600		Non-touch	3.26 lb / 1.48 kg	3.49 lb / 1.59 kg	3.90 lb / 1.77 kg
	i7-5600U	2.6 GHz	3.2 GHz	4MB		Case material	Multi-touch	3.79 lb / 1.72 kg	4.02 lb / 1.82 kg	4.42 lb / 2.01 kg
Graphics	Intel HD Graphics 55	00 in processor						er: Carbon-Fiber Reinf	orced Plastic; Botto	om: Magnesium/Aluminum
Chipset Memory	Intel SoC (System or 20GB max <sup>7</sup> / PC3-12 4GB memory soldere	2800 1600MHz [ ed to systemboa	DDR3L, non-parity, d rd, one 204-pin SO-	DIMM s	ocket	Smart card reade Media reader Ports	4-in-1 reade Three USB	er (MMC, SD, SDHC, S 3.0 (one Always On), \ ctor (integrated model:	/GA, Mini DisplayPor	t, Ethernet (RJ-45),
Display  Multi touch (ant)	Some: 14.0" (355mr Some: 14.0" (355mr Capacitive-type multi	n) FHD (1920x1	080), 300 nits, 700:1	contra	ratio st ratio, IPS	Keyboard UltraNav™		resistant, multimedia F pointing device and bu		backlight e touchpad, multi-touch
Multi-touch (opt)	. ,,			204 11115		Security	Power-on pa	assword, hard disk pas	sword, supervisor pa	assword, security keyhole
Storage M.2 SSD (opt)	Some: SSD / SATA 6 Some: HDD / SATA 6 Some: SSHD with 8 Single-sided M.2 SSI	6.0Gb/s, 2.5" wi GB NAND flash	de, 7mm or 9.5mm h memory	nigh, AP	S	Security chip vPro (optional) Fingerprint reade	Intel vPro Te	form Module, TCG 1.2 echnology ingerprint reader on the	·	ripe sensor
Optical	None					Internal battery External battery		ntegrated Li-Ion or Li-F <i>(23Wh)</i> or 6-cell <i>(48</i> W		)
Ethernet Bluetooth™	Intel Ethernet Conne Bluetooth 4.0 wireles					Max battery life <sup>10</sup>	Models	3-cell + 3-cell	3-cell + 6-cell 48Wh	3-cell + 6-cell 72Wh
WLAN <sup>4</sup>	<i>11b/g/n+BT:</i> Th	inkPad 11b/g/n,	2x2, Wi-Fi + BT, M.2	2 card		AO	Battery life	10.16 hr	14.9 hr	19.9 hr
			ireless-AC 7265, 2x2		+ BT, M.2 card	AC adapter		apter, 65W Slim AC ad		·
WWAN (optional)	EM7345: Wireless W	/AN upgradable /AN, Sierra Wire E/HSPA/GSM/G	less EM7345, PRS/EDGE, GPS, N	1.2 card		Preload	Win8.1 / 10 Win8.1 64:	downgra Windows	s <sup>®</sup> 7 Professional 64   de rights in Windows s 10 Pro 64 s 8.1 64-bit	oreinstalled through 8.1 Pro 64-bit or
SIM card (opt)	AT&T® or Verizon® LT	E (4G), contrac	t required with service	e provi	der		Win8.1 P64	: Windows	8.1 Pro 64-bit	
Camera Audio support	HD720p resolution, ld HD Audio, Realtek® A dual array microphon	ALC3232 codec	/ stereo speakers, 21	W x 2 /		Limited warranty <sup>1</sup>	<i>Win10 P64:</i> <sup>2</sup> 1-year depo 3-year (1-ye	Windows t / 3-year (1-yr battery) ear battery) onsite / 3-y	s 10 Pro 64 depot / ear (1-year battery) o	onsite, OID

# ThinkPad T450s 20BW (Windows 10)

Model	Processor	vPro	Graphics	Memory (soldered +DIMM)		Multi-		M.2 SSD	WLAN & Bluetooth	WWAN				Backlit keyboard	print		adapter		Base warranty (year)		Ann date I (m/y)
20BW007NUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	S MT	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	Yes	09/15
20BW007PUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	S No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	Yes	09/15
20BW007MUS	S i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win10 P64	3-depot	Yes	09/15

