



Lenovo ThinkPad T450 Intel® Core™ i5 i5-5300U Laptop 35.6 cm (14") HD+ 8 GB DDR3L-SDRAM 516 GB HDD+SSD Windows 7 Professional Black, Graphite

Brand : Lenovo

Product family: ThinkPad

Product code: 20BU0003US

Product name : ThinkPad T450



Intel Core i5-5300U, HD 5500, 8GBx1, 14" HD+, 500GB HDD, 16GB M.2 SSD, Wi-Fi, Bluetooth, 45W, 3-cell + 3-cell, Windows 7 Professional 64-bit preinstalled through downgrade rights in Windows 8.1 Pro 64-bit

Lenovo ThinkPad T450. Product type: Laptop, Form factor: Clamshell. Processor family: Intel® Core™ i5, Processor model: i5-5300U, Processor frequency: 2.3 GHz. Display diagonal: 35.6 cm (14"), HD type: HD+, Display resolution: 1600 x 900 pixels. Internal memory: 8 GB, Internal memory type: DDR3L-SDRAM. Total storage capacity: 516 GB, Storage media: HDD+SSD. On-board graphics card model: Intel® HD Graphics 5500. Operating system installed: Windows 7 Professional. Product colour: Black, Graphite



Design		Software	
Product type *	Laptop	Operating system architecture	64-bit
Product colour *	Black, Graphite	Recovery operating system	Windows 8.1 Pro
Form factor *	Clamshell	Operating system installed *	Windows 7 Professional
Market positioning	Business	Processor special features	
Display		Intel® Wireless Display (Intel® WiDi)	✓
Display diagonal *	35.6 cm (14")	Intel® My WiFi Technology (Intel® MWT)	✗
Display resolution *	1600 x 900 pixels	Intel® Anti-Theft Technology (Intel® AT)	✗
Touchscreen *	✗	Intel® Smart Response Technology	✓
HD type	HD+	Intel® Identity Protection Technology (Intel® IPT)	✓
LED backlight	✓	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Native aspect ratio	16:9	Intel® Turbo Boost Technology	2.0
Display surface	Matt	Intel® Small Business Advantage (Intel® SBA)	✓
Display brightness	250 cd/m²	Enhanced Intel SpeedStep Technology	✓
Contrast ratio (typical)	400:1	Intel® Clear Video HD Technology (Intel® CVT HD)	✓
Processor		Intel Clear Video Technology	✓
Processor manufacturer *	Intel	Intel® InTru™ 3D Technology	✓
Processor family *	Intel® Core™ i5	Intel® Insider™	✓
Processor generation	5th gen Intel® Core™ i5	Intel® Quick Sync Video Technology	✓
Processor model *	i5-5300U	Intel Flex Memory Access	✓
Processor cores	2	Intel® Smart Cache	✓
Processor threads	4	Intel® AES New Instructions (Intel® AES-NI)	✓
Processor boost frequency	2.9 GHz	Intel Trusted Execution Technology	✓
Processor frequency *	2.3 GHz	Intel Enhanced Halt State	✓
System bus rate	5 GT/s	Intel VT-x with Extended Page Tables (EPT)	✓
Processor cache	3 MB		
Processor cache type	L3		
Processor socket	BGA 1168		
Processor lithography	14 nm		
Processor operating modes	32-bit, 64-bit		
Processor series	Intel® Core™ i5-5300 Mobile Series		
Processor codename	Broadwell		
Bus type	DMI2		

