



Brand : Lenovo

Product family: ThinkPad

Product code: 20QN005QCA

Product name : ThinkPad P53

Design		Network	
Product type *	Mobile workstation	WWAN	Not installed
Product colour *	Black Clamshell Aluminium, Glass Fibre Reinforced Plastic (GFRP), Magnesium	Ports & interfaces	
Form factor *		USB 3.2 Gen 1 (3.1 Gen 1) Type-A	-
Housing material		ports quantity *	2
Display	haste (or ta), hagrestan	USB 3.2 Gen 1 (3.1 Gen 1) Type-C ports quantity *	1
Touchscreen type	Capacitive	Ethernet LAN (RJ-45) ports	1
Display diagonal *	39.6 cm (15.6")	HDMI ports quantity *	1
Display resolution *	3840 x 2160 pixels	HDMI version	2.0
Touchscreen *	 Image: A set of the set of the	Combo headphone/mic port	✓
HD type	4K Ultra HD Multi-touch	USB Type-C DisplayPort Alternate Mode	1
Touch technology		USB Sleep-and-Charge	1
Panel type	OLED	USB Sleep-and-Charge ports	1
LED backlight Native aspect ratio	16:9	Keyboard	
Display brightness	400 cd/m ²	Pointing device	ThinkPad UltraNav
Dual-screen	×	Numeric keypad *	
	^	Keyboard backlit	·
Processor		-	•
Processor manufacturer *	Intel	Spill-resistant keyboard	•
Processor family *	Intel® Core™ i7	Full-size keyboard	
Processor generation	9th gen Intel® Core™ i7	Windows keys	1
Processor model * Processor cores	i7-9850H 6	Software	
Processor threads	12	Operating system architecture	64-bit
Processor boost frequency	4.6 GHz	Operating system installed *	Windows 10 Pro
Processor frequency *	2.6 GHz	Processor special features	
System bus rate	8 GT/s	Intel® My WiFi Technology (Intel®	
Processor cache	12 MB	MWT)	✓
Processor socket	BGA 1440	Intel® Identity Protection	1
Processor lithography	14 nm	Technology (Intel® IPT)	
Processor operating modes	64-bit	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Processor codename	Coffee Lake	Intel® Turbo Boost Technology	2.0
Thermal Design Power (TDP)	45 W	Enhanced Intel SpeedStep	1
Configurable TDP-down	35 W	Technology	•
Tjunction	100 °C	Intel® Clear Video HD Technology (Intel® CVT HD)	1