Processor	5th Generation Intel® Core™ i5 / i7 Processor	Dimensions <sup>3</sup>	14.0" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm							
	Processor   # of Cores   Base Frequency   Max Turbo Frequency   Cache   Memory Types	Majaht2	14.0" Touch (WxDxH): 13.03" x 8.90" x 0.90"; 331mm x 226mm x 22.94mm							
	i5-5200U 2.2 GHz 2.7 GHz 3MB	Weight <sup>2</sup>	Models         No + 3-cell         3-cell + 3-cell         3-cell + 6-cell							
	i5-5300U 2 2.3 GHz 2.9 GHz 3MB DDR3L-1600		Non-touch 3.26 lb / 1.48 kg 3.49 lb / 1.59 kg 3.90 lb / 1.77 kg							
	i7-5600U 2.6 GHz 3.2 GHz 4MB		Multi-touch 3.79 lb / 1.72 kg 4.02 lb / 1.82 kg 4.42 lb / 2.01 kg							
Graphics	Intel HD Graphics 5500 in processor	Case material Display cover: Carbon-Fiber Reinforced Plastic; Bottom: Magnesium/Alumi								
Chipset Memory	Intel SoC (System on Chip) platform 20GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket	Smart card reade Media reader Ports	er Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Three USB 3.0 (one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector (integrated models only)							
Display  Multi-touch (opt)	Some: 14.0" (355mm) HD+ (1600x900), 250 nits, 400:1 contrast ratio Some: 14.0" (355mm) FHD (1920x1080), 300 nits, 700:1 contrast ratio, IPS Capacitive-type multi-touch, supports 10-finger gesture, 264 nits	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless glass surface touchpad, multi-touch							
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS Some: SSHD with 8GB NAND flash memory	Security Security chip vPro (optional) Fingerprint reade	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology or Optional: Fingerprint reader on the keyboard bezel, swipe sensor							
M.2 SSD (opt) Optical	Single-sided M.2 SSD, via M.2 card slot None	Internal battery External battery	Optional: Integrated Li-Ion or Li-Polymer 3-cell (23Wh) Li-Ion 3-cell (23Wh) or 6-cell (48Wh or 72Wh)							
Ethernet Bluetooth™	Intel Ethernet Connection I218-V ( <i>Non-vPro model</i> ) or I218-LM ( <i>vPro model</i> ) Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Max battery life <sup>10</sup>	Models 3-cell + 3-cell   3-cell + 6-cell 48Wh   3-cell + 6-cell 72Wh							
WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card	1.0	Battery life         10.16 hr         14.9 hr         19.9 hr							
	7265 ac+BT: Intel Dual Band Wireless-AC 7265, 2x2, Wi-Fi + BT, M.2 card	AC adapter	45W AC adapter, 65W Slim AC adapter, or 65W AC adapter							
WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card	Preload	Win8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8.1 Pro 64-bit or Windows 10 Pro 64 Win8.1 64: Windows 8.1 64-bit							
SIM card (opt)	AT&T® or Verizon® LTE (4G), contract required with service provider	7	Win8.1 P64: Windows 8.1 Pro 64-bit							
Camera Audio support	HD720p resolution, low light sensitive, fixed focus HD Audio, Realtek® ALC3232 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack	Limited warranty <sup>1</sup>	Win10 P64: Windows 10 Pro 64  ted warranty <sup>12</sup> 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID							

# ThinkPad T450s 20BW (Onsite)

Model	Processor	vPro		Memory (soldered +DIMM)	Display	Multi touch	_	M.2 SSD	WLAN & Bluetooth	WWAN			Cam-	Backlit key- board	print	cells	adapter	Preload	Base warranty (year)	Globa	Ann date Il (m/y)
20BW0003US	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	No No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15
20BW0005US	i5-5300U	vPro	HD 5500	4+0GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15
20BW000EUS	i5-5300U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15
20BW000FUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	No S	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15
20BW000GUS	i5-5300U	vPro	HD 5500	4+4GB	14" FHD IPS	No 8	180G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15
20BW0008US	i7-5600U	vPro	HD 5500	4+4GB	14" HD+	No	500G 7200	16GB	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15
20BW000DUS	i7-5600U	vPro	HD 5500	4+4GB	14" FHD IPS	No S	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15
20BW000LUS	i7-5600U	vPro	HD 5500	4+4GB	14" HD+	No	256G SSD Opal2	None	7265 ac+BT	Upg	None	None	720p	Backlit	Finger	3+3	45W	Win8.1 DG Win7	3-onsite OID	Yes	01/15

Processor	Processor 5th Generation Intel® Core™ i5 / i7 Processor						Dimensions <sup>3</sup> 14.0" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226m										
	Processor # of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Majaht2	14.0" Touch (WxDxH): 13.03" x 8.90" x 0.90"; 331mm x 226mm x 22.94mm										
	i5-5200U	2.2 GHz	2.7 GHz	3MB		Weight <sup>2</sup>	Models	No + 3-cell	3-cell + 3-cell	3-cell + 6-cell							
	i5-5300U 2	2.3 GHz	2.9 GHz	3MB	DDR3L-1600		Non-touch	3.26 lb / 1.48 kg	3.49 lb / 1.59 kg	3.90 lb / 1.77 kg							
	i7-5600U	2.6 GHz	3.2 GHz	4MB			Multi-touch	3.79 lb / 1.72 kg	4.02 lb / 1.82 kg	4.42 lb / 2.01 kg							
Graphics	Intel HD Graphics 55	500 in processor				Case material Display cover: Carbon-Fiber Reinforced Plastic; Bottom: Magnesium/Alumin											
Chipset Memory	Intel SoC (System of 20GB max <sup>7</sup> / PC3-12 4GB memory solder	2800 1600MHz [	DDR3L, non-parity, d	lual-chai DIMM s	nnel capable, ocket	Media reader Ports											
Display  Multi-touch (opt)	Some: 14.0" (355m) Some: 14.0" (355m) Capacitive-type mult	m) FHD (1920x1	080), 300 nits, 700:	1 contra	st ratio, IPS	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless glass surface touchpad, multi-touch										
Storage	Some: SSD / SATA Some: HDD / SATA	de, 7mm high de, 7mm or 9.5mm l			Security Security chip vPro (optional)	ecurity chip Trusted Platform Module, TCG 1.2-compliant Pro (optional) Intel vPro Technology											
M.2 SSD <i>(opt)</i> Optical					Internal battery External battery	er Optional: Fingerprint reader on the keyboard bezel, swipe sensor  Optional: Integrated Li-lon or Li-Polymer 3-cell (23Wh) Li-lon 3-cell (23Wh) or 6-cell (48Wh or 72Wh)											
Ethernet Bluetooth™	Intel Ethernet Conne Bluetooth 4.0 wireles					Max battery life <sup>10</sup>	Models	3-cell + 3-cell	3-cell + 6-cell 48Wh	3-cell + 6-cell 72Wh							
WLAN <sup>4</sup>		, 0	2x2, Wi-Fi + BT, M.2			-	Battery life	10.16 hr	14.9 hr	19.9 hr							
VVLAIN	7265 ac+BT: In	tel Dual Band W	ireless-AC 7265, 2x2	2, Wi-Fi -	+ BT, M.2 card	AC adapter	45W AC adapter, 65W Slim AC adapter, or 65W AC adapter										
WWAN (optional)	ЕМ7345: Wireless W		VI.2 card		Preload	Win8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8.1 Pro 64-bit or Win8.1 64: Windows 8.1 64-bit											
SIM card (opt)	AT&T® or Verizon® L	ΓΕ (4G), contrac	t required with service	ce provid	der		Wino. 1 64. Windows 8.1 Pro 64-bit										
Camera Audio support	HD720p resolution, I HD Audio, Realtek® dual array microphor		Limited warranty	Win10 P64: Windows 10 Pro 64  antyli2 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID													