Processor		Processor special features	
FSB Parity	✗	Intel Demand Based Switching	✗
Stepping	F0	Intel® Secure Key	✓
Thermal Design Power (TDP)	15 W	Intel TSX-NI	✓
Configurable TDP-down	7.5 W	Intel Stable Image Platform Program (SIPP)	✓
Configurable TDP-down frequency	0.6 GHz	Intel® OS Guard	✓
Tjunction	105 °C	Intel® Clear Video Technology for Mobile Internet Devices (Intel CVT for MID)	✓
Maximum number of PCI Express lanes	12	Intel 64	✓
PCI Express slots version	2.0	Execute Disable Bit	✓
PCI Express configurations	4x1, 2x4	Idle States	✓
ECC supported by processor	✗	Thermal Monitoring Technologies	✓
Memory		Processor package size	40 x 24 x 1.3 mm
Internal memory *	8 GB	Supported instruction sets	AVX 2.0
Internal memory type	DDR3L-SDRAM	Processor code	SR23X
Memory clock speed	1600 MHz	CPU configuration (max)	1
Memory layout (slots x size)	1 x 8 GB	Embedded options available	✗
Memory slots	2x SO-DIMM	Graphics & IMC lithography	14 nm
Maximum internal memory *	16 GB	Intel Virtualization Technology for Directed I/O (VT-d)	✓
Storage		Intel Identity Protection Technology version	1.00
Total storage capacity *	516 GB	Intel Smart Response Technology version	1.00
Storage media *	HDD+SSD	Intel Stable Image Platform Program (SIPP) version	1.00
Number of HDDs installed	1	Intel Secure Key Technology version	1.00
HDD capacity	500 GB	Intel Small Business Advantage (SBA) version	1.00
HDD interface	SATA III	Intel TSX-NI version	1.00
HDD speed	7200 RPM	Intel Virtualization Technology (VT-x)	✓
Number of SSDs installed	1	Intel Dual Display Capable Technology	✗
SSD capacity	16 GB	Intel FDI Technology	✓
SSD interface	M.2	Intel Rapid Storage Technology	✗
Optical drive type *	✗	Intel Fast Memory Access	✓
Card reader integrated	✓	Processor ARK ID	85213
Compatible memory cards	MMC, SD, SDHC, SDXC	Conflict-Free processor	✓
Graphics		Battery	
On-board graphics card *	✓	Battery technology	Lithium-Ion (Li-Ion)
On-board graphics card family	Intel® HD Graphics	Power	
On-board graphics card model *	Intel® HD Graphics 5500	AC adapter power	45 W
On-board graphics card base frequency	300 MHz	DC-in jack	✓
On-board graphics card dynamic frequency (max)	900 MHz	Security	
Maximum on-board graphics card memory	16 GB	Cable lock slot	✗
On-board graphics card DirectX version	11.2	Fingerprint reader	✓
On-board graphics card ID	0x1616	Trusted Platform Module (TPM)	✓
Audio		Password protection	✓
Audio system	HD	Password protection type	HDD, Power on, Supervisor
Number of built-in speakers	2	Certificates	
Speaker power	1 W	Compliance certificates	RoHS
Built-in microphone	✓	Sustainability	
Camera		Sustainability certificates	EPEAT Gold, ENERGY STAR
Front camera	✓	Weight & dimensions	
Network		Width	339 mm
Wi-Fi	✓		
Wi-Fi standards	802.11a, Wi-Fi 5 (802.11ac), 802.11b, 802.11g, Wi-Fi 4 (802.11n)		
Ethernet LAN	✓		
Bluetooth	✓		
Bluetooth version	4.0		

Ports & interfaces		Weight & dimensions	
USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity *	3	Depth	232.5 mm
Ethernet LAN (RJ-45) ports	1	Height	21 mm
Mini DisplayPorts quantity	1	Weight *	1.73 kg
DVI port	✗	Other features	
VGA (D-Sub) ports quantity	1	LightScribe	✗
S/PDIF out port	✗	Intel® Virtualization Technology (Intel® VT)	VT-d, VT-x
Combo headphone/mic port	✓	Intel segment tagging	Home office, Small Business
CardBus PCMCIA slot type	✗		
SmartCard slot	✗		
Keyboard			
Pointing device	ThinkPad UltraNav		
Numeric keypad *	✗		
Keyboard backlit	✓		
Spill-resistant keyboard	✓		

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