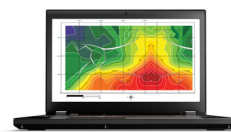**Lenovo**

Lenovo ThinkPad P51 Intel® Core™ i7 i7-7700HQ Mobilne radne stanice 39,6 cm (15.6") Full HD 8 GB DDR4-SDRAM 512 GB SSD NVIDIA® Quadro® M1200 Wi-Fi 5 (802.11ac) Windows 10 Pro Crno

Brand : Lenovo   **Product family:** ThinkPad   **Product code:** 20HH001QUK

Product name : P51

Lenovo ThinkPad P51. Tip proizvoda: Mobilne radne stanice, Standard veličine: Preklopnik. Porodica procesora: Intel® Core™ i7, Procesor: i7-7700HQ, Takt procesora: 2,8 GHz. Dijagonala monitora: 39,6 cm (15.6"), Tip visoke definicije (HD): Full HD, Rezolucije ekrana: 1920 x 1080 piksela. Interna memorija: 8 GB, Vrsta interne memorije: DDR4-SDRAM. Ukupni prostor za podatke: 512 GB, Medijum za skladištenje: SSD. Model instalirane grafičke kartice: Intel® HD Graphics 630. Instalirani operativni sistem: Windows 10 Pro. Boja proizvoda: Crno

Design

Product type *	Mobile workstation
Product colour *	Black
Form factor *	Clamshell
Housing material	Aluminium, Glass-reinforced plastic (GRP), Magnesium
Market positioning	High performance

Display

Display diagonal *	39.6 cm (15.6")
Display resolution *	1920 x 1080 pixels
Touchscreen *	✗
HD type	Full HD
Panel type	IPS
LED backlight	✔
Native aspect ratio	16:9
Display surface	Matt
Screen shape	Flat

Processor

Processor manufacturer *	Intel
Processor family *	Intel® Core™ i7
Processor generation	7th gen Intel® Core™ i7
Processor model *	i7-7700HQ
Processor cores	4
Processor threads	8
Processor boost frequency	3.8 GHz
Processor frequency *	2.8 GHz
System bus rate	8 GT/s
Processor cache	6 MB
Processor cache type	Smart Cache
Processor lithography	14 nm
Processor operating modes	64-bit
Processor series	Intel Core i7-7700 Mobile Series
Processor codename	Kaby Lake
Bus type	DMI3
Thermal Design Power (TDP)	45 W
Configurable TDP-down	35 W
Tjunction	100 °C

Keyboard

Pointing device	ThinkPad UltraNav
Numeric keypad *	✔
Keyboard backlit	✔
Spill-resistant keyboard	✔
Full-size keyboard	✔
Windows keys	✔

Software

Operating system architecture	64-bit
Operating system installed *	Windows 10 Pro

Processor special features

Intel® Wireless Display (Intel® WiDi)	✔
Intel® My WiFi Technology (Intel® MWT)	✔
Intel® Smart Response Technology	✔
Intel® Identity Protection Technology (Intel® IPT)	✔
Intel® Hyper Threading Technology (Intel® HT Technology)	✔
Intel® Turbo Boost Technology	2.0
Enhanced Intel SpeedStep Technology	✔
Intel® Clear Video HD Technology (Intel® CVT HD)	✔
Intel Clear Video Technology	✔
Intel® InTru™ 3D Technology	✔
Intel® Quick Sync Video Technology	✔
Intel Flex Memory Access	✔
Intel® Smart Cache	✔
Intel® AES New Instructions (Intel® AES-NI)	✔
Intel Trusted Execution Technology	✗
Intel Enhanced Halt State	✔
Intel VT-x with Extended Page Tables (EPT)	✔
Intel® Secure Key	✔
Intel TSX-NI	✗

Processor

Maximum number of PCI Express lanes	16
PCI Express slots version	3.0
PCI Express configurations	1x16, 1x8, 2x4, 2x8
ECC supported by processor	✘

Memory

Internal memory *	8 GB
Internal memory type	DDR4-SDRAM
Memory clock speed	2400 MHz
Memory form factor	SO-DIMM
Memory layout (slots x size)	1 x 8 GB
Memory slots	4x SO-DIMM
Maximum internal memory *	64 GB