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Processor		Processor special features	
Maximum number of PCI Express lanes	16	Intel Clear Video Technology	✓
PCI Express slots version	3.0	Intel® InTru [™] 3D Technology	٠
PCI Express configurations	1x16, 2x8, 1x8+2x4	Intel [®] Quick Sync Video Technology	٠
Memory		Intel Flex Memory Access	٠
Internal memory *	64 GB	Intel® AES New Instructions (Intel® AES-NI)	1
Internal memory type	DDR4-SDRAM	Intel Trusted Execution Technology	1
Memory clock speed	2666 MHz	Intel VT-x with Extended Page	
Memory form factor	SO-DIMM	Tables (EPT)	 Image: A set of the set of the
Memory slots	4x SO-DIMM	Intel [®] Secure Key	✓
Maximum internal memory *	128 GB	Intel TSX-NI	✓
Storage		Intel Stable Image Platform Program	v
Total storage capacity *	1 TB	(SIPP)	
Storage media *	SSD	Intel® OS Guard	
Total SSDs capacity	1 TB	Intel Software Guard Extensions (Intel SGX)	1
Number of SSDs installed	1	Intel 64	1
SSD capacity SSD interface	1 TB NVMe, PCI Express	Execute Disable Bit	1
NVMe		Idle States	1
SSD form factor	M.2	Thermal Monitoring Technologies	1
Optical drive type *	×	Processor package size	42 x 28 mm
Card reader integrated	~	Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0
Compatible memory cards	MMC, SD, SDHC, SDXC	CPU configuration (max)	1
		Embedded options available	×
Graphics		Intel Virtualization Technology for	1
Discrete graphics card model *	NVIDIA Quadro RTX 3000	Directed I/O (VT-d)	
Discrete graphics card memory	6 GB	Intel Virtualization Technology (VT- x)	1
Discrete graphics memory type On-board graphics card *	GDDR6 ✓	Processor ARK ID	191047
on-board graphics card	•		
Discroto graphics card *		Battery	
Discrete graphics card *	✓	Battery	Lithium-lon (Li-lon)
On-board graphics card family	Intel® UHD Graphics	Battery technology	Lithium-Ion (Li-Ion) 90 Wh
	Intel® UHD Graphics Intel® UHD Graphics 630	•	Lithium-lon (Li-lon) 90 Wh 8 h
On-board graphics card family On-board graphics card model * On-board graphics card base frequency	Intel® UHD Graphics	Battery technology Battery capacity *	90 Wh
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic	Intel® UHD Graphics Intel® UHD Graphics 630	Battery technology Battery capacity * Battery life (max)	90 Wh 8 h
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz	Battery technology Battery capacity * Battery life (max) Fast charging	90 Wh 8 h
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz	Battery technology Battery capacity * Battery life (max) Fast charging Power	90 Wh 8 h ✔
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power	90 Wh 8 h ✓ 230 W
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency	90 Wh 8 h ✓ 230 W 50 - 60 Hz
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage	90 Wh 8 h ✓ 230 W 50 - 60 Hz 100 - 240 V
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack	90 Wh 8 h ✓ 230 W 50 - 60 Hz 100 - 240 V
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD)	90 Wh 8 h ✓ 230 W 50 - 60 Hz 100 - 240 V
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot	90 Wh 8 h ✓ 230 W 50 - 60 Hz 100 - 240 V ✓
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 240
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM)	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 7 7
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power Built-in microphone	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 7 7
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 7 7
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power Built-in microphone	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 7 7 7 100 - 240 V 7 7 100 - 240 V 7 100 - 240 V 100
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power Built-in microphone Number of microphones	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Compliance certificates	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 2 100 - 240 V 2 2 100 - 240 V 2 2 2 2 2 2 2 2 2 2 2 2 2
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID On-board graphics card ID Number of built-in speakers Speaker power Built-in microphone Number of microphones Camera Front camera Front camera Front camera	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W ✓ 2	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Certificates Compliance certificates Certification	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 7 7 7 100 - 240 V 7 7 100 - 240 V 7 100 - 240 V 100
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card DenGL version On-board graphics card OpenGL version On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power Built-in microphones Number of microphones Evont camera Front camera resolution Front camera signal format	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W 2 1280 x 720 pixels 720p	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Compliance certificates Certification	90 Wh 8 h • 230 W 50 - 60 Hz 100 - 240 V • • • • • HDD, Power on, Supervisor HDD, Power on, Supervisor
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID On-board graphics card ID On-board graphics card ID On-board graphics card ID Audio On-board graphics card ID Mumber of built-in speakers Speaker power Built-in microphone Number of microphones Camera Front camera resolution Front camera signal format Front camera HD type	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W ✓ 2 2 W ✓ 1280 x 720 pixels 720p HD	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Certificates Compliance certificates Certification	90 Wh 8 h 230 W 50 - 60 Hz 100 - 240 V 2 100 - 240 V 2 2 2 2 2 2 2 2 2 2 2 2 2
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID On-board graphics card OpenGL version On-board graphics card ID On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power Built-in microphone Number of microphones Camera Front camera resolution Front camera signal format Front camera HD type Infrared (IR) camera	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W ✓ 1280 x 720 pixels 720p HD	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Compliance certificates Certification	90 Wh 8 h • 230 W 50 - 60 Hz 100 - 240 V • • • • • HDD, Power on, Supervisor HDD, Power on, Supervisor
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio On-board graphics card ID On-board graphics card ID On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power Built-in microphone Number of microphones Front camera Front camera resolution Front camera HD type Infrared (IR) camera Privacy camera	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W ✓ 2 1280 x 720 pixels 720p HD ✓	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Certificates Compliance certificates Certification Sustainability Sustainability certificates	90 Wh 8 h • 230 W 50 - 60 Hz 100 - 240 V • • • • • HDD, Power on, Supervisor HDD, Power on, Supervisor
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card OpenGL version On-board graphics card ID Audio On-board graphics card ID Audio On-board graphics card ID Audio Number of puilt-in speakers Speaker power Built-in microphone Number of microphones Event camera Front camera Front camera resolution Front camera signal format Front camera HD type Infrared (IR) camera Privacy camera	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B 5 5 5 5 5 5 5 7 2 2 2 1280 x 720 pixels 720p HD ↓ 2 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Certificates Compliance certificates Certification Sustainability Sustainability certificates Weight & dimensions	90 Wh 8 h • 230 W 50 - 60 Hz 100 - 240 V • • • • • • • • • • • • • • • • • • •
On-board graphics card family On-board graphics card model * On-board graphics card base frequency On-board graphics card dynamic frequency (max) Maximum on-board graphics card memory On-board graphics card DirectX version On-board graphics card OpenGL version On-board graphics card ID Audio On-board graphics card ID On-board graphics card ID On-board graphics card ID Audio Audio chip Number of built-in speakers Speaker power Built-in microphone Number of microphones Front camera Front camera resolution Front camera HD type Infrared (IR) camera Privacy camera	Intel® UHD Graphics Intel® UHD Graphics 630 350 MHz 1150 MHz 64 GB 12.0 4.5 0x3E9B Synaptic CX11880 2 2 W ✓ 2 1280 x 720 pixels 720p HD ✓	Battery technology Battery capacity * Battery life (max) Fast charging Power AC adapter power AC adapter frequency AC adapter input voltage DC-in jack USB Power Delivery (USB PD) Security Cable lock slot Fingerprint reader Trusted Platform Module (TPM) Password protection Password protection type Compliance certificates Certification Sustainability Sustainability certificates Weight & dimensions	90 Wh 8 h • 230 W 50 - 60 Hz 100 - 240 V • • • • • • • • • • • • • • • • • • •

Network	
Wi-Fi	J.
Top Wi-Fi standard *	Wi-Fi 6 (802.11ax)
Wi-Fi standards	Wi-Fi 6 (802.11ax)
Antenna type	2x2
WLAN controller model	Intel Wi-Fi 6 AX200
Ethernet LAN	✓
Ethernet LAN data rates	10,100,1000 Mbit/s
Bluetooth	✓
Bluetooth version	5.0

Weight & dimensions	
Weight *	2.9 kg
Packaging content	
AC adapter included *	1
Other features	
3D	×
Maximum internal memory (64-bit)	128 GB

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