### ThinkPad T450s 20BW (Onsite) - Windows 8

		Memory							Smart			Finger-	Battery	Power		Base	Ann
		(soldered	l Mu	ti-	M.2	WLAN &		SIM	card	Cam-	Backlit	print	cells	adapter		warranty	date
Model	Processor vPro Graphics	+DIMM)	Display tou	ch Storage	SSD	Bluetooth	WWAN	card	reader	era	keyboard	reader	(int+ext)	(watt)	Preload	(year)	Global (m/y)
20BW000KUS	i5-5300U vPro HD 5500	4+4GB	14" FHD IPS M	C 256G SSD Onal2	None	7265 ac+BT	Una	None	None	720n	Backlit	Finger	3+3	45W	Win8.1 P64	3-onsite OID	Yes 01/15

Processor	5th Generation Intel® Core™ i5 / i7 Processor	Dimensions <sup>3</sup>	14.0" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm							
	Processor # of Cores Base Frequency Max Turbo Frequency Cache Memory Types	Weight <sup>2</sup>	14.0" Touch (WxDxH): 13.03" x 8.90" x 0.90"; 331mm x 226mm x 22.94mm  Models No + 3-cell 3-cell 3-cell 4-6-cell							
	i5-5200U 2.2 GHz 2.7 GHz 3MB	Troigin	Non-touch 3.26 lb / 1.48 kg 3.49 lb / 1.59 kg 3.90 lb / 1.77 kg							
	i5-5300U   2   2.3 GHz   2.9 GHz   3MB   DDR3L-1600     i7-5600U   2.6 GHz   3.2 GHz   4MB		Multi-touch 3.79 lb / 1.72 kg 4.02 lb / 1.82 kg 4.42 lb / 2.01 kg							
		Case material	Display cover: Carbon-Fiber Reinforced Plastic; Bottom: Magnesium/Aluminum							
Graphics	Intel HD Graphics 5500 in processor	Smart card reade	er Optional: Smart card reader							
Chipset Memory	Intel SoC (System on Chip) platform 20GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket	Media reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Three USB 3.0 (one Always On), VGA, Mini DisplayPort, Ethernet (RJ-45), Dock connector (integrated models only)							
Display	Some: 14.0" (355mm) HD+ (1600x900), 250 nits, 400:1 contrast ratio Some: 14.0" (355mm) FHD (1920x1080), 300 nits, 700:1 contrast ratio, IPS	Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and buttonless glass surface touchpad, multi-touch							
Multi-touch (opt)	Capacitive-type multi-touch, supports 10-finger gesture, 264 nits	Security	Power-on password, hard disk password, supervisor password, security keyhole							
Storage	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS Some: SSHD with 8GB NAND flash memory	Security chip vPro (optional) Fingerprint reade	Trusted Platform Module, TCG 1.2-compliant Intel vPro Technology or Optional: Fingerprint reader on the keyboard bezel, swipe sensor							
M.2 SSD (opt) Optical	Single-sided M.2 SSD, via M.2 card slot None	Internal battery External battery	Optional: Integrated Li-Ion or Li-Polymer 3-cell (23Wh) Li-Ion 3-cell (23Wh) or 6-cell (48Wh or 72Wh)							
Ethernet Bluetooth™	Intel Ethernet Connection I218-V ( <i>Non-vPro model</i> ) or I218-LM ( <i>vPro model</i> ) Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	Max battery life <sup>10</sup>	Models 3-cell + 3-cell   3-cell + 6-cell 48Wh   3-cell + 6-cell 72Wh							
WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card	1.0	Battery life 10.16 hr 14.9 hr 19.9 hr							
	7265 ac+BT: Intel Dual Band Wireless-AC 7265, 2x2, Wi-Fi + BT, M.2 card	AC adapter	45W AC adapter, 65W Slim AC adapter, or 65W AC adapter							
WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card	Preload	Win8.1 / 10 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8.1 Pro 64-bit or Win8.1 64: Win8.1 64: Windows 8.1 64-bit							
SIM card (opt)	AT&T® or Verizon® LTE (4G), contract required with service provider		Win8.1 P64: Windows 8.1 Pro 64-bit							
Camera Audio support	HD720p resolution, low light sensitive, fixed focus HD Audio, Realtek® ALC3232 codec / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack	Limited warranty <sup>1</sup>	Win10 P64: Windows 10 Pro 64  12 1-year depot / 3-year (1-yr battery) depot / 3-year (1-year battery) onsite / 3-year (1-year battery) onsite, OID							