Storage

Total storage capacity *	512 GB
Storage media *	SSD
Number of SSDs installed	1
SSD capacity	512 GB
SSD form factor	M.2
Optical drive type *	✘
Card reader integrated	✔
Compatible memory cards	MMC, SD, SDHC, SDXC

Graphics

Discrete graphics card model *	NVIDIA® Quadro® M1200
Discrete graphics card memory	4 GB
On-board graphics card *	✔
Discrete graphics card *	✔
On-board graphics card family	Intel® HD Graphics
On-board graphics card model *	Intel® HD Graphics 630
On-board graphics card base frequency	350 MHz
On-board graphics card dynamic frequency (max)	1100 MHz
Maximum on-board graphics card memory	64 GB
On-board graphics card DirectX version	12.0
On-board graphics card OpenGL version	4.4
On-board graphics card ID	0x591B

Audio

Audio chip	Realtek ALC3268
Number of built-in speakers	2
Speaker power	2 W
Built-in microphone	✔

Camera

Front camera	✔
Front camera resolution	1280 x 720 pixels
Front camera signal format	720p

Network

Wi-Fi	✔
Top Wi-Fi standard *	Wi-Fi 5 (802.11ac)
Wi-Fi standards	802.11a, Wi-Fi 5 (802.11ac), 802.11b, 802.11g, Wi-Fi 4 (802.11n)
Ethernet LAN	✔
Ethernet LAN data rates	10,100,1000 Mbit/s
Bluetooth	✔
Bluetooth version	4.1

Processor special features

Intel Stable Image Platform Program (SIPP)	✘
Intel® OS Guard	✔
Intel Software Guard Extensions (Intel SGX)	✔
Intel® Clear Video Technology for Mobile Internet Devices (Intel CVT for MID)	✔
Intel 64	✔
Execute Disable Bit	✔
Idle States	✔
Thermal Monitoring Technologies	✔
Processor package size	42 x 28 mm
Supported instruction sets	AVX 2.0, SSE4.1, SSE4.2
CPU configuration (max)	1
Embedded options available	✘
Graphics & IMC lithography	14 nm
Intel Virtualization Technology for Directed I/O (VT-d)	✔
Intel Identity Protection Technology version	1.00
Intel Smart Response Technology version	1.00
Intel Stable Image Platform Program (SIPP) version	0.00
Intel Secure Key Technology version	1.00
Intel Small Business Advantage (SBA) version	1.00
Intel TSX-NI version	0.00
Intel Virtualization Technology (VT-x)	✔
Processor ARK ID	97185
Conflict-Free processor	✔

Battery

Battery technology	Lithium Polymer (LiPo)
Number of battery cells	6
Battery capacity *	90 Wh
Battery life (max)	6.1 h

Power

AC adapter power	170 W
AC adapter frequency	50 - 60 Hz
AC adapter input voltage	100 - 240 V
DC-in jack	✔

Security

Cable lock slot	✔
Fingerprint reader	✔
Trusted Platform Module (TPM)	✔
Password protection	✔
Password protection type	HDD, Power on, Supervisor

Certificates

Compliance certificates	RoHS

Sustainability

Sustainability certificates	ENERGY STAR

Weight & dimensions

Width	377.4 mm
Depth	252.3 mm
Height (front)	2.45 cm
Height (rear)	2.94 cm

Ports & interfaces

USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity *	4
USB 3.2 Gen 1 (3.1 Gen 1) Type-C ports quantity *	1
Ethernet LAN (RJ-45) ports	1
HDMI ports quantity *	1
HDMI version	1.4b
Mini DisplayPorts quantity	1
DVI port	✘
Microphone in	✘
Combo headphone/mic port	✔
Docking connector	✔
SmartCard slot	✔
USB Sleep-and-Charge	✔
USB Sleep-and-Charge ports	1

Performance

Motherboard chipset	Intel® CM238

Weight & dimensions

Weight *	2.67 kg

Packaging content

AC adapter included *	✔
Manual	✔
Quick start guide	✔
Power cord included	✔

Other features

LightScribe	✘
3D	✘
Maximum internal memory (64-bit)	64 GB
Colour sensor	